Ashraf Uddin Chowdhury

Editor

Bangladesh Economic Association

From Editor's Desk

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I express my indebtedness to the authors, the reviewers, and the members of the Editorial Board of the Journal. Special thanks are due to Prof. Abul Barkat, former President BEA and member of the Editorial Board of the Journal who shouldered special responsibility to the task.

(Ashraf Uddin Chowdhury)
Editor, Bangladesh Journal of Political Economy
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বাংলাদেশ অর্থনীতি সমিতির ষান্মাসিক জার্নাল
Bangladesh Journal of Political Economy
প্রকাশনার নীতিমালা

১। অর্থনীতির বিভিন্ন শাখায় তাত্ত্বিক এবং প্রায়োগিক বিষয়ে প্রবন্ধ প্রণয়ন করার জন্য প্রবন্ধকারদেরকে অনুরোধ জানানো হবে। ইংরেজী এবং বাংলা উভয় ভাষায় রচিত প্রবন্ধ জার্নালের জন্য গ্রহণ করা হবে।

২। Initial screening নির্বাহী সম্পাদকের এখতিয়ারভুক্ত থাকবে, তবে প্রয়োজনবোধে সম্পাদনা পরিষদের অন্য সদস্যদের সহায়তা তিনি নেবেন। নির্ধারিত format মোতাবেক সংশোধনের জন্য এই পর্যায়ে প্রাথমিক ভাবে short-listed প্রবন্ধসমূহ প্রবন্ধকারের কাছে প্রেরণ করা হবে।

৩। অভ্যন্তরীণ reviewer সাধারণতঃ সম্পাদনা পরিষদের সদস্যদের মধ্য থেকেই মনোনীত হবেন। বহিঃস্থ reviewer সম্পাদনা পরিষদের সিদ্ধান্তক্রমে প্রবন্ধের বিষয়ের ভিত্তিতে সম্পাদনা পরিষদের বাইরে থেকে মনোনীত হবেন, তবে তিনি দেশের অভ্যন্তরে বা বিদেশে অবস্থান করতে পারেন। সম্পাদনা উপদেষ্টা কমিটির সকল সদস্য reviewer হতে পারবেন। তৃতীয় reviewer প্রয়োজন হলে সম্পাদনা পরিষদের বাইরে থেকে মনোনীত করা হবে।

৪। ক) সমিতির দ্বিবার্ষিক সম্মেলনে উপস্থাপিত প্রবন্ধগুলো referral প্রক্রিয়ার মাধ্যমে জার্নালের জন্য বিবেচিত হবে।

 খ) বিভিন্ন সময়ে সমিতি কর্তৃক আয়োজিত সেমিনারে পঠিত আমন্ত্রিত প্রবন্ধসমূহ জার্নালের সম্পাদনা পরিষদের অনুমোদনক্রমে জার্নালে প্রকাশ করা যেতে পারে।

৫। অর্থনীতি সমিতির সদস্য এবং সদস্য-বহির্ভূত যে কোন আগ্রহী প্রার্থী জার্নালের গ্রাহক হতে পারবেন। তবে সদস্যদের ক্ষেত্রে গ্রাহক ফি (subscription fee) পঞ্চাশ শতাংশ রেয়াত দেয়া হবে।

৬। জার্নালের footnoting এবং writing style এতদসঙ্গে সংযোজিত হলো (জার্নালের শেষাংশ)।

৭। দেশের অভ্যন্তরে অবস্থানকারী উপদেষ্টা কমিটির সদস্যদেরকে বছরে দু'বার সম্পাদনা পরিষদের সভায় আমন্ত্রণ জানানো হবে।

৮। ক) তিনটি কোটেশন সংগ্রহ করে সম্পাদনা পরিষদের সিদ্ধান্তক্রমে মুদ্রক প্রতিষ্ঠান নির্বাচন করা হবে।

 খ) প্রথম proof প্রেস দেখবে, পরবর্তীতে softcopy তে প্রবন্ধকার ফাইনাল proof দেখে দেবেন।

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ড: মো: মোয়াজ্জেম হোসেন খান *

ভূমিকা

আমাদের দেশের উন্নয়ন বিষয়ে অনেক গবেষণা হয়েছে, বর্তমানে হচ্ছে এবং ভবিষ্যতেও হবে। উন্নয়ন যে এখানে হয় নি তাও বলছি না; উন্নয়ন অবশ্যই হয়েছে, তবে কাংখিত মাত্রায় হয় নি, টেকসই উন্নয়ন বলতে যা বোঝায় তা হয় নি। প্রধান খাদ্য শস্য ধানের কথাই ধরা যাক, ১৯৭২ সালের প্রায় এক কোটি টনের যায়গায় ২০১৩ সালে এর উৎপাদন চালের আকারে ৩.৫৫ কোটি টনে গিয়ে দাঁড়িয়েছে। নগরায়নের হার ১৯৭২ সালের কম-বেশী ১৫% এ স্তলে বর্তমানে প্রায় ৪০% এ গিয়ে ঠেকেছে। সড়কের দৈর্ঘ্য স্বাধীনতা পরবর্তী ৮-১০ হাজার কিলোমিটারের স্তলে বর্তমানে প্রায় ৩.৫০ লক্ষ কিলোমিটারে গিয়ে দাঁড়িয়েছে। অন্যদিকে সারা বছর নাব্য পানিপথের দৈর্ঘ্য ২৪ হাজার কিলোমিটার থেকে হ্রাস পেয়ে এখন মাত্র ৩.৫০ হাজার কিলোমিটারে গিয়ে ঠেকেছে। রেলের অবস্থা অত্যন্ত শোচনীয়। এর দৈর্ঘ্য ১৯৭২ এর তুলনায় হ্রাস পেয়েছিল। ১৯৯৬-২০০১, ২০০৯-২০১৪ এবং বর্তমানের মহাজোট সরকারের আমলে তা সামান্য বৃদ্ধি পেয়েছে যা কাংখিত অবস্থা থেকে অনেক অনেক নিচে আছে। অপর দিকে মোট অভ্যন্তরীণ উৎপাদনে কৃষির অংশ ১৯৭২ সালের প্রায় ৪৯.০% থেকে হ্রাস পেয়ে বর্তমানে ২০.০% এ গিয়ে ঠেকেছে (মৎস উপখাতসহ)। কৃষির অবদান কমলেও শিল্পের অবদান কিন্তু সে তুলনায় বৃদ্ধি পায় নি। ১৯৭২ এর ১২.০% এর স্তলে শিল্পের অবদান বর্তমানে মাত্র ২০.০%-এর মত (১,২,৩)। তার মানে বৃদ্ধি পেয়েছে আসলে সেবা খাতসমূহের অবদান। ট্যাক্স জিডিপি রেশিও সবে সিঙ্গেল ডিজিট অতিক্রম করেছে (২০১৩, ১১.০% এর মত)। অথচ ভারতে এটা ১৮.০% এর মত, এমনকি পাকিস্তানেও তা ১৪.০%-এর মত। শিক্ষার ক্ষেত্রেও আমরা পার্শ্ববর্তী অনেক দেশের তুলনায় পিছিয়ে গেছি সরকারগুলোর বিশেষ করে পঁচাত্তর পরবর্তী সামরিক সরকারগুলোর ভুল নীতির কারণে। ১৯৭৪-এর কুদরত-ই-খোদা শিক্ষা কমিশনের রিপোর্ট বাস্তবায়িত হলে এমন অবস্থার সৃষ্টি হতো না। বরং আমরা অন্যদের তুলনায় থাকতাম অগ্রগামী।

পঁচাত্তর পরবর্তী সময়ে নব্য উদারবাদিতার নামে বিশ্বব্যাংক ও আইএমএফ আমাদের সামরিক শাসকদের দিয়ে এদেশে বাজার অর্থনীতি চালুর ব্যবস্থা করে যা বিগত শতাব্দির আশি ও নব্বইয়ের দশকে কখনো কাঠামোগত সংস্কার, কখনো বাজার উদারীকরণ ও বিরাষ্ট্রীয়করণের নামে আমাদের দেশীয় গোটা অর্থনীতিকে তস্নস্ করে দেয়। ঢালাও বেসরকারীকরণ ও তথাকথিত বেসরকারী খাতের বিকাশের নামে জিয়া ও এরশাদের সামরিক শাসনামলে ও বেগম জিয়ার তথাকথিত গণতান্ত্রিক আমলে দেশে মূলত:

* অধ্যাপক, অর্থনীতি বিভাগ, রাজশাহী বিশ্ববিদ্যালয়, রাজশাহী-৬২০৫

ব্যাপক লুণ্ঠন যজ্ঞ চলেছে। লুণ্ঠনের ক্ষেত্র ছিল   মূলত: সরকারী প্রতিষ্ঠানসমূহ: বাংলাদেশ কৃষি উন্নয়ন কর্পোরেশন; বাংলাদেশ বিমান, বাংলাদেশ রেলওয়ে; বাংলাদেশ অভ্যন্তরীণ নৌ পরিবহন কর্পোরেশন, সরকারী ব্যাংকসমূহ, বাংলাদেশ কেমিক্যাল ইন্ডাষ্ট্রিজ কর্পোরেশন, বাংলাদেশ পাটকল কর্পোরেশন, বাংলাদেশ মৎস্য উন্নয়ন কর্পোরেশন, বাংলাদেশ শিপিং ও ইঞ্জিনিয়ারিং কর্পোরেশন, বাংলাদেশ টেক্সটাইল মিল্স কর্পোরেশন ইত্যাদি। এ লুণ্ঠন প্রক্রিয়ায় এদেশে বিদেশী সাহায্যেরও প্রায় ৭৫.০% এরা বিভিন্ন প্রক্রিয়ায় আত্মসাৎ করেছে। পাকিস্তান আমলের ২২ পরিবারের স্থলে ২২ হাজার ধনী পরিবারের সৃষ্টি হয়েছে। লক্ষ গুণ বৃদ্ধি পেয়েছে ধনী-দরিদ্রের বৈষম্য। অথচ আমাদের মহান স্বাধীনতা যুদ্ধের আকাংখা ছিল একটি সমতাভিত্তিক সমাজ প্রতিষ্ঠা করা। আর সেজন্যে গোটা পাকি আমলের বৈষম্য-নিপীড়ন বিরোধী আন্দোলনের লক্ষ্য ও উদ্দেশ্যসমূহেকে ধারণ করে ১৯৭২ সালের সংবিধানে রাষ্ট্রের 4টি মূলনীতি বা লক্ষ্য বিধিবদ্ধ করা হয় : বাঙালী জাতীয়তাবাদ, ধর্মনিরপেক্ষতা, গণতন্ত্র ও সমাজতন্ত্র। বাঙালী জাতীয়তাবাদের মানেই হচ্ছে : বাংলা আমাদের ভাষা, বাঙালীয়ানা আমাদের সংস্কৃতি, বাঙালী আমাদের পরিচয়; মোট কথা ভাষা, আচার-আচরণ, জীবনপ্রণালী ইত্যাদি সবকিছুতে আমাদের মিল আছে যা যুগে যুগে বহিঃশত্রুর বিরুদ্ধে লড়াই-সংগ্রামে আমাদেরকে একতাবদ্ধ করেছে। বৃটিশ ঔপনিবেশিক শাসন-শোষণের বিরুদ্ধে আমাদেরকে একতাবদ্ধ করেছিল। পাকি নব্য-উপনিবেশবাদীদের বিরুদ্ধে ভাষা আন্দোলন থেকে স্বাধীনতা আন্দোলনে আমাদেরকে প্রেরণা যুগিয়েছিল।

বাঙালী জাতীয়তাবাদ অতীতে আমাদেরকে যেমন একতাবদ্ধ রেখেছে, বর্তমানেও তেমনি রেখে চলেছে এবং ভবিষ্যতেও রাখবে। আর সেকারণেই রাষ্ট্র পরিচালনার এটা হচ্ছে প্রথম মৌল নীতি। ধর্ম যার যার, রাষ্ট্র সবার। অর্থাৎ সকল ধর্মাবলম্বী মানুষ তাদের স্ব স্ব ধর্ম স্বাধীনভাবে পালন করবে। এক ধর্মাবলম্বী মানুষ অন্য ধর্মাবলম্বী মানুষকে তার ধর্ম পালনে কোনও রকম বাধা বা প্রতিবন্ধকতা সৃষ্টি করতে পারবে না। রাষ্ট্র ধর্মের ব্যাপারে নাক গলাবে না, বরং ধর্ম পালনে সকলের জন্যে শান্তিপূর্ণ পরিবেশ বজায় রাখতে সহযোগিতা করবে। সেজন্যেই আমাদের রাষ্ট্র পরিচালনায় দ্বিতীয় অত্যন্ত গুরুত্বপূর্ণ নীতি হচ্ছে ধর্ম নিরপেক্ষতা। আমাদের দেশের তথা জাতীয় সকল আন্দোলনের মূল লক্ষ্য ছিল গণতন্ত্র প্রতিষ্ঠা করা অর্থাৎ জনগণ দ্বারা নির্বাচিত জনপ্রতিনিধিবৃন্দ রাষ্ট্রের প্রতিটি স্তরের শাসনকার্য পরিচালনা করবে। অতএব, গণতন্ত্র হচ্ছে আমাদের রাষ্ট্র পরিচালনার তৃতীয় এবং অত্যন্ত গুরুত্বপূর্ণ লক্ষ্য বা নীতি। আমাদের ৪র্থ এবং সর্বশেষ লক্ষ্য বা নীতি হচ্ছে সমাজতন্ত্র। অন্যভাবে বললে আমাদের রাষ্ট্র পরিচালনার চূড়ান্ত লক্ষ্য হচ্ছে শোষণমুক্ত এক সমাজ প্রতিষ্ঠা করা যেখানে সমাজের প্রত্যেকটি মানুষের/সদস্যের ৬টি মৌলিক অধিকার খাদ্য, বস্ত্র, বাসস্থান, শিক্ষা, স্বাস্থ্য ও কর্মসংস্থান পরিপূর্ণভাবে প্রতিষ্ঠিত হবে। মনে রাখতে হবে যে, আমাদের সকল আন্দোলনের চূড়ান্ত লক্ষ্য হচ্ছে বৈষম্য-শোষণ-বঞ্চনাহীন এক সমাজ প্রতিষ্ঠা করা। সেরকম এক সমাজব্যবস্থার নিশ্চয়তা একমাত্র সমাজতন্ত্রই দিতে পারে। আর তা প্রতিষ্ঠিত হবে গণতান্ত্রিক প্রক্রিয়ায়। অর্থাৎ গণতান্ত্রিক প্রক্রিয়ায় নির্বাচিত জনপ্রতিনিধিরাই সমাজতন্ত্র বা সমতাধর্মী এক সমাজ প্রতিষ্ঠার সিদ্ধান্ত নেবেন সংসদে আইন পাশের মাধ্যমে।

বলা হচ্ছে ১৯৭২ এর সংবিধান পুন:স্থাপিত হয়েছে। কিন্তু রাষ্ট্র পরিচালনায় আমরা এর তেমন প্রতিফলন দেখতে পাচ্ছি না। আমাদের দেশে এ যাবৎ ৬টি পঞ্চ বার্ষিক পরিকল্পনা, ২টি পিআরএসপি, ১টি দ্বিবার্ষিক ও ১টি বার্ষিক পরিকল্পনা রচিত ও বাস্তবায়িত হয়েছে বা হচ্ছে। এর মধ্যে একমাত্র জাতির পিতা বঙ্গবন্ধু শেখ মুজিবুর রহমানের আমলে রচিত প্রথম পঞ্চ বার্ষিক পরিকল্পনা রচনার ক্ষেত্রে মোটামুটিভাবে উপরোলিখিত জাতীয় চার মূল লক্ষ্য বা নীতিকে বিবেচনায় নেয়া হয়েছিল। অত্যন্ত দু:খের বিষয় যে, বঙ্গবন্ধু এ পরিকল্পনা বাস্তবায়ন করে যেতে পারেন নি। বাস্তবায়নের মাত্র সাড়ে তিন বছরের মাথায়

১৯৭৫ এর ১৫-ই আগষ্ট বিশ্ব সাম্রাজ্যবাদের ইন্ধনে ও সহযোগিতায় ১৯৭১-এর পরাজিত শক্তি তাঁকে সপরিবারে অত্যন্ত নৃশংসভাবে হত্যা করে। অত:পর সাম্রাজ্যবাদীচক্রের পরামর্শে সামরিক শাসক জিয়া এদেশে সংবিধানের চার লক্ষ্যকে ভূলুণ্ঠিত করে পুঁজিবাদী বাজার অর্থনীতির নামে প্রবৃদ্ধি তত্ত্ব বাস্তবায়ন শুরু করে। আর এক সামরিক শাসক এরশাদ একে চরমে পৌঁছে দেয়। একথা সকলেরই জানা যে, প্রবৃদ্ধি তত্ত্বের মূল কথা হচ্ছে প্রবৃদ্ধি হলে তার ফসল চুঁইয়ে গিয়ে সাধারণ মানুষের জীবনযাত্রার মানোন্নয়ন ঘটাবে। বাস্তবে কি তা হয়? মোটেও না। আমাদের সবারই হয়ত মনে আছে যে, ১৯৯০ এ যখন সামরিক শাসক এরশাদের পতন হয় তখন দেশের অর্ধেকেরও বেশী মানুষ দারিদ্র্য সীমার নীচে চলে গিয়েছিল। ভূমিহীনতা সর্বকালের রেকর্ড ভঙ্গ করেছিল। উন্নয়ন বাজেটের বিদেশী সাহায্য নির্ভরতা ৯৮.০% উঠেছিল। আমদানী নির্ভরতা সর্বকালের রেকর্ড ভেঙ্গেছিল। সকল গণতান্ত্রিক প্রতিষ্ঠান ধ্বংস করে দেয়া হয়েছিল। নির্বাচনের নামে যা করা হয়েছিল তা বাহাস ও প্রহসন ছাড়া আর কিছুই ছিল না। সরকারী খাতের প্রতিষ্ঠানসমূহকে একেবারে পঙ্গু করে দেয়া হয়েছিল। পরিকল্পনার নামে যা করেছিল দুই সামরিক শাসক তাকে বাহাস বললে খুব কমই বলা হবে। কারণ ঐ সময়ের পরিকল্পনা আসলে গণবিরোধী তথা সংবিধান বিরোধী ছিল। আর ১৯৯১ এর তথাকথিত গণতান্ত্রিক নির্বাচনের মাধ্যমে খালেদা জিয়া ক্ষমতায় এসে আরও এক ডিগ্রী এগিয়ে গিয়ে সাম্রাজ্যবাদী বিশ্ব ব্যাংক ও আইএমএফের পরামর্শে পরিকল্পনাকে নির্বাসনে পাঠিয়ে দেন। ঘূর্ণায়মান পরিকল্পনা, বাজেট সংস্কার, মন্ত্রণালয়ভিত্তিক বাজেট ইত্যাদি নানা পরীক্ষা-নিরীক্ষার ফলশ্রুতিতে দেশে উৎপাদনহীনতাসহ এক মহাদুর্যোগপূর্ণ অবস্থার সৃষ্টি হয়। ১৯৯৬ এ শেখ হাসিনা এসে আবার পরিকল্পনা ফিরিয়ে আনেন। তবে তা পুরোপুরি সংবিধানের লক্ষ্যের আলোকে রচিত হয় নি। তবুও সরকারী খাতকে কিছুটা চাঙ্গা করাসহ বণ্টন-পুনর্বণ্টনমূলক বেশ কিছু কর্মসূচী গ্রহণ করায় সাধারণ মানুষের জীবনযাত্রায় কিছুটা উন্নতি আসে এবং দেশ ২০০০ সাল নাগাদ খাদ্য উৎপাদনে স্বয়ংসম্পূর্ণতা অর্জন করতে সক্ষম হয়। ২০০১ এ খালেদা জিয়া ক্ষমতায় এসে পুনরায় সাম্রাজ্যবাদীদের পরামর্শে আবার পরিকল্পনা বাদ দিয়ে পিআরএসপি করে যা বিশ্ব ব্যাংকের বোর্ড সভায় ওয়াশিংটনে পাশ হয় এবং খালেদা জিয়ার সরকার বাস্তবায়ন করে। ১ম পিআরএসপি ব্যর্থ হওয়া সত্ত্বেও ২য় পিআরএসপি চাপিয়ে দেয়া হয় আমাদের উপর (১৮)। ২০০৬ সাল নাগাদ আবার দেশ এক মহাসংকটে পড়ে। খালেদা সরকারের নির্মম পতন দেখে দেশবাসী। আসে মইনউদ্দিন-ফখরুদ্দিনের অনির্ধারিত তথাকথিত তত্ত্বাবধায়ক সরকার। ২০০৮ এ ক্ষমতায় এসে শেখ হাসিনার সরকার পুনরায় পরিকল্পনায় যায়। রচিত হয় ৬ষ্ঠ পঞ্চ বার্ষিক পরিকল্পনা যার মেয়াদ শেষ হয়েছে ২০১৫ সালে। দেশ আবার খাদ্যসহ অনেক কিছুতেই স্বয়ংসম্পূর্ণতা অর্জনের পথে অথবা অর্জন করেছে। বর্তমান সরকার ইতোমধ্যেই সপ্তম পঞ্চ বার্ষিক পরিকল্পনা রচনার কাজে হাত দিয়েছে। ২০০০ সালে জাতিসংঘ ঘোষিত সহস্রাব্দ লক্ষ্যের ৮টির মধ্যে বেশীর ভাগই আমাদের দেশ ইতিমধ্যেই অর্জন করে ফেলেছে অথবা অর্জন করার কাছাকাছি রয়েছে। আমাদের ইতিহাসের কালো অধ্যায়গুলো যদি না আসতো, তা'হলে আমরা বহু পূর্বেই উন্নত দেশে পরিণত হতে পারতাম; অন্য কথায় জাতির পিতা বঙ্গবন্ধুর সোনার বাংলা প্রতিষ্ঠা করতে সক্ষম হতাম। পূর্বেই উল্লেখ করা হয়েছে যে, উন্নয়ন হয়েছে আমাদের দেশে, যদিও কাংখিত এবং টেকসই উন্নয়ন বলতে যা বোঝায় তা হয় নি। আলোচ্য প্রবন্ধে তাই আমরা আমাদের অর্থনীতির মূলখাতগুলোভিত্তিক টেকসই ও কাংখিত উন্নয়ন বিষয়ে আলোচনা করবো।

ভূমির ব্যবহার

অর্থনীতি শাস্ত্রে ভূমিকে অভিহিত করা হয়েছে উৎপাদনের আদি ও অবিনশ্বর উপাদান হিসেবে। বদ্বীপ তথা পাবন সমভূমির দেশ আমাদের এই মাতৃভূমি বাংলাদেশ। অত্যন্ত উর্বর এর ভূ-পৃষ্ঠ। অথচ উন্নয়নের

নামে এর যথেচ্ছ ব্যবহার করা হয়েছে। বসতি নির্মাণ, নগরায়ণ, অবকাঠামো নির্মাণ ইত্যাদি প্রায় প্রত্যেকটি কাজেই জমির অপব্যবহার তথা অপচয় করা হয়েছে। আর এ ক্ষেত্রে ব্যক্তি ও সরকার প্রতিযোগিতায় নেমেছে মনে হচ্ছে। ফলশ্রুতিতে আমাদের দেশের আবাদী জমি আশংকাজনক হারে হ্রাস পাচ্ছে। ১৯৭২ সালে আমাদের দেশে আবাদী জমির পরিমান ছিল প্রায় সাড়ে আট মিলিয়ন হেক্টর। আমার বিশ্বাস বিগত ৪৩ বছরে তা কম-বেশী দু'মিলিয়ন হেক্টর হ্রাস পেয়ে বর্তমানে কম-বেশী সাড়ে ছয় মিলিয়ন হেক্টরে এসে দাঁড়িয়েছে। এক হিসেবে দেখা গেছে যে, আমাদের দেশে প্রতিদিন প্রায় ৩২০ হেক্টর কৃষি জমি চলে যাচ্ছে উপরে বর্ণিত অ-কৃষি কর্মকান্ডে। তার মানে বছরে ০.১১৭ মিলিয়ন হেক্টর জমি বিলীন হয়ে যাচ্ছে যা বছরে প্রায় ১.৫ মিলিয়ন মানুষের খাদ্য নিরাপত্তা ধ্বংস করে দিচ্ছে (১২)। অন্যভাবে বলা যায় যে, প্রতি বছর আমাদের দেশের প্রায় ১.০% আবাদী জমি বিলীন হয়ে যাচ্ছে যা আমরা চাইলেও আর কখনো কৃষি কাজে ফিরিয়ে আনতে পারবো না। এ ভাবে চলতে থাকলে ২০৭১ সালের পর কৃষি কাজের জন্যে আমাদের দেশে আর কোনও জমি অবশিষ্ট থাকবে না। আমরা কেহই এমনটা দেখতে চাই না। কিন্তু বর্তমানের প্রবণতা থেকে এটা প্রতীয়মান হচ্ছে যে, দ্রুতই আমরা একটা কৃষ্ণ গহ্বরের দিকে ধাবিত হচ্ছি। এ মহাধ্বংসাত্মক প্রবণতা থেকে আমাদেরকে রক্ষা করতে পারে একমাত্র একটি পরিকল্পিত ভূমি ব্যবহার নীতিমালা। এটা সময়ের দাবী। এতে নিম্নোক্ত বিষয়গুলো অন্তর্ভুক্ত করতে হবে :

১। ভূমির আনুভূমিক ব্যবহার নিষিদ্ধ করতে হবে এবং উলম্ব ব্যবহার উৎসাহিত করতে হবে ।

২। শিল্পায়নের ক্ষেত্রে অপেক্ষাকৃত নিকৃষ্ট বা অনুর্বর জমিকে প্রাধান্য দিতে হবে। কোনও অবস্থাতেই উর্বর বা উৎকৃষ্ট ভূমি এ কাজে বরাদ্দ দেয়া চলবে না। এ ক্ষেত্রে আধুনিক পরিবহন অবকাঠামো গড়ে তোলার মাধ্যমে শিল্পায়নের কাজে প্রত্যন্ত এলাকার অপেক্ষাকৃত অনুর্বর তথা নিকৃষ্ট জমি ব্যবহারকে উৎসাহিত করতে হবে।

৩। জমির উর্বরতা বৃদ্ধির স্বার্থে জৈব জ্বালানীর ব্যবহার নিষিদ্ধ করতে হবে। আর এ জন্যে সারা দেশব্যাপী সিলিন্ডারজাত গ্যাস সরবরাহ নিশ্চিত করতে হবে। জরুরী ভিত্তিতে সমুদ্র উপকূলে গ্যাস টার্মিনাল স্থাপন করে বিদেশ থেকে (কাতার, মিয়ানমার, অষ্ট্রেলিয়া, রাশিয়ার মত দেশগুলোতে গ্যাসের বিশাল মজুদ রয়েছে) ট্যাংকারের সাহায্যে গ্যাস আমদানী করে তা সিলিন্ডারজাত করে সরবরাহ নিশ্চিত করা সম্ভব বলে আমরা মনে করি। এ ক্ষেত্রে সংশ্লিষ্ট দেশগুলোর সাথে আমাদেরকে দীর্ঘমেয়াদী চুক্তিতে যেতে হবে।

৪। নদ-নদী ও সাগর থেকে জমি উদ্ধার করতে হবে। আমাদের দেশের দক্ষিণ সীমান্ত সাগরের দিকে উম্মুক্ত। ২৪ হাজার কিলোমিটার নদী রয়েছে আমাদের। অনেক স্থানেই এগুলো প্রয়োজনাতিরিক্ত প্রশস্ত। খনন-পুন:খননের মাধ্যমে এগুলোর গভীরতা বাড়িয়ে ও প্রশস্ততা হ্রাস করে প্রচুর পরিমাণ জমি উদ্ধার করা সম্ভব বলে আমরা মনে করি। চীনসহ মধ্যপ্রাচ্য ও আফ্রিকার অনেক দেশ মরুভূমি থেকে যদি জমি উদ্ধার করতে পারে তা'হলে আমরা কেন নদী ও সাগর থেকে তা পারবো না। টেকসই উন্নয়ন ও ভবিষ্যত প্রজন্মের কথা মনে রেখে অবশ্যই আমাদেরকে এ বিষয়ে ভাবতে হবে।

৫। বাসস্থানসহ শিল্প-কারখানা, অফিস-আদালত, স্কুল-কলেজ, বিশ্ববিদ্যালয় ইত্যাদি যেকোন ভবন নির্মাণের ক্ষেত্রে বহুতল (কমপক্ষে ১০ তলা ভিতসহ) বিশিষ্ট ভবন নির্মাণ বাধ্যতামূলক করতে হবে।

এতে করে বিপুল পরিমাণ জমি বাঁচানো সম্ভব হবে। পল্লী এলাকায়ও চীনাদের মত আধুনিক সুযোগ-সুবিধাসহ বহুতল (কমপক্ষে ১০ তলা) ভবন নির্মাণ করে জমি উদ্ধার প্রক্রিয়া শুরু করা ইতোমধ্যেই জরুরী হয়ে পড়েছে বলে আমরা মনে করি (২৫, ৩০, ৩১, ৩২, ৩৩)।

৬। সড়ক নির্মাণ বন্ধ করতে হবে। আমাদের দেশে বর্তমানে প্রায় সাড়ে তিন লক্ষ কিলোমিটার বিভিন্ন ধরনের সড়কপথ রয়েছে যার বেশীর ভাগই প্রায় ব্যবহার অনুপোযোগী। দুঃখজনক হলেও একথা সত্য যে, পঁচাত্তর পরবর্তী সামরিক শাসনামলে বিশেষ করে আশির দশকে রেলকে অবহেলা করে সড়ক নির্মাণে বেশী গুরুত্ব আরোপ করা হয়। ১৯৯০ সাল নাগাদ দেশে প্রায় তিন লক্ষ কিলোমিটার সড়ক পথ নির্মাণ করা হয়। এতে কম করে হলেও প্রায় এক মিলিয়ন হেক্টর উর্বর তথা উৎকৃষ্ট ফসলী জমি ধ্বংস করা হয়েছে। অথচ বিশ্বের অন্যান্য দেশের মত যদি রেলপথ নির্মাণের উপর গুরুত্ব দেয়া হতো তা'হলে এ অপূরণীয় ক্ষতি থেকে আমাদের দেশ রক্ষা পেত। এ জমি আর কোনও দিন আমরা ফেরত পাবো না। এত রাস্তা নির্মাণ না করে আমরা যদি মাত্র ১০ হাজার কিলোমিটার রেলপথ নির্মাণ করতাম তা'হলে সড়ক পথের চেয়ে লক্ষ গুণ বেশী উপকৃত হত দেশ ও দেশের জনগণ এবং এত বিপুল পরিমাণ জমিও হারাতে হতো না (১৪,১৫,২০)। বর্তমান মহাজোট সরকার রেলপথের উপর গুরুত্ব আরোপ করেছে। এটা শুভ লক্ষণ। তবে অত্যন্ত সম্বুক গতিতে চলছে কাজ। এতে আমরা হতাশ। আমরা অত্যন্ত সৌভাগ্যবান এক জাতি। কথাটা এজন্যে বলছি যে, আমাদের প্রিয় রাজধানী ঢাকা বাংলাদেশের একেবারে মাঝখানে অবস্থিত। টেকনাফ থেকে ঢাকার যে দূরত্ব, ঠিক একই দূরত্ব তেঁতুলিয়া থেকে। অন্য দিকে সাতক্ষীরা ও তামাবিল থেকেও ঠিক একই অবস্থা বিরাজমান। রাঙ্গামাটি-সাপাহার এবং কলাপাড়া-হালুয়াঘাটের ক্ষেত্রেও একই কথা প্রযোজ্য। দীর্ঘ মেয়াদে আমাদের দেশের সীমান্তবর্তী উপরোক্ত গুরুত্বপূর্ণ শহরগুলোসহ স্থল ও নৌ বন্দরগুলোকে আধুনিক রেলপথ নেটওয়ার্কের আওতায় নিয়ে আসতে হবে। মাল্টি ট্রাকবিশিষ্ট রেলপথ নির্মাণ করতে হবে যাতে পথে ক্রসিংএ সময় নষ্ট না হয়। সকল ধরণের ক্রসিং এ ওভারপাস নির্মাণ বাধ্যতামূলক করতে হবে। রেলপথকে বিদ্যুতায়িত করতে হবে। প্রয়োজনে নিজস্ব বিদ্যুত কেন্দ্র নির্মাণ করতে হবে যাতে বিদ্যুত সরবরাহ বাধাগ্রস্ত না হয়। রেলের সাথে নৌ পরিবহণকে তথা পথকে সমন্বিত করে গড়ে তুলতে হবে। আধুনিক ও দক্ষ অর্থনীতি গড়ে তুলতে হলে এর কোনও বিকল্প আছে বলে আমি মনে করি না। ভারতীয়রা নিজেরাই প্রতিবছর গড়ে ৬০০ কিলোমিটার করে রেলপথ বানাচ্ছে। তারপরও প্রধানমন্ত্রী নরেন্দ্র মোদী চীনকে আরও রেলপথ নির্মাণে সহযোগিতা করার আহবান জানিয়েছেন। চীন এতে সম্মত হয়েছে (৩০,৩১,৩২,৩৩)। আমাদের সরকারও চীনকে এ ব্যাপারে সহযোগিতা করতে বিশেষভাবে অনুরোধ জানাতে পারে। চীন এতে রাজী হবে বলে আমি বিশ্বাস করি। কারণ ব্যবসা-বাণিজ্যসহ যোগাযোগ বৃদ্ধির জন্যে দক্ষিণ এশীয় করিডোর নির্মাণে চীন ইতোমধ্যেই তৎপর রয়েছে বলেই আমরা জানি। অতএব, এক্ষেত্রে অবশ্যই আমাদের স্লোগান হবে : জমি বাঁচান, দক্ষ ও সুবিস্তৃত রেল ও নৌপথ গড়ে তুলুন, দক্ষ অর্থনীতি গড়ে তুলুন !

কৃষি উন্নয়ন

কৃষি বর্তমানে আমাদের দেশের মোট অভ্যন্তরীণ উৎপাদনের মাত্র ২০.০% দিচ্ছে (মৎস্যসহ)। অথচ এখাতের সঙ্গে ওতপ্রোতভাবে জড়িত রয়েছে প্রায় ৬০.০% মানুষ। বিশ্বে যত ধরণের প্রযুক্তি আছে তার প্রায় সবই আমাদের কৃষিতে এসে গেছে এবং ব্যবহৃত হচ্ছে। এর সাথে রয়েছে দেশীয় বিজ্ঞানীদের উদ্ভাবিত বিভিন্ন ধরণের বীজ, যন্ত্রপাতি ও পদ্ধতি। কিন্তু সকল কৃষক কি তা সমানভাবে ব্যবহারের সুযোগ পাচ্ছে? পাচ্ছে না। তার কারণ মালিকানার বৈষম্য। আমাদের কৃষিতে এ বৈষম্য বর্তমানে প্রকট

রূপ ধারণ করেছে। দেশের প্রায় ৭০.০% কৃষক হচ্ছে প্রান্তিক কৃষক যাদের ভূমির পরিমাণ অর্থনৈতিক জ্যোতের আকারের অনেক নীচে। তারা মূলত: বর্গা বা ভাগ চাষী। বাকী ৩০.০% এর মালিকানাধীন ভূমির পরিমাণ মোটামুটিভাবে অর্থনৈতিক জ্যোতের কাছাকাছি। তবে কোন ক্রমেই তা উন্নত দেশের মত নয়। আমরা সবাই জানি যে, আমাদের কৃষিতে একটি অত্যন্ত শক্ত মধ্যস্বত্বভোগী শ্রেণী বিদ্যমান আছে। বিভিন্ন কৃষি উপকরণ ও উৎপাদিত ফসলের বাজার মূলত: এরাই নিয়ন্ত্রণ করে। ফলে আমাদের প্রান্তিক কৃষকরা আধুনিক প্রযুক্তি ব্যবহার করেও লাভবান হতে পারছে না।

জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান কৃষি উৎপাদন বৃদ্ধির লক্ষ্যে এবং কৃষকের তথা প্রান্তিক কৃষকের সহায়তার জন্যে স্বাধীনতার পরপরই ১৯৭২ সালে পূর্ব পাকিস্তান কৃষি উন্নয়ন কর্পোরেশনকে বাংলাদেশ কৃষি উন্নয়ন কর্পোরেশন নামে পুনর্গঠন করেছিলেন। এর মাধ্যমে আমাদের দেশের কৃষকদেরকে ন্যায্য মূল্যে অথবা বিনা মূল্যে সেচযন্ত্রসহ বিভিন্ন কৃষি উপকরণ সরবরাহ শুরু করেছিলেন। কৃষক ভাইদের জন্যে তিনি ভর্তুকীরও ব্যবস্থা করেছিলেন। কিন্তু পঁচাত্তর পরবর্তী সরকারগুলো বিশেষ করে জিয়া, এরশাদ ও খালেদা জিয়ার সরকার সাম্রাজ্যবাদী বিশ্বব্যাংক ও আইএমএফ এর পরামর্শে সকল ধরণের ভর্তুকী তুলে দেয়। বিএডিসিকে তসনস্ করে দেয়। এর মালিকানাধীন সমস্ত সেচযন্ত্র ও যন্ত্রাংশ পানির দামে ব্যক্তি মালিকদের কাছে বিক্রি করে দেয়। বীজ উৎপাদনসহ এর সমস্ত সম্প্রসারণমূলক কর্মকান্ড বন্ধ করে দেয়। এভাবে এ সংস্থাটিকে একেবারে পঙ্গু করে দেয়। এমন কি বঙ্গবন্ধুর আমলে দেয়া দাম সহায়তাও তুলে দেয়া হয়। ফলশ্রুতিতে আমাদের কৃষি মুখ থুবড়ে পড়ে। দেশ ক্রনিক খাদ্য ঘাটতির ফাঁদে আটকে যায়। ১৯৯৬ এ শেখ হাসিনার সরকার এসে সাম্রাজ্যবাদীদের আপত্তি সত্ত্বেও বিএডিসিকে আবার চাঙ্গা করে এবং কৃষিতে কৃষককে দেয়া যাবতীয় সুযোগ-সুবিধা ও ভর্তুকী ব্যবস্থা পুনরায় চালু করে। আমাদের বীর কৃষক ভাইয়েরা এর প্রতিদান দিয়েছিল। দেশ ২০০০ সাল নাগাদ খাদ্য শস্য উৎপাদনে শুধু স্বয়ংসম্পূর্ণতাই অর্জন করেনি, উদ্বৃত্ত উৎপাদন করতে সমর্থ হয়েছিল। ২০০১ সনের নির্বাচনে খালেদা জিয়া যখন ক্ষমতাসীন হন তখন দেশে ২২ লক্ষ টন খাদ্য শস্য উদ্বৃত্ত ছিল। ক্ষমতায় এসেই তিনি পুনরায় সাম্রাজ্যবাদীদের পরামর্শে বাজার অর্থনীতির নামে পূর্বের খেলায় মেতে ওঠেন। পুনরায় বিপর্যয় নেমে আসে কৃষিতে। ২০০৬ সনে খালেদা জিয়ার নির্মম পতনের সময়ে দেশে বিশাল (প্রায় ২০ লক্ষ টন) খাদ্য ঘাটতি রেখে যান তিনি। ২০০৮ এ শেখ হাসিনার মহাজোট সরকার ক্ষমতায় এসে আবার বিএডিসিকে শক্তিশালী করার উদ্যোগ গ্রহণ করেন। ভর্তুকীসহ কৃষককে প্রদত্ত সকল সুযোগ সুবিধা পুন: চালু করেন। ১০ টাকায় ব্যাংকে হিসেব খোলা, স্বল্প সুদে ঋণ প্রদান, ঋণের পরিমাণ বৃদ্ধি ইত্যাদি আরও অনেক নতুন সুবিধাদি কৃষককে দেয়া হয়। ফলে দেশ আবার খাদ্য শস্য উৎপাদনে স্বয়ংসম্পূর্ণতা অর্জন করে।

এত কিছুর পরেও বাজার অর্থনীতির কারণে আমাদের প্রান্তিক কৃষক মার খাচ্ছে। ন্যায্য দাম পাচ্ছে না। লাভবান হতে পারছে না। আমরা দৃঢ়ভাবে বিশ্বাস করি যে, এ অবস্থা থেকে পরিত্রাণের জন্যে কৃষির সমবায়ীকরণের কোনও বিকল্প নেই। এ ক্ষেত্রে বঙ্গবন্ধুর বাকশাল কর্মসূচির আওতায় কৃষির পরীক্ষামূলক সমবায়ীকরণ নীতি আমাদেরকে সাহায্য করতে পারে। তিনি পরীক্ষামূলভাবে আমাদের দেশের ১২৫টি তৎকালীন থানায় বহুমুখী সমবায় গঠন করার কর্মসূচী হাতে নিয়েছিলেন। ব্যক্তিগত মালিকানা বজায় রেখে যৌথ চাষাবাদের মাধ্যমে দ্রুত উৎপাদন বৃদ্ধি করাই ছিল এর মূল লক্ষ্য। চাষীরা যাতে ভুল না বোঝে, সেজন্যে ১৯৭৫ এর ২৬ শে মার্চ ঐতিহাসিক সোহরাওয়ার্দী উদ্যানে বিশাল এক কৃষক সমাবেশ করেছিলেন। অত্যন্ত দু:খের বিষয় যে, এটাই ছিল তার সর্বশেষ জনসভা। আমি তখন ঢাকা বিশ্ববিদ্যালয়ের অর্থনীতি সম্মানের তৃতীয় বর্ষের ছাত্র। আমি কয়েক বন্ধুসহ তাঁর নীতি নির্ধারণী ভাষণ

শোনার জন্যে একেবারে সামনের সারিতে বসেছিলাম। তিনি বলেছিলেন, "কৃষক ভাইয়েরা আমার, আমি আপনাদের জমি নেবো না। জমির মালিক আপনারাই থাকবেন। শুধু চাষাবাদের কাজটা যৌথভাবে হবে। আমরা সরকারের পক্ষ থেকে ন্যায্য মূল্যে সেচ সুবিধাসহ যাবতীয় কৃষি উপকরণ সরবরাহ করবো এবং আপনাদের কাছে পৌঁছে দেবো। উৎপাদিত ফসল জমির মালিকানা, শ্রম ও উপকরণ সরবরাহকারীবৃন্দের মধ্যে সমান ভাগ হবে। উৎপাদন বৃদ্ধিই এর মূল লক্ষ্য"।

বর্তমান বিশ্বে প্রায় সব উন্নত দেশেই সমবায় আছে - হোক তা পুঁজিবাদী বা সমাজতন্ত্রী। কর্মকান্ডের ধরনে কিছু প্রার্থক্য থাকলেও মূল লক্ষ্য এদের এক। আর তা হচ্ছে উৎপাদন বৃদ্ধি ও টেকসই উৎপাদন। এখানেই বঙ্গবন্ধুর সমবায় চিন্তা বর্তমান বাংলাদেশ কৃষির টেকসই উন্নয়নের জন্যে অত্যন্ত প্রাসঙ্গিক। আমরা বিশ্বাস করি, আমাদের প্রান্তিক কৃষককে মধ্যসত্ত্বভোগীদের কবল থেকে রক্ষার জন্যে এবং টেকসই কৃষি উন্নয়নের জন্যে যত দ্রুত সম্ভব কৃষির সমবায়ীকরণ করতে হবে। তিন ধরণের সমবায় গড়ে তুলতে হবে : (ক) উৎপাদন সমবায়; (খ) সরবরাহ সমবায় এবং (গ) বিপনন সমবায়। আমূল ভূমি সংস্কার প্রবর্তন করে মালিকানা ব্যবস্থায় ভারসাম্য প্রতিষ্ঠা করতে হবে। সমস্ত খাস জমি, জলাশয়, নদ-নদী এমনকি সাগর উৎপাদন সমবায়ের কাছে হস্তান্তর করতে হবে। বিষয়টি অত্যন্ত জরুরী। আমরা যত দ্রুত এটা অনুধাবন করতে সক্ষম হবো ততই তা দেশের জনগণের জন্যে মঙ্গল বয়ে আনবে।

শিল্পোন্নয়ন

শিল্পোন্নয়নেই আমাদের দেশের ভবিষ্যত। বর্তমানে এ খাত থেকে মোট অভ্যন্তরীণ উৎপাদনের মাত্র ২০.০% আসছে। ২০১০ সালের শিল্পনীতিতে তাই এ খাতের অবদান ২০২১ সাল নাগাদ ৪০.০% এ উন্নীত করার আশাবাদ ব্যক্ত হয়েছে। তবে এটা শুধুমাত্র বেসরকারী খাতের উপর ভরসা করে অর্জন করা সম্ভব নয়। সরকারী খাতকেও এ প্রক্রিয়ায় শক্তভাবে সম্পৃক্ত করতে হবে। অবশ্য শিল্পনীতিতে সরকারী খাতের উপরও সম গুরুত্ব আরোপের কথা বলা হয়েছে। বাস্তবে কিন্তু তার প্রতিফলন খুব একটা দেখা যাচ্ছে না। প্রধানমন্ত্রী বেসরকারীকরণ বন্ধ করেছেন বটে, কিন্তু সরকারী খাতের বন্ধ শিল্প প্রতিষ্ঠানসমূহ লাভজনকভাবে চালানোর জন্যে তেমন কোনও পদক্ষেপ নিচ্ছেন না। আমরা মনে করি যে, চীনের আদলে সরকারী খাতের শিল্প প্রতিষ্ঠানসমূহের সমস্যা সঠিকভাবে চিহ্নিত করে তার দ্রুত সমাধান করতে হবে। আধুনিকায়ন করতে হবে : যেখানে প্রয়োজন আরও বেশী উৎপাদনশীল যন্ত্রপাতি বসাতে হবে। প্রতিটি প্রতিষ্ঠানে স্বচ্ছতা ও জবাবদিহিতা প্রতিষ্ঠা করতে হবে। অব্যবহৃত জমি, পুকুর ইত্যাদির অর্থনৈতিক ব্যবহার নিশ্চিত করতে হবে। পণ্যের গুণগত মান নিশ্চিত করার লক্ষ্যে শিক্ষিত ও প্রশিক্ষিত জনশক্তি নিয়োগ দিতে হবে। এ ক্ষেত্রে অবশ্যই যে- কোন ধরণের হস্তক্ষেপ চিরতরে বন্ধ করতে হবে। সরকারী খাতের প্রতিষ্ঠানগুলোকে বেসরকারী খাতের প্রতিষ্ঠানসমূহের সাথে দস্তুরমত প্রতিযোগিতা করে টিকে থাকতে হবে। চীনারা এভাবেই তাদের দেশের সরকারী খাতের শিল্প প্রতিষ্ঠানসমূহকে লাভজনক প্রতিষ্ঠানে রূপান্তরিত করতে সমর্থ হয়েছে। তারা পারলে আমরা কেন পারবো না!

বেসরকারী খাতের ক্ষেত্রেও স্বচ্ছতা ও জবাবদিহিতা প্রতিষ্ঠা করতে হবে। প্রণোদনা ও শুল্ক রেয়াতের নামে অনির্দিষ্টকালের জন্যে তাদেরকে ভর্তুকী বা খয়রাতি সাহায্য দেয়া যাবে না। এগুলো বাদেই তাদেরকে দক্ষতার প্রমাণ দিতে হবে। মূল্য স্ফীতির সাথে সামঞ্জস্য রেখে শ্রমিক-কর্মচারীদের বেতন বৃদ্ধির একটা স্থায়ী ব্যবস্থা এ খাতে থাকতে হবে। আর এটা নিশ্চিত করা না গেলে এ খাতের অস্থিরতা কখনও দূর হবে না।

বঙ্গবন্ধুর আমলে আমদানী বিকল্প শিল্পনীতি করা হয়েছিল। কিন্তু পঁচাত্তর পরবর্তী সরকারগুলো অন্যান্য অনেক কিছুর মত এটাকে নির্বাসনে পাঠায় যা আমাদের শিল্পোন্নয়নের পথকে বন্ধ করে দিয়েছিল বলা যায়। সাম্রাজ্যবাদীদের পরামর্শে আমদানী বিকল্প নীতি বাদ দিয়ে তারা রপ্তানী ত্বরিত শিল্পনীতি অনুসরণ করে। ফলশ্রুতিতে আমাদের দেশ আমদানী নির্ভর দেশে পরিণত হয়। রপ্তানী মূলত: তৈরী পোষাক নির্ভর ছিল যার প্রায় সবকিছুই (মেশিনপত্র, জিপার, বোতাম, সূতা, কাপড় এমন কি অভিজ্ঞ ও দক্ষ জনশক্তি) আমদানী করতে হতো। তার মানে এ ক্ষেত্রে খুব সামান্যই মূল্য সংযোজন হতো (২০.০%-এর মত)। পোষাক শিল্পের জন্যে প্রয়োজনীয় মেশিনপত্র ও কাঁচামাল আমদানীর বিল পরিশোধে এর রপ্তানী আয়ের প্রায় ৮০.০% ব্যয় হয়ে যেত (২৮)। ১৯৭৮ সালে পোষাক শিল্পের যাত্রা শুরু হয়। অথচ ১৯৯৬ সাল পর্যন্ত এর ব্যাকওয়ার্ড ও ফরোওয়ার্ড লিংকেজ নিয়ে কোন চিন্তাই করেনি এ সময়ের সরকারগুলো। নেয়া হয়নি প্রশিক্ষিত ও দক্ষ জনশক্তি গড়ে তোলার কোনও পদক্ষেপ। অতিম-াত্রায় বেসরকারী খাত নির্ভরতার ফলে তথাকথিত পোষাক কারখানার নামে মালিকরা বিনা শুল্কে প্রয়োজনাতিরিক্ত কাপড় আমদানী করে কালো বাজারী করেছে যা দেশের উঠতি কাপড় শিল্পকে পথে বসিয়েছে। এর বিকাশকে বাধাগ্রস্ত করেছে যার রেশ আমাদেরকে এখনও টানতে হচ্ছে - ঘাটতি মেটাতে কাপড় আমদানী করতে হচ্ছে। ১৯৯৬ সনে আওয়ামী লীগ সরকার ক্ষমতায় এসে এ ব্যাপারে কিছু পদক্ষেপ নেয় যার ফলশ্রুতিতে আমাদের দেশে বেশ কিছু প্রশিক্ষণ ইন্সটিটিউট গড়ে ওঠে। এ সরকারই অর্থনৈতিক কুটনীতি চালু করে। ২০০৯-১৪ সময়ে তো পুরোদস্তর বিশ্ববিদ্যালয় প্রতিষ্ঠার অনুমতি দেন শেখ হাসিনার নেতৃত্বাধীন মহাজোট সরকার। এ পদক্ষেপগুলোর ফলে পরিস্থিতির কিছুটা উন্নতি হলেও এখনও অনেক কিছু করতে হবে। এখানেই বঙ্গবন্ধুর আমদানী বিকল্প নীতি আমাদের জন্যে প্রাসঙ্গিক হয়ে দাঁড়ায়, পথ দেখায়। পোষাক শিল্পের যন্ত্রপাতি ও মেশিনপত্রসহ সকল ধরণের ভারী মৌলিক শিল্পজাত পণ্য আমরা এখনও প্রায় পুরোটাই আমদানী করছি। এমন কি কম্পিউটারসহ যাবতীয় আইসিটি ও মোবাইল প্রযুক্তিজাত পণ্যও আমরা আমদানী করে চলেছি। অথচ চীনারা এগুলো রপ্তানী করছে দেশের চাহিদা মিটিয়ে। সারা বিশ্বের বাজারে তারা ভারী যন্ত্রপাতি-মেশিনপত্রসহ যাবতীয় আইসিটি ও মোবাইল প্রযুক্তিজাত পণ্য রপ্তানী করছে। সর্বশেষ তারা তাদের দেশে সর্বাধুনিক প্রযুক্তির "এয়ার বাস" প্রস্তুতের কারখানা গড়ে তুলেছে। চীনা সরকার তার ক্রমবর্ধমান বিমান কোম্পানীগুলোর জন্যে এ কারখানায় প্রস্তুতকৃত ২৮০ টি বিমান ক্রয়ের কার্যাদেশ দিয়েছে। ইতোমধ্যেই কারখানাটি বিমান সরবরাহ শুরু করেছে। চীন ২০১৪ সালে মার্কিন যুক্তরাষ্ট্রকে পেছনে ফেলে এক নম্বর অর্থনীতির দেশ হিসেবে আবির্ভূত হয়েছে। বর্তমানে মার্কিন অর্থনীতির আয়তন ১৭.৪ ট্রিলিয়ন ডলার, আর চীনের ১৭.৬ ট্রিলিয়ন ডলার (জিডিপি, পিপিপি হিসেবে) (৩০,৩১,৩২,৩৩)। এ ব্যবধান আরও বাড়বে। কারণ চীনের প্রবৃদ্ধি এখনও ৭.০% এর উপরে, আর মার্কিন যুক্তরাষ্ট্রের প্রায় শূন্য।

আমি মনে করি যে, ২০১০ সালের শিল্পনীতিকে যুগোপযোগী করে নতুন শিল্পনীতি রচনা ও বাস্তবায়ন করতে হবে। এ নীতিতে নিম্নোক্ত বিষয়গুলোর উপর সর্বাধিক গুরুত্ব দিতে হবে :

১। সরকারী ও বেসরকারী খাতকে অবশ্যই সমান গুরুত্ব দিতে হবে। পঁচাত্তর পরবর্তী সময়ে তৎকালীন সরকারগুলোর ঢালাও বাজার অর্থনীতি তথা বেসরকারী খাতের বিকাশের অবাধ নীতির সুযোগে আমাদের দেশের তথাকথিত পুঁজিপতিরা সরকারী খাতের প্রতিষ্ঠানসমূহে নির্বিচার এক লুঠন যজ্ঞ চালায়: সরকারী ব্যাংকসমূহ থেকে ঋণ নিয়ে ফেরত দেয়নি, উৎপাদনমুখী খাতে বিনিয়োগও তেমন একটা করেনি। সরকারী ব্যাংকের ঋণ নিয়ে সরকারী শিল্প প্রতিষ্ঠান কিনে নিয়েছে পানির দামে। সরকারী শিল্প প্রতিষ্ঠান কিনে নিয়ে তারা সেগুলো লাভজনকভাবে চালানোর কোনও উদ্যোগ তো নেয়ই নি; বরং

অধিকাংশ ক্ষেত্রে সেগুলোর জমি, যন্ত্রপাতি ইত্যাদি স্থায়ী সম্পদ উচ্চ দামে বিক্রি করে দিয়ে নিজেদের আখের গুছিয়েছে। ১৯৯৬-২০০১ সময়ে তৎকালীন আওয়ামী লীগ সরকার এবং ২০০৯-১৪ সময়ে বর্তমান মহাজোট সরকার বেসরকারী খাতের তথাকথিত উদ্যোক্তাদের এহেন আচরণে বিরক্ত হয়ে তাদের কাছ থেকে অনেক শিল্প প্রতিষ্ঠান পুনরায় সরকারী খাতে ফেরত নিয়েছে। এমন কি ইদানিং প্রধানমন্ত্রী শেখ হাসিনা ঘোষণা দিতে বাধ্য হয়েছেন যে, আর কোনও বেসরকারীকরণ বা বিরাষ্ট্রীয়করণ করা হবে না। তাঁর এ ঘোষণাকে আমরা স্বাগত জানাই। সাথে সাথে আমরা বলতে চাই যে, বন্ধ ও চলমান সকল সরকারী শিল্প প্রতিষ্ঠানগুলোকে চীনের অভিজ্ঞতার আলোকে লাভজনকভাবে চালানোর জন্যে যা যা করণীয় তা অতি দ্রুতই সুপরিকল্পিতভাবে করতে হবে। তা'ছাড়া নতুন নতুন খাতে সরকারকে বিনিয়োগ করতে হবে। কারণ আমাদের দেশের ব্যক্তিগত খাত ল্যাপটপ, মোবাইলসহ আইসিটি খাতে কিন্তু এতদিনেও বিনিয়োগে এগিয়ে আসেনি। তারা বরং আমদানী ব্যবসা করতে উৎসাহী। ২০১০ সালে টঙ্গী টেলিফোন শিল্প সংস্থায় সরকার দেশীয় ব্রান্ডের ল্যাপটপ ও মোবাইল উৎপাদনের প্রকল্প হাতে নেয়। কিন্তু দেখা গেল ব্যক্তিগত খাতের ব্যবসায়ী তথা কমিশনভোগী কায়েমী স্বার্থের কাছে সরকার নতি স্বীকার করে উৎপাদন কর্মকান্ড বন্ধ করে দেয়। সম্ভবত: ওখানে সামান্য তহবিল যোগান দেয়ার ব্যাপার ছিল। আমরা তখন বাজেট আলোচনায় এ ধরণের তহবিলের ব্যবস্থা করার জন্যে সরকারের কাছে আবেদন রেখেছিলাম। অর্থমন্ত্রী মহোদয় আমাদের কথায় কর্ণপাত করেন নি। আমার বিশ্বাস এ প্রকল্পে ১০০ কোটি এমন কি প্রয়োজনে ১০০০ কোটি টাকা দেয়া উচিত । কারণ দেশীয় ব্রান্ড বলে কথা। এ কাজে ১০০০ কোটি দিলে বিদেশী মুদ্রায় অন্তত: ২০,০০০ কোটি টাকা সাশ্রয় হোত। কমিশন বাণিজ্য ও চোরা কারবারীর মত অপরাধগুলো থেকে দেশ অনেকাংশে মুক্ত থাকতো বৈ কি। আমি মনে করি সরকারকে এ বিষয়ে জরুরী ভিত্তিতে পদক্ষেপ নিতে হবে। শুধু টঙ্গীতে নয়, প্রাথমিকভাবে সকল বিভাগীয় শহরে এবং পরবর্তীতে বৃহত্তর জেলা শহরে ল্যাপটপ ও মোবাইল সংজোযনের কারখানা গড়ে তুলতে হবে।

আমরা গড়ে তুলেছি রপ্তানী প্রক্রিয়াকরণ অঞ্চল। আর চীনারা গড়ে তুলেছে বিশেষ অর্থনৈতিক অঞ্চল। এ দু'য়ের মধ্যে পরিমাণগত ও গুণগত পার্থক্য রয়েছে। রপ্তানী প্রক্রিয়াকরণ অঞ্চলে শুধু রপ্তানীর জন্যে উৎপাদন করা হতো। প্রথম দিকে এখানে উৎপাদিত পণ্য অভ্যন্তরীণ বাজারে বিক্রয় করা নিষিদ্ধ ছিল। ১৯৯৬ সালে আওয়ামী লীগ সরকার ক্ষমতায় এসে অভ্যন্তরীণ বাজারে অন্তত: ৪০% পণ্য বিক্রি করা যাবে মর্মে সিদ্ধান্ত নেয়। কর মুক্তি, শুল্ক রেয়াত ইত্যাদি নানা ধরণের সুবিধাদি এখানে বিনিয়োগকারীদের দেয়া হয়। অপরদিকে বিশেষ অর্থনৈতিক অঞ্চল গড়ে তোলার ক্ষেত্রে সংশ্লিষ্ট এলাকার ভৌগোলিক ও অর্থনৈতিক বৈশিষ্ট্য বিবেচনায় নেয়া হয়। বৈশিষ্ট্যসমূহকে পরিপূর্ণভাবে কাজে লাগানো হয়। কোনও রকম কর ও শুল্ক রেয়াত দেয়া হয় না। অর্থাৎ চীনারা কোনও রকম কর বা শুল্ক রেয়াত দেয় নি। "ওয়ান স্টপ" সার্ভিস দিয়েছে তারা। পটসহ যাবতীয় সেবাসমূহ তারা এ "ওয়ান স্টপ" সার্ভিস সেন্টার থেকে দিয়েছে। ফলে তারা বিনিয়োগ নিয়ে কুলোতে পারে নি। অপর দিকে এত এত রেয়াদ দেয়া সত্ত্বেও আমরা কাংখিত বিনিয়োগ পাইনি একমাত্র পটসহ যাবতীয় সেবা প্রদানে দীর্ঘ সূত্রীতা ও দুর্নীতির কারণে (ঘুষ ছাড়া কোনও সার্ভিস না পাওয়া)। আশির দশকের গোড়ার দিকে চীনারা উত্তর-দক্ষিণে বিস্তৃত প্রশান্ত মহাসাগরীয় উপকূলের অঞ্চলগুলোতে মোট ১৪টি বিশেষ অর্থনৈতিক অঞ্চল গড়ে তোলে। এগুলো খুবই সফল হলে তারা নব্বই এর দশকে মধ্য ও উত্তরাঞ্চলে তা ছড়িয়ে দেয়। বর্তমানে তারা দুর্গম ও পশ্চাদপদ তিব্বত অঞ্চলেও বিশেষ অর্থনৈতিক অঞ্চল গড়ে তোলা শুরু করেছে। ভারতও চীনের এ সফলতায় উৎসাহিত হয়ে গোটা ভারতবর্ষব্যাপী ১০০ এর মত বিশেষ অর্থনৈতিক অঞ্চল গড়ে তোলার এক উচ্চাকাংখী কর্মসূচী বাস্তবায়ন করছে। আমার বিশ্বাস আমাদের দেশেও অঞ্চলভিত্তিক ভৌগোলিক ও

অর্থনৈতিক বৈশিষ্ট্য বিবেচনায় নিয়ে দ্রুতই বিশেষ অর্থনৈতিক অঞ্চল গড়ে তুলতে হবে। চীনের আদলে আধুনিক অবকাঠামোগত সুযোগ-সুবিধা গড়ে তুলতে হবে এবং "ওয়ান স্টপ" সেবা চালু করতে হবে। গোটা প্রক্রিয়াকে দুর্নীতিমুক্ত রাখতে হবে। তা'হলে আর রেয়াত, প্রণোদনা দেয়ার প্রয়োজন হবে না।

পোষাক শিল্প আমাদের ভবিষ্যত নয়। হাই টেক প্রোডাক্ট হচ্ছে আমাদের ভবিষ্যত। অর্থাৎ মূল্য সংযোজনের সুযোগ বেশী এ ধরণের শিল্পায়নে যেতেই হবে আমাদেরকে। সরকারী ও ব্যক্তিগত এ দু'খাতেই ক্ষুদ্র ও ভারী যন্ত্রপাতি, গাড়ি-বাস, লোকোমটিভ-ওয়াগন, কম্পিউটার-ল্যাপটপ, ফোনসেট-মোবাইল ইত্যাদি শিল্প কারখানা গড়ে তুলতে হবে। সর্বোপরি টেকসই শিল্পোন্নয়নের জন্যে অবশ্যই শিক্ষার সঙ্গে উৎপাদনের সরাসরি সম্পর্ক গড়ে তুলতে হবে যা চীনারা অত্যন্ত সফলতার সঙ্গে করতে পেরেছে। চীনারা সারা দেশব্যাপী উচ্চ শিক্ষা প্রতিষ্ঠানগুলোর খোল-নলচে পাল্টে ফেলেছে, গড়ে তুলেছে অসংখ্য বিশ্ব মানের গবেষণাগার। আর এ কারণেই তারা স্বল্প সময়ের ব্যবধানে নিজ ব্রান্ডের পণ্য নিয়ে দেশীয় ও আন্তর্জাতিক বাজারে প্রবেশ করেছে। মেধাসত্ত্ব ও প্যাটেন্টের ক্ষেত্রে চীনারা বিশ্বে এখনই তৃতীয় স্থানে উঠে এসেছে। একমাত্র মার্কিন যুক্তরাষ্ট্র ও জাপানের পরেই তাদের স্থান। আর তাই চীনাদের পূর্বের 'মেড ইন চায়না'-এর সাথে আরেকটি স্লোগান যুক্ত হয়েছে : "ডিজাইন্ড ইন চায়না" অর্থাৎ শুধু চীনে প্রস্তুতকৃত নয়, চীনে আবিষ্কৃতও বটে। আমাদেরকে শিল্পায়নে গবেষণার উপর অধিক গুরুত্ব দিয়ে উৎপাদনের সাথে শিক্ষার সরাসরি সম্পর্ক গড়ে তুলতে হবে। নিজস্ব ব্রান্ডের পণ্য নিয়ে দেশীয় ও বিদেশী বাজারে প্রবেশ করতে হবে। ওদিকে ভারতের প্রধানমন্ত্রী 'মেক ইন ইন্ডিয়া' স্লোগান নিয়ে যাত্রা শুরু করেছেন। অর্থাৎ ভারতে বানাও বা তৈরী কর। এর দ্বারা তিনি মূলত: বিনিয়োগ আকৃষ্ট করতে চাইছেন। আমরাও তা চাই। কাজেই আমাদের স্লোগান এক্ষেত্রে হবে তিনটি: "মেক ইন বাংলাদেশ", "মেড ইন বাংলাদেশ" এবং "ডিজাইন্ড ইন বাংলাদেশ"।

সরকারী খাতের শিল্প প্রতিষ্ঠানসমূহে উৎপাদিত পণ্য বাজারজাতকরণের ক্ষেত্রে সরকারকে অবশ্যই সহযোগিতা দিতে হবে। আমরা মনে করি সরকারী ও স্বায়ত্তশাসিত প্রতিষ্ঠানগুলোর কেনা-কাটার ক্ষেত্রে সরকারী খাতের শিল্পজাত পণ্যকে অগ্রাধিকার দিতে হবে। প্রয়োজনে আইন করে বাধ্যতামূলক করে দিতে হবে। খাদ্য শস্যসহ বেশ কিছু পণ্য মোড়কীকরণের ক্ষেত্রে সরকার ইতোমধ্যেই পাটজাত ব্যাগ ব্যবহার বাধ্যতামূলক করেছে বটে, তবে এখনও তা পুরোপুরি বাস্তবায়িত হয় নি। এটা বাস্তবায়নে অবশ্যই সরকারকে আন্তরিক এবং আরও তৎপর হতে হবে। পরিবেশ ও পাট খাতের স্বার্থে সরকারকে অবশ্যই এটা বাস্তবায়ন করতে হবে।

অবকাঠামোগত উন্নয়ন

অবকাঠামো প্রধানত: ২ ধরণের : ক) অর্থনৈতিক অবকাঠামো এবং খ) সামাজিক অবকাঠামো। আমরা এখানে মূলত: অর্থনৈতিক অবকাঠামো নিয়ে কথা বলবো। অর্থনৈতিক অবকাঠামোকে সাধারণত: মানবদেহের রক্ত সঞ্চালন প্রক্রিয়ার সাথে তুলনা করা হয়। মানবদেহে রক্ত সঞ্চালন প্রক্রিয়া কোনও কারণে বাধাগ্রস্ত হলে মানুষ যেমন রুগ্ন হয়ে পড়ে, অচল হয়ে যায়, ঠিক তেমনিভাবে অর্থনৈতিক অবকাঠামো সেকেলে হলে, রুগ্ন হলে, ভঙ্গুর হলে অর্থনীতির স্বাস্থ্যও ভঙ্গুর বা রুগ্ন হতে বাধ্য। অর্থনৈতিক অবকাঠামোর মধ্যে আবার পরিবহন অবকাঠামো সবচেয়ে গুরুত্বপূর্ণ। আর এক্ষেত্রে আমাদের দেশে একটা নৈরাজ্যজনক অবস্থা বিরাজ করছে। এ অবস্থা থেকে আমাদেরকে অবশ্যই পরিত্রাণ পেতে হবে। কারণ তা না হলে দেশী ও বিদেশী বিনিয়োগ বাধাগ্রস্ত হবে এবং সরকারের সুষম

উন্নয়নের স্বপ্ন, সোনার বাংলা গড়ার স্বপ্ন কল্পনাই থেকে যাবে। স্থল পরিবহন বিশেষ করে রেল ও সড়ক পরিবহন সম্পর্কে ইতোমধ্যেই কিছুটা আলোচনা আমরা করেছি। এখানে তাই সেসম্পর্কে আর পুনরাবৃত্তি করতে চাই না। এখানে নৌ পরিবহন নিয়ে কিছু কথা বলা প্রয়োজন মনে করছি। প্রকৃতি নিজ হাতে আমাদেরকে ২৪ হাজার কিলোমিটার নদী বানিয়ে দিয়েছে। অথচ সেগুলো অযত্ন ও অবহেলায় প্রায় সবটাই হয় মরে গেছে , না হয় মৃত্যুর কাছাকাছি আছে। এর মধ্যে এখনও পর্যন্ত সারা বছর নাব্য থাকে এমন নদীর দৈর্ঘ্য মাত্র সাড়ে তিন হাজার কিলোমিটার (১৪,১৫,১৬,১৭,১৮,১৯,২০)। পূর্বেই উল্লেখ করেছি যে, আমাদের নদীগুলো অধিকাংশ স্থানেই প্রয়োজনাতিরিক্ত প্রশস্ত। এছাড়া রয়েছে অসংখ্য বাক। এগুলো কমিয়ে নদীগুলোর প্রশস্ততা হ্রাস করে একদিকে যেমন বিপুল পরিমাণ জমি (কম পক্ষে মিলিয়ন হেক্টর) উদ্ধার করা সম্ভব, ঠিক তেমনি নদীগুলোর ভাঙ্গন রোধ করে নৌ পরিবহণের গতি বৃদ্ধি করা সম্ভব। আর একটা কথা নদীর দু' তীর কংক্রিটে বাধাই করে দিতে হবে যা অবশ্যই একটা দীর্ঘ মেয়াদী বিষয়। ভুললে চলবে না যে, নদী আমাদের অর্থনীতির জীবন। ২৪ হাজার কিলোমিটার নদীর নাব্যতা ফিরিয়ে আনতে পারলে আমরা অবশ্যই দেশকে বন্যামুক্ত রাখতে সক্ষম হবো। এটাও অবশ্যই একটা দীর্ঘ মেয়াদী ব্যাপার। তবে কাজটি এখনই শুরু করা আবশ্যক। আমি আমার ইতোপূর্বেকার অনেক লেখায় বলেছি এবং আজকে আবার বলছি যে, "নদী ব্যবস্থাপনা ও নদী খনন মন্ত্রণালয়" এ নামে একটি মন্ত্রণালয় এখনই সৃষ্টি করা হোক। এটা সময়ের দাবী। এতে যা খরচ হবে তার তুলনায় আমাদের অর্থনীতির উপকার হবে লক্ষ গুণ। আমি মনে করি জলবায়ু পরিবর্তনজনিত তহবিলের একটা বড় অংশ এখানে খরচ করা উচিত।

এবারে বিমান পরিবহণ সম্পার্কে দু'একটি কথা বলতে চাই। দেশের আর্থ-সামাজিক উন্নয়নের সাথে সাথে অন্যান্য পরিবহণ মাধ্যমের মত বিমান পরিবহণেরও চাহিদা বৃদ্ধি পাচ্ছে। কিন্তু আমাদের কি আন্তর্জাতিক মানের বিমানবন্দর আছে? নাই ! কারণ আমাদের রাষ্ট্রের পরিচালকরা ও নীতি নির্ধারকরা স্বল্প মেয়াদী সমাধানে বিশ্বাসী। কিন্তু আমি মনে করি যে, আমাদেরকে অবশ্যই দীর্ঘ মেয়াদে পরিবহণ চাহিদা নিয়ে ভাবতে হবে: ১০০-২০০ বছরে এ চাহিদা কোথায় গিয়ে ঠেকবে বা দাঁড়াবে তা মাথায় রেখে সিদ্ধান্ত গ্রহণ জরুরী হয়ে দাঁড়িয়েছে। আমার মতে ঢাকার উপকণ্ঠে অন্তত: ২টি (দক্ষিণে ও পশ্চিমে), ৭টি বিভাগীয় শহরের উপকণ্ঠে ৭টি, পর্যটন শহরকেন্দ্রিক আরও কয়েকটি বিমান বন্দর নির্মাণের পরিকল্পনা এখনই গ্রহণ করতে হবে। মনে রাখতে হবে যে, বিমান বন্দরগুলো শহরকেন্দ্র থেকে ৩০-৪০ কিলোমিটার দূরে হওয়া বাঞ্ছনীয়। উৎকৃষ্ট জমি বাঁচানো ও শব্দ দূষণ থেকে সুরক্ষা পাওয়ার স্বার্থে প্রস্তাবিত বিমানবন্দরগুলো পারতপক্ষে নদীর চরে নির্মাণ করা ঠিক হবে বলে আমি বিশ্বাস করি। অবশ্যই এগুলোর সাথে রেল, সড়ক ও নৌ পথের সুসমন্বয় থাকতে হবে।

আরেকটি কথা বলা এখানে জরুরী মনে করছি। আর তা হলো এই যে, উপরে বর্ণিত পরিবহণ মাধ্যমগুলোর জন্য দক্ষ জনশক্তি সৃষ্টির জন্যে অত্যন্ত পরিকল্পিতভাবে প্রশিক্ষণ ইন্সটিটিউট, একাডেমী, বিশ্ববিদ্যালয় বা অনুষদ গড়ে তুলতে হবে। দীর্ঘ মেয়াদে এগুলোর প্রয়োজনীয় যন্ত্রপাতি, মেশিনপত্র ইত্যাদি দেশে উৎপাদনের কথাও আমাদেরকে ভাবতে হবে। সরকারী-বেসরকারী দু'খাতেই এটা হতে পারে। ভূয়া ড্রাইভিং লাইসেন্স সমস্যা সমাধানের জন্যে সম্পূর্ণ পৃথক ও অত্যন্ত শক্তিশালী লাইসেন্সিং অথরিটি গঠন করতে হবে। এতে বিশেষজ্ঞসহ বিভিন্ন আইন-শৃঙ্খলা বাহিনীর সদস্যদের অন্তর্ভুক্ত করতে হবে। সব জেলাতে এর শাখা থাকবে, তবে ঢাকা, চট্টগ্রাম, খুলনা, রাজশাহীতে একাধিক কেন্দ্র থাকতে পারে। আর দুর্ঘটনা রোধে সকল ইলেক্ট্রনিক ও প্রিন্ট মিডিয়ায় অনবরত ট্রাফিক আইন সংক্রান্ত বিজ্ঞাপন উদ্ভাবন ও প্রচারণা চালাতে হবে। এক্ষেত্রে প্রয়োজনে সরকার এটা বাধ্যতামূলক করে দিতে পারে।

শিক্ষার বিকাশ ও মানব সম্পদ উন্নয়ন

অবশেষে ২০১০ সালে আমরা একটা যুগোপযোগী শিক্ষানীতি পেয়েছি। অবশেষে এ জন্যে বলছি যে, ইতোপূর্বে বঙ্গবন্ধুর আমলে ১৯৭৩ সালে শিক্ষা নীতি প্রণয়ন করা হয়েছিল ড: কুদরত-ই-খোদার নেতৃত্বে গঠিত আমাদের দেশের ১ম শিক্ষা কমিশনের সহায়তায়। এ শিক্ষানীতিতে বিজ্ঞান ও কারিগরি শিক্ষার উপর গুরুত্ব আরোপ করা হয়েছিল। এতে প্রাথমিক শিক্ষাকে অষ্টম শ্রেণী পর্যন্ত করা হয়েছিল যাকে ফাংশনাল এডুকেশন নামে অভিহিত করা হয়েছিল। এ শিক্ষানীতিতে বৈষম্যহীন এবং সাম্প্রদায়িকতামুক্ত শিক্ষার কথা বলা হয়েছিল। বঙ্গবন্ধু এ শিক্ষা নীতি বাস্তবায়ন করতে চেয়েছিলেন। কিন্তু ঘাতকরা তাঁকে সে সুযোগ দেয় নি। জিয়া ক্ষমতা দখল করে অন্যান্য অনেক কিছুর মত এ শিক্ষা নীতিকে নির্বাসনে পাঠান। তারপর বহু শিক্ষা কমিশন হয়েছে। কিন্তু তা কখনও আলোর মুখই দেখে নি, বাস্তবায়ন তো দূরের কথা। একমাত্র ২০০৯ সনে মহাজোট সরকার ক্ষমতায় এসে আধুনিক যুগোপযোগী এক শিক্ষা নীতি প্রণয়ন করে যা বর্তমানে বাস্তবায়নাধীন রয়েছে। এ শিক্ষা নীতিতে বিজ্ঞান, প্রযুক্তি, কারিগরি ও বৃত্তিমূলক শিক্ষার উপর গুরুত্ব আরোপ করা হয়েছে। কিন্তু বাস্তবায়নের ক্ষেত্রে কিছুটা অসংগতি পরিলক্ষিত হচ্ছে। সরকার প্রত্যেকটি জেলায় কমপক্ষে একটি বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয় এবং প্রত্যেকটি উপজেলায় অন্তত:পক্ষে একটি পলিটেকনিক ইন্সটিটিউট স্থাপনের সিদ্ধান্ত নিয়েছে যার বাস্তবায়ন ইতিমধ্যেই অনেকটা এগিয়েছে। কিন্তু বৃত্তিমূলক শিক্ষার ক্ষেত্রে তেমন তৎপরতা চোখে পড়ছে না। এ ক্ষেত্রে যুব উন্নয়ন কেন্দ্রসহ পূর্বের কিছু সংখ্যক প্রতিষ্ঠানেই প্রশিক্ষণ কার্যক্রম চলছে। আমি মনে করি যে, এ কর্মসূচী বিস্তৃত হওয়া প্রয়োজন। আমাদের প্রস্তাব হচ্ছে : আমাদের দেশের সাড়ে চার হাজার ইউনিয়ন পরিষদের কেন্দ্রে একটি করে মোট সাড়ে চার হাজার বৃত্তিমূলক প্রশিক্ষণ কেন্দ্র গড়ে তুলতে হবে। শহর এলাকায় ইতিমধ্যেই বেশ কিছু প্রশিক্ষণ কেন্দ্র আছে। প্রয়োজনে আরও স্থাপন করা যেতে পারে। নার্সিং, প্যারা মেডিক্যাল, মেডিক্যাল টেকনোলজি ইন্সটিটিউট যেমন আরও স্থাপন করতে হবে ঠিক তেমনিভাবে রেল, নৌ ও সমুদ্র পথের জন্য জনশক্তি প্রশিক্ষণ একাডেমি, ইন্সটিটিউট, বিশ্ববিদ্যালয়, অনুষদ ইত্যাদি জরুরী ভিত্তিতে গড়ে তুলতে হবে। আমাদের দেশের শিক্ষা প্রতিষ্ঠানগুলোতে জ্ঞান-বিজ্ঞান ও প্রযুক্তির নতুন শাখাগুলোর উপর নতুন নতুন বিভাগ, অনুষদ খুলতে হবে। মোট কথা আমাদের বিপুল জনসংখ্যাকে জনশক্তিতে রূপান্তরিত করার জন্যে দেশব্যাপী বিজ্ঞান-প্রযুক্তি-কারিগরি-বৃত্তিমূলক শিক্ষার এক সুসমন্বিত নেটওয়ার্ক গড়ে তুলতে হবে। জমি বাঁচানোর তাগিদে আমাদের দেশের সকল স্তরের শিক্ষা প্রতিষ্ঠানগুলোতে দুই শিফট্ প্রয়োজনে তিন শিফট্ চালু করতে হবে। এ ক্ষেত্রে কিছু ইন্ভেন্টরিসহ ২০ - ৩০% অতিরিক্ত শিক্ষক-শিক্ষিকা নিয়োগ দিলেই চলবে বলে আমরা মনে করি।

সরকার গবেষণা কার্যক্রমের উপর গুরুত্ব দিচ্ছে। এটা শুভ লক্ষণ। শিক্ষা নীতিতেও গবেষণার কথা বলা হয়েছে। আমরা মনে করি যে, টেকসই উন্নয়নের জন্য গবেষণা অপরিহার্য। চীনাদের মত আমাদের দেশের বিদ্যমান গবেষণাগারগুলোর খোল-নলচে পাল্টে ফেলতে হবে। বসাতে হবে সর্বাধুনিক সব যন্ত্রপাতি। একই সাথে সর্বশেষ প্রযুক্তিনির্ভর আরও নতুন নতুন গবেষণাগার গড়ে তুলতে হবে। উৎপাদনের সাথে গবেষণার সরাসরি সম্পর্ক গড়ে তুলতে হবে। অনুৎপাদনশীল খাতসমূহে বরাদ্দ হ্রাস করে গবেষণা খাতে বরাদ্দ বৃদ্ধি করতে হবে। এখানে বিশেষভাবে উল্লেখ করা প্রয়োজন যে, মহাজোট সরকারের বিগত আমলের নির্বাচনী প্রতিশ্রুতি ছিল শিক্ষকদের জন্য পৃথক এবং উচ্চতর বেতন কাঠামো প্রদান করার। কিন্তু সরকার সে প্রতিশ্রুতি থেকে সরে গেছে বলে এখন মনে হচ্ছে। স্বৈরাচার বুঝতে

অক্ষম, কিন্তু একটা গণতান্ত্রিক সরকার কেন এ সত্যটি বুঝতে পারছে না যে, মানুষ গড়ার একজন কারিগরকে যদি হাড়ির চিন্তা করতে হয় তা'হলে সে ভাল পড়াতে-শেখাতে পারে না; তাকে টিউশনি তথা কোচিং বাণিজ্যের কথা ভাবতে হয় বৈ কি। আমরা মনে করি যে, মানুষ গড়ার কারিগরদের জন্যে উচ্চতর বেতন কাঠামো দেয়া হোক এবং কোচিং-টিউশনি চিরতরে বন্ধ করে দেয়া হোক। ভারত সরকার এটা বহু পূর্বেই করেছে। আমলারা তখন সর্বোচ্চ বেতনের দোহাই দিয়ে বাধা দেয়ার চেষ্টা করেছিল। গণতান্ত্রিক সরকার তখন বিশেষজ্ঞদের পরামর্শে বিভিন্ন ভাতার আকারে শিক্ষকদের বেতন বৃদ্ধি করে নতুন উচ্চতর বেতন কাঠামো বাস্তবায়ন করেছে। উপমহাদেশে এমন কি শ্রীলংকা ও পাকিস্তানও শিক্ষকদের জন্যে পৃথক ও উচ্চতর বেতন কাঠামো বাস্তবায়ন করেছে। আমাদের দেশেও একমাত্র গণতান্ত্রিক সরকারই এটা করতে পারে বলে আমি বিশ্বাস করি। আমলারা বা অন্যান্য পেশার লোকজন বাধা দিলে সরকারকে তা মোকাবেলা করেই এগোতে হবে। তাদেরকে বোঝাতে হবে যে, তারাও শিক্ষকদের কাছেই লেখা-পড়া শিখে মানুষ হয়েছেন, জ্বীন-ভূতের কাছে নয়। সরকারের দৃঢ় অবস্থানই এক্ষেত্রে অপরিহার্য ও প্রত্যাশিত পরিবর্তন আনতে পারে।

শিক্ষা ক্ষেত্রে দীর্ঘদিন যাবৎ দুর্নীতির মচ্ছব চলছে। প্রশ্নপত্র ফাঁসের ঘটনা এখন প্রায়ই ঘটতে দেখা যাচ্ছে। বেসরকারী শিক্ষা প্রতিষ্ঠানে ঘুষের বিনিময়ে চাকুরী প্রদানসহ হেন কাজ নেই যেখানে ঘুষ দিতে হয় না। সরকার নিয়োগের জন্যে বেসরকারী শিক্ষা প্রতিষ্ঠানের জন্যে পৃথক কমিশন গঠন করতে চেয়েছিল। কিন্তু কায়েমী স্বার্থান্বেষী মহল তা ভন্ডুল করে দেয়। এ ক্ষেত্রে আমলা-শিক্ষক-রাজনীতিবিদ এ রকম একটা অসৎ চক্র কাজ করছে বলে আমাদের কাছে প্রতিয়মান হয়েছে। আমরা মনে করি যে, একটি সত্যিকারের গণতান্ত্রিক সরকার কারও অন্যায় আবদার মেনে নিতে পারে না; কোনও কায়েমী স্বার্থের কাছে নতি স্বীকার করতে পারে না। শিক্ষা ব্যবস্থায় জবাবদিহিতা ও স্বচ্ছতা প্রতিষ্ঠার স্বার্থে যা যা করা দরকার সরকার তা করবে জনগণ এটাই প্রত্যাশা করে। এ ক্ষেত্রে শৈথিল্যের কোনও অবকাশ নেই। একবিংশ শতাব্দীর উপযোগী মানসম্পন্ন শিক্ষা নিশ্চিতকরণে এর কোনও বিকল্প থাকতে পারে না।

টেকসই উন্নয়ন ও পরিবেশ

প্রকৃতি প্রদত্ত সম্পদের যুক্তিসম্মত অর্থনৈতিক ব্যবহার নিশ্চিত করার নামই হচ্ছে টেকসই উন্নয়ন। টেকসই উন্নয়ন বর্তমান ও ভবিষ্যত উন্নয়নের বিষয়টি বিবেচনা করে। আর উন্নত পরিবেশ টেকসই উন্নয়নের ভিত্তি রচনা করে। কাজেই প্রাকৃতিক পরিবেশ সংরক্ষণ ও লালন করা, আরও উন্নত করা, বৃদ্ধি করা আমাদের দেশের জন্যে আজ অত্যন্ত জরুরী জাতীয় দায়িত্ব হয়ে দাঁড়িয়েছে। কারণ একথা অস্বীকার করার উপায় নেই যে, একমাত্র দ্বীপ ও নগর রাষ্ট্র সিংগাপুর ছাড়া আমাদের দেশই পৃথিবীতে সবচেয়ে ঘন বসতির দেশ। ২০১১ সালের আদম শুমারী অনুযায়ী এখানে প্রতি বর্গকিলোমিটারে ৯৬৪ জন মানুষ বাস করে। স্বাক্ষরতার হার মাত্র ৫৭.৯% (১)। তার মানে ৪২.১% মানুষ ঠায় মূর্খ এবং যাদেরকে আমরা স্বাক্ষরতাসম্পন্ন বলছি তাদেরও একটা বড় অংশ প্রায় মূর্খ অথবা অর্ধশিক্ষিত; আধুনিক অর্থে এদেরকে শিক্ষিত বলা যায় না। জীবন-জীবিকার জন্যে এ বিপুল সংখ্যক মানুষের নানাবিধ অর্থনৈতিক কর্মকান্ড (বহুলাংশে অপরিকল্পিত ও অবিবেচনাপ্রসূত) এবং আমাদের সরকারগুলোর (অতীতের ও বর্তমানের) অত্যন্ত অপরিকল্পিত তথাকথিত উন্নয়ন কর্মকান্ডের কারণে আমাদের দেশের প্রাকৃতিক পরিবেশের অপূরনীয় ক্ষতি ইতিমধ্যেই হয়ে গেছে। মিষ্টি পানির জলাধারগুলোর অধিকাংশ মরে গেছে, পানি, বায়ু ও মাটি দূষিত হয়ে গেছে। বড় বড় বনাঞ্চল নিঃশেষ হয়ে গেছে। বহু প্রজাতির উদ্ভিদ, গাছ-পালা, তরু-লতা ধ্বংস হয়ে গেছে। একই পরিণতি মৎস্য ও প্রাণিকূলের ক্ষেত্রে ঘটেছে। সুপেয় মিষ্টি পানির আধার আর অবশিষ্ট নেই। এমন কি মাটির নীচের জলধারগুলোও আর্সিনিকের বিষাক্ত উপাদানে দূষিত হয়ে

গেছে। এ ক্ষেত্রে সবচেয়ে ভয়াবহ অবস্থা বিরাজ করছে আমাদের সবার প্রিয় রাজধানী ঢাকা মহানগর ও এর আশপাশের উপশহরগুলোতে। রাজধানীর চারদিকের নদীগুলো দখল-জবরদখলকারীদের আগ্রাসনে সরু খালে পরিণত হয়েছে। খালগুলো তো বহু পূর্বেই নিশ্চিহ্ন হয়ে গেছে। আর পানি দস্তুরমত আলকাত্রার রূপ ধারণ করেছে। মৎস্যসহ সব ধরণের জলজ প্রাণী ও উদ্ভিদ বহু পূর্বেই অদৃশ্য হয়ে গেছে, পোকা-মাকড়ও ওখানে এখন আর দেখা যায় না। অথচ বিগত শতাব্দীর সত্তরের দশকেও ওগুলোর পানি মৎস্যসহ বিভিন্ন জলজ প্রাণী ও উদ্ভিদে ভরপুর ছিল। ঐ শতাব্দীর আশির দশকে ব্যক্তিগত খাতে আবাসন শিল্পের বিকাশ তথা রিয়েল এস্টেট ব্যবসা, ব্যক্তিগত ও সরকারী অপরিকল্পিত নানাবিধ অর্থনৈতিক কর্মকান্ডের কারণে ঢাকা বৈষম্যপূর্ণ, পুতি-দুর্গন্ধময়, নৈরাজ্যপূর্ণ এক অসুন্দর বাণিজ্যিক নগরীতে পরিণত হয়েছে। এখানে এখন আর কোনও আবাসিক এলাকা নেই। সর্বত্র এখন বাণিজ্য। প্রয়োজনের তুলনায় কম সড়ক (প্রয়োজন ২৫%, আছে মাত্র ৮%), সরু সড়ক, ক্ষুদ্র যানবাহনের আধিক্য, পাতাল রেল ও সুশৃংখল গণপরিবহণের অনুপস্থিতি, আধুনিক ফুটপাথ, পয়:নিস্কাষণ ব্যবস্থা ও বর্জ্য ব্যবস্থাপনার অনুপস্থিতি আসলে মহানগরীকে মানুষের বসবাসের অনুপযোগী ইতিমধ্যেই করে ফেলেছে। গুরুতর স্বাস্থ্য ঝুঁকিতে আছে এখানে বসবাসকারী প্রায় দেড় কোটি মানুষ। এ অবস্থা আর চলতে দেয়া যায় না। পরিত্রাণ জরুরী। উত্তরণ আমাদেরকে ঘটাতেই হবে। এ প্রসঙ্গে নিম্নের বিষয়গুলোর প্রতি আমি নীতি নির্ধারক সংশ্লিষ্ট মহলের তথা দেশের রাজনৈতিক নেতৃত্বের দৃষ্টি আকর্ষণ করছি :

১। পয়:প্রণালী (Sewerage line) এবং ফুটপাত সমন্বয় করে সাশ্রয়ী বিজ্ঞানসম্মত করতে হবে। অর্থাৎ গোটা পয়:প্রণালী সড়কের পাশ দিয়ে নিতে হবে এবং তার উপরে অন্তত: দেড়-দুই ফুট উচ্চতার স্লাব দিয়ে ফুটপাথ গড়ে তুলতে হবে। এটা করলে রাস্তা খোড়াখুড়ি অনেকটাই বন্ধ হয়ে যাবে এবং মানুষ ফুটপাথ ব্যবহারে অবশ্যই অভ্যস্ত হবে।

২। আধুনিক বর্জ্য ব্যবস্থাপনা গড়ে তুলতে হবে। জৈব ও অজৈব বর্জ্যের জন্যে পৃথক ডাষ্টবিনের ব্যবস্থা থাকতে হবে। অথবা একই ডাষ্টবিনের দু'টো মুখ থাকতে পারে : একটা দিয়ে জৈব ও অন্যটি দিয়ে অজৈব বর্জ্য ফেলার জন্য। অবশ্যই ডাষ্টবিনের গায়ে এ সংক্রান্ত স্বীকার সেঁটে দিতে হবে। কোনও অবস্থাতেই ডাষ্টবিন উম্মুক্ত হবে না। অবশ্যই বদ্ধ সেফটি ডাষ্টবিনের ব্যবস্থা করতে হবে যাতে কোনও প্রকার দুর্গন্ধ ছড়াতে না পারে। এ ছাড়াও প্রত্যেক পরিবারকে প্রতিদিন দু'টো করে পলিথিনের বড় কালো ব্যাগ সরবরাহ করা যেতে পারে : একটি জৈব ও অন্যটি অজৈব বর্জ্যের জন্যে। লন্ডন শহরে এ ধরণের ব্যবস্থা দীর্ঘদিন যাবৎ চালু আছে। লন্ডনের পাঁচ/ছয় বারের নির্বাচিত অত্যন্ত জনপ্রিয় মেয়র কেন লিভিংষ্টোন এ ব্যবস্থাসহ আরও অনেক যুগান্তকারী ব্যবস্থা চালু করে গেছেন যার ফলে লন্ডন শহর আজকের অবস্থায় আসতে পেরেছে। বর্জ্য রিসাইকেল করার ব্যবস্থা অত্যন্ত জরুরী ভিত্তিতে করতে হবে। জৈব বর্জ্য থেকে বিদ্যুত ও সার উৎপাদিত হবে এবং অজৈব বর্জ্য থেকে রকমারী সব পণ্য উৎপাদিত হবে। এর ফলে গোটা মহানগরী বর্জ্যের ভাগার থেকে মুক্ত হবে, দুর্গন্ধমুক্ত হবে, পরিচ্ছন্ন হবে।

৩। লন্ডন শহরের আদলে গণশৌচাগার (পাবলিক টয়লেট) ব্যবস্থা গড়ে তুলতে হবে। এটাও লিভিংষ্টোনের সময়ে হয়েছিল। আমি মনে করি এ ধরণের গণশৌচাগার গড়ে তোলা ব্যতীত সম্পূর্ণ দুর্গন্ধমুক্ত ও পরিচ্ছন্ন আধুনিক ঢাকা গড়ে তোলার স্বপ্ন শুধু কল্পনাই থেকে যাবে। আমার দেখামতে লন্ডনের মত এত সুন্দর ও কার্যকর গণটয়লেট ব্যবস্থা পৃথিবীর কোথাও নেই। কাজেই এক্ষেত্রে লন্ডনের

অভিজ্ঞতা অবশ্যই কাজে লাগাতে হবে।

৪। সড়কসমূহ যতটা সম্ভব প্রশস্ত করতে হবে। বিদ্যুতের খুঁটিগুলো মাঝখানে স্থানান্তর করতে হবে এবং সবচেয়ে ভাল হবে যদি তারগুলো সব মাটির নীচ দিয়ে টানা হয়। দীর্ঘ মেয়াদে এটা নিরাপদ ও সাশ্রয়ী হবে।

৫। খালগুলো অবশ্যই উদ্ধার করতে হবে। ওগুলো গভীর করে খননপূর্বক দু'তীর কংক্রীটে বাধাই করে দিতে হবে। এগুলোর সাথে পয়:প্রণালী ব্যবস্থার সংযোগপূর্বক সমন্বিত ব্যবস্থা গড়ে তুলতে হবে।

৬। নদীগুলোর তীর মুক্ত করতে হবে যেকোন মূল্যে। ওগুলোরও দু'তীর কংক্রীটে বাধাইপূর্বক সুদৃশ্য ওয়াকওয়ে নির্মাণ করতে হবে। কোনক্রমেই ফেলে রাখা যাবে না, দীর্ঘসূত্রিতা এক্ষেত্রে গ্রহণযোগ্য হবে না। খালগুলোর সাথে সাথে নদীগুলোও গভীর করে খননপূর্বক সংযোগ প্রদানপূর্বক সুসমন্বিত এক নিষ্কাষণ ব্যবস্থা গড়ে তুলতে হবে। এক্ষেত্রেও আমি মনে করি লন্ডনসহ উন্নত আরও অনেক দেশের অভিজ্ঞতা কাজে লাগাতে হবে। আর এটা করতে পারলেই রাজধানী শহরকে তার অত্যন্ত নাজুক ও ভঙ্গুর পয়:নিষ্কাষণ ব্যবস্থা থেকে মুক্ত করা সম্ভবপর বলে আমি বিশ্বাস করি।

৭। পূর্বেই উলেখ করা হয়েছে যে, দেশের সকল রেল ক্রসিং এ ওভারপাস নির্মাণ বাধ্যতামূলক করতে হবে। অতিঘন বসতির ঢাকায় এটা অগ্রাধিকার ভিত্তিতে করতে হবে জনগণের জানমালের নিরাপত্তার স্বার্থে।

৮। রাস্তা পারাপারের বা ক্রসিং এর জন্যে উন্নত দেশের আদলে অত্যন্ত সুপরিসর আন্ডারপাশ জরুরী ভিত্তিতে এবং সর্বত্র নির্মাণ করতে হবে। অবশ্যই অপরিকল্পিতভাবে নির্মিত অপরিসর ওভারব্রিজগুলো ভেঙ্গে দিতে হবে। তথাকথিত এলিভেটেড এক্সপ্রেসওয়ে ও রেলওয়ে নির্মাণের কারণেও এগুলো সরাতে হবে বৈ কি!

৯। আমি বিশ্বাস করি যে, মেগা সিটি ঢাকার পরিবহণ সমস্যা সমাধানে দীর্ঘ মেয়াদে অবশ্যই কোলকাতার আদলে পাতাল রেল ব্যবস্থা গড়ে তুলতে হবে। এক্ষেত্রে স্বল্পমেয়াদী সমাধান তথা এলিভেটেড এক্সপ্রেসওয়ে ও রেলওয়ে নির্মাণ খুব একটা কার্যকর ভূমিকা রাখতে পারবে বলে মনে হয় না। মনে রাখতে হবে ঘন বসতির এ দেশে পরিবহণ সমস্যার সমাধানে অবশ্যই দীর্ঘ মেয়াদী চিন্তা করতে হবে। এক্ষেত্রে আমার বক্তব্য : কোন শহরের জনসংখ্যা মিলিয়ন হলেই সেখানে পাতাল রেল নির্মাণ করতে হবে এমর্মে একটি আইন করতে হবে। তা না হলে আমরা কখনই বিদ্যমান পরিবহণ নৈরাজ্য ও বিপুল অপচয় (মনুষ্য-ঘন্টা, জানমাল ইত্যাদির আকারে) থেকে রক্ষা পাব না।

১০। অর্থায়ন কীভাবে হবে? আমি মনে করি ইচ্ছা থাকলে অর্থায়ণ সমস্যা হবে না। রাজধানীর উন্নতি তথা গোটা দেশের উন্নতির বিষয়ে দলমত নির্বিশেষে আমাদের সকলের একমত হওয়ার সময় এসেছে। এ ব্যাপারে আমরা ঐক্যমত হতে না পারলে দেশের ভবিষ্যত অন্ধকারময় হবে এতে বিন্দুমাত্র সন্দেহ নেই আমার। বলছিলাম যে, কর বৃদ্ধি করবো না, নতুন কর বসাবো না ইত্যাদি সব সস্তা সেকেলে প্রতিশ্রুতি দিয়ে গদি দখলের প্রতিযোগিতা থেকে আমাদেরকে অবশ্যই বেরিয়ে আসতে হবে। জনগণ চায় পরিচ্ছন্ন, সুস্থ, জঞ্জালমুক্ত, নৈরাজ্যমুক্ত পরিবেশ। অতএব, জনগণ করও দিবে। উন্নত সেবার

বিনিময়ে উচ্চতর কর হার জনগণের মধ্যে এ সচেতনতা গড়ে তুলতে হবে। ব্যাংক হিসাব ও বিভিন্ন পরিবহণ মাধ্যমের টিকেটের উপর নির্দিষ্ট পরিমান লেভী আরোপ করা যেতে পারে। তার মানে কর ও লেভী মিলে অর্থায়নের একটা গুরুত্বপূর্ণ উৎস হতে পারে। বিদেশী ঋণ ও অনুদান আর একটি উৎস হতে পারে। এছাড়া ব্যাংকগুলো সিন্ডিকেট করে অর্থায়নের আর একটি উলেখযোগ্য উৎস হিসেবে আবির্ভূত হতে পারে। আর একটা ব্যবস্থা হতে পারে যে, নির্দিষ্ট চুক্তিতে বিদেশীদের বিশেষ করে চীনাদের দিয়ে দেয়া। তারা নির্মাণ করে নির্দিষ্ট সময়ের আয়টা নিজেরা নিবে। এর পরে আমাদের সরকারকে বুঝিয়ে দিয়ে যাবে। অর্থাৎ তার পর থেকে আমরা মালিক হবো। অবশ্যই চুক্তি করার সময়ে লিজের সময়টা যতটা সম্ভব কমিয়ে আনার চেষ্টা করতে হবে। এ ধরণের চুক্তিতে চীনারা পৃথিবীর বহু দেশে কাজ করছে (শ্রীলংকা, বলিভিয়া, ভেনিজুয়েলা ইত্যাদি)।

১১। পরিকল্পনা কমিশনকে তার ১৯৭২ সালের মর্যাদায় পুন:প্রতিষ্ঠিত করতে হবে। এর খোল-নলচে বদলে ফেলতে হবে। দেশের সেরা বিশেষজ্ঞদের এখানে নিয়ে আসতে হবে। একে সম্পূর্ণরূপে আমলাতান্ত্রিকতামুক্ত করতে হবে। সকল বিভাগীয় শহরে এর শাখা খুলতে হবে এবং ওগুলোতেও বিশেষজ্ঞদের নিয়োগ দিতে হবে। আমাদের দেশের সকল সম্পদের সুষ্ঠু ও পরিকল্পিত ব্যবহার নিশ্চিত করতে হলে এর কোনও বিকল্প নেই বলে আমি মনে করি।

১২। আমাদের প্রিয় রাজধানীকে সুষ্ঠু ও সুপরিকল্পিত রূপ দিতে হলে এর জন্যে দিলীর আদলে সিটি গভর্ণমেন্ট বা নগর সরকার গঠন করতে হবে। একই শহরে দু'টি সিটি কর্পোরেশন কোন সমাধান হতে পারে না। ঢাকা নগরীর সবকিছুর দায়িত্ব নগর সরকারের ব্যবস্থাপনায় দিতে হবে। এর থাকবে পৃথক পরিকল্পনা কমিশন। একজন মুখ্য মন্ত্রীর নেতৃত্বে ১0-১2 সদস্যের অত্যন্ত ক্ষুদ্রাকারের মন্ত্রীসভা থাকবে। আধুনিক দক্ষ ব্যবস্থাপনার স্বার্থে এটা আমাদের করতেই হবে। কাজেই যত আগে করবো ততোই মঙ্গল এ কথা মনে রাখতে হবে।

উপসংহার

গণতন্ত্র মানে শৃঙ্খলা, কিছু বিধি-নিষেধ। গণতন্ত্র মানে আইনের শাসন। গণতন্ত্র উশৃঙ্খলতা ও নৈরাজ্যের বিরুদ্ধে। গণতান্ত্রিক দেশে যা খুশী তা করা যায় না। আমরা আমাদের দেশকে গণতান্ত্রিক দেশ বলে গর্ব করি। অথচ সাম্রাজ্যবাদীচক্র তথা বিশ্ব ব্যাংক ও আন্তর্জাতিক মুদ্রা তহবিলের কুপরামর্শে বাজার অর্থনীতির নামে আমাদের দেশটাকে একটা নৈরাজ্যজনক অবস্থার মধ্যে ঠেলে দেয়া হয়েছে। কৃষি, শিল্প, পরিবহণ, ব্যাংক ব্যবস্থা, বাণিজ্য, শিক্ষা ব্যবস্থা সর্বত্র নৈরাজ্য। এ অবস্থা থেকে পরিত্রাণ অত্যন্ত জরুরী। প্রশ্ন হচ্ছে: কীভাবে এবং কোন পথে? বাজার অর্থনীতির ধকল পুঁজিবাদী ব্যবস্থার ধারক-বাহক দেশগুলোই সহ্য করতে পারে নি। তারা সকলেই এক দীর্ঘমেয়াদী মহাসংকটে হাবুডুবু খাচ্ছে। এ সংকটের শুরু সেই ২০০৭ এর শেষ দিকে। বর্তমানে ইহা ৩য় স্তর অতিক্রম করছে। ১ম স্তরে আইসল্যান্ড, গ্রীস, আয়ারল্যান্ড, স্পেনসহ বেশ কিছু দেশ দেউলিয়া হয়ে যায়। যুক্তরাজ্য, যুক্তরাষ্ট্র, ফ্রান্স, জার্মানী ও জাপান প্রায় দেউলিয়াত্বের কাছাকাছি চলে গিয়েছিল। বাঁচার জন্যে তারা সকল ধরণের জনকল্যাণমূলক কর্মসূচী কাঁটছাঁট করেই ক্ষান্ত হয় নি, অসহায় বৃদ্ধ-বৃদ্ধাদের পেনশন পর্যন্ত বন্ধ করে দিয়েছে। কর্মকর্তা-কর্মচারী ছাঁটাই করেছে অত্যন্ত নির্দয় ও অমানবিকভাবে। বন্ধ করেছে উৎপাদন। পুঁজিবাদ তথা পুঁজিপতিদের বাঁচানোর জন্যে তথাকথিত বেলআউটের নামে জনগণের করের টাকা ঐ সকল দেশের সরকারগুলো তুলে দিয়েছে পুঁজিপতিদের হাতে। সর্বত্র নৈরাজ্য ও আস্থাহীনতা : কেউ কাউকে বিশ্বাস করছে না, ব্যক্তি ব্যাংককে এবং ব্যাংক ব্যাংককে, বীমা প্রতিষ্ঠানকে বিশ্বাস করছে না। স্টক মার্কেট ফেল। বিনিয়োগ হচ্ছে না। সুদ হার শূন্য করেও না। অনেকে ক্ষতি সহ্য করতে না পেরে আত্মহত্যার পথ বেছে নিয়েছে ও নিচ্ছে। বেকারত্ব বেড়েছে হু হু করে : যুক্তরাষ্ট্র, যুক্তরাজ্য, ফ্রান্স, জার্মানী ও জাপানে এ হার কম-বেশী ১০%। অন্যান্য দেশে আরও বেশী, স্পেন, পর্তুগাল ও গ্রীসে প্রায় অর্ধেক মানুষ বেকারত্বের শিকার। ১ম স্তরে প্রবৃদ্ধি ছিল ঋণাত্মক, ২য় স্তরে শূন্যের কোঠায়, বর্তমানে চলমান ৩য় স্তরে এসে অবস্থার কিছুটা উন্নতি হলেও তা টেকসই হচ্ছে না। জাপানে তো আবার ঋণাত্মক প্রবৃদ্ধির মুখে প্রধানমন্ত্রী সিন্জো এ্যাবে সংসদ ভেঙ্গে দিয়ে নির্বাচনে যেতে দস্তুরমত বাধ্য হয়েছেন। ওদিকে খনিজ সম্পদ রপ্তানীকারক দেশ অষ্ট্রেলিয়ার রপ্তানী হ্রাস পাওয়ায় প্রবৃদ্ধি কমে গেছে, বৃদ্ধি পাচ্ছে বেকারত্ব (বর্তমানে প্রায় ৬.০%)। পুঁজিবাদী উন্নত দেশগুলোর এহেন দূরবস্থার মধ্যেও আমাদের দেশ কিছুটা ভাল অবস্থানে আছে। অর্থাৎ প্রবৃদ্ধি ৬% এর উপরে ধরে রাখতে পেরেছে। এর কারণ সম্ভবত: এ সময়ে মহাজোট সরকারের ক্ষমতায় আসা; এ সরকারের ক্ষুদ্র-মাঝারী শিল্পবান্ধব ও দরিদ্রবান্ধব আর্থিক ও মুদ্রানীতি অনুসরণ এবং সর্বোপরি পরিকল্পনায় ফিরে আসা; আন্তর্জাতিক ব্যাংক ব্যবস্থার সঙ্গে আমাদের দুর্বল সম্পর্ক এবং আমাদের রপ্তানী পণ্যের ধরণ (পোষাক, পাদুকা, চিংড়ী ইত্যাদি অনেকটা কমদামী অত্যাবশ্যকীয় পণ্য উন্নত পুঁজিবাদী দেশগুলোর জন্যে)। অন্যদিকে চীনের প্রবৃদ্ধি কিন্তু এ সময়কালে ৭-৯% এর মধ্যেই ছিল। বিশ্ব বাজারের সাথে চীনের শক্ত সম্পর্ক থাকলেও সরকারের নিয়ন্ত্রিত বাজারনীতি ও সতর্ক আর্থিক ও মুদ্রানীতির কারণে তারা তাদের অর্থনীতিকে শুধু সংকটমুক্তই রাখে নি, প্রবৃদ্ধিও যথেষ্ট উচ্চ স্তরে ধরে রাখতে সক্ষম হয়েছে। চীন, ভিয়েতনাম, বাইলো রাশিয়া বাজার সংস্কার করেছে ঠিকই; কিন্তু এ দেশগুলো বাজারের অদৃশ্য শক্তির কাছে পুরোপুরি আত্মসমর্পণ করে নি, পরিকল্পনাকেও নির্বাসনে পাঠায় নি। তারা পরিকল্পনার সংস্কার করে নিয়ন্ত্রিত বাজার ব্যবস্থার সাথে সমন্বিত করেছে সকল উৎপাদন সম্ভাবনাকে কাজে লাগানোর স্বার্থে। রাষ্ট্রীয় তথা সমাজতান্ত্রিক খাতের উৎপাদন প্রতিষ্ঠানগুলোকে আধুনিকায়ন করে বাজারের সাথে সমন্বিত করেছে। এটা তারা করেছে দেশীয় অর্থনৈতিক দর্শন অনুসরণ করে। অর্থাৎ দেশের আর্থ-সামাজিক বৈশিষ্ট্য, বাস্তবতা যা চায় তাই করেছে তারা। আমাদের দেশেও আমি মনে করি বাজারকে পরিকল্পিত ও নিয়ন্ত্রিতভাবে কাজে লাগাতে হবে।

চীন ও ভিয়েতনামের আদলে সরকারী খাতের প্রতিষ্ঠানসমূহের সংস্কারপূর্বক আধুনিকায়নের মাধ্যমে লাভজনক করতে হবে। মনে রাখতে হবে : বেসরকারী খাতের নৈরাজ্য, লাটি-ফুন্ডি চরিত্র ও সিন্ডিকেট বন্ধ এবং ধ্বংস করতে হলে আমাদের দেশেও একটি অত্যন্ত শক্তিশালী সরকারী খাতের উপস্থিতি অত্যাবশ্যক হয়ে দাঁড়িয়েছে। শিল্পের আধুনিক ও সম্ভাবনাময় খাতগুলোতে রাষ্ট্রকে বিনিয়োগে এগিয়ে আসতে হবে। বাস্তবতা আমাদেরকে এ শিক্ষাই দিয়েছে বলে আমি মনে করি। ধার করা পুঁজিবাদী সাম্রাজ্যবাদী তত্ত্ব দিয়ে রূপকল্প ২০২১ এবং উন্নত দেশের স্বপ্ন ২০৪১ কখনই বাস্তবায়ন সম্ভব নয়। অর্থনীতি সমিতির প্রাক্তন সভাপতি অধ্যাপক ড: আবুল বারকাতের সাথে আমিও এ ব্যাপারে একমত পোষণ করি যে, রূপকল্প ও জাতির পিতার সোনার বাংলা তথা উন্নত বাংলাদেশের স্বপ্ন বাস্তবে রূপ দিতে হলে দেশীয় অর্থনৈতিক দর্শনের (Home Grown Economic Philosophy) কোনও বিকল্প নেই। সরকারের নীতি নির্ধারক মহল আমাদের প্রিয় মাতৃভূমির টেকসই উন্নয়ন নিশ্চিতকরণে বিষয়টি বিবেচনায় নিবেন বলে আমি বিশ্বাস করি।

গ্রন্থপঞ্জী :

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৯। খান মো: মোয়াজ্জেম হোসেন (২০০৬) : "দারিদ্র্য হ্রাস কৌশল পত্র - বাংলাদেশের দারিদ্র্য দূরীকরণের আরও একটি ব্যর্থ প্রয়াস"। Bangladesh Journal of Political Economy, vol. 23, Nos. 1 & 2, 2006.

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Watching the Watchdogs:
Political Economy of Public Accounting Oversight

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Abstract: *Professions are seen in terms of their economic monopolies, their professional work and skills, and their ideologies. Following these three lines of thought, critics trace the potential economic effects of a decline in professional status, the potential effects of loss of professional control over auditing practices and standards, and the likely public interest effects from changes in professional ideology. Professional accountancy bodies and firms under their umbrella are perceived to be non- performer in delivering their professional responsibilities towards the stakeholders. In every economic turmoil, stock market crash, Bank failures and economic downturns the accountants are criticized whether this failure originated from wrong economic theory or not. This paper is to identify the different steps that needed accountancy profession to bring under more scrutiny and surveillance to avoid the conflict of interest and protect the stakeholder interest and independence of public accountants. This paper tries to identify the causes of oversight on accountancy profession in general and, in particular, and highlight the developments in the United States, Scandina- vian country Sweden, Denmark, EU and Middle Eastern and Asian coun- tries and a brief sketch of state of oversight on accountancy profession in Bangladesh. Given the objective, the paper provides a literature review on the foundation of the public accountancy profession on its existence. Open discussion on the justification oversight with details on the causes of the failure of public accounting profession with stress and scandals, lawsuits, and criticism and reforms in regulation process including oversight of the profession. Deals with emerging need of oversight on the Accountancy profession in particular, enactment of Sarbanes-Oxley Act and establish- ment of public company accounts oversight Board in the USA. Attempts to display the updates on the implementation Sox Act and process develop- ment for implementation also the impact on auditing profession. In particu- lar, this provides an insight on how PCAOB started functioning and the*

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accountancy firm inspection process followed. Provides a sketch on Public Company Oversight Board in 15 countries which covers 7 Middle East and 8 EU countries. Details a brief on International Forum of Independent Audit Regulators with 39 members that includes 10 country survey results on accounting oversight Board and the regulation process. A brief sketch on the regulation process is provided with a brief on the current state of oversight on Accountancy Profession in Bangladesh and documented the summary of the paper and the rationale for the establishment of Public Accounting Oversight Board in Bangladesh.

Introduction

Professions are seen in terms of their economic monopolies, their professional work and skills, and their ideologies. Following these three lines of thought, critics trace the potential economic effects of a decline in professional status, the potential effects of loss of professional control over auditing practices and standards, and the likely public interest effects from changes in professional ideology. The work of two particular socio- logical theorists forms the framework for this analysis. Abbott [1988] theorizes professions as groups with jurisdiction over professional tasks–a jurisdiction that is based in economics, negotiated with other groups, and in a constant state of change. Freidson [1986; 2001] bases his analyses on the characteristics of an ideal profession with emphasis on understanding the key interactions between those characteristics. While some see the public accounting (auditing) profession as distinct from other accounting professions, such as education, private enterprise, not-for-profit and governmental [Handrikson 1986], some define the accounting profession more broadly and see the various segments as internal differentiation within a profession. In the U.S. and elsewhere the premier event leading to professional status for accountants was the franchise given to public accountants by the securities legislation of the 1930s [Merino and A. G. Mayper 2001]. This legislation both requires publicly traded companies to purchase independent audits of their financial statements and defines public accountants as the sole providers of such audits. The professional status of accounting is therefore dependent on the public wing of the profession. However, even the American Institute of Certified Public Accountants has only a minority of its members currently in public practice. Both in the UK and the US the profession is fragmentary with many sub- specializations. Roslender [1992] notes that aside from auditing, the accounting profession is not exclusive and does not depend on a government supported monopoly. One does not have to be a CA to provide taxation, statement preparation, and other services.

Abbott [1988] and Freidson [2001] explain that once a profession has achieved professional status, they begin to bring various related functions under the umbrella of that professional distinction. So, for example, accountants in the US have provided taxation and information services as an adjunct to audit practice and

these activities are clothed in the ideological mantle of the profession for a marketing advantage when supplied by CAs—although both services can be bought as well from non-accountants. This is precisely the type of situation theorized by Abbott [1988] where a number of related functions rely on the professional status of the core function in competition for professional jurisdiction or work.

Key Aspects of Professionalism: Public accountancy, is generally viewed as a profession both by academics and the public. Friedson [2001] notes five interdependent elements of the ideal type professionalism of which three key elements are the existence of a "labor market shelter" by which the profession is shielded from competition, retention of professional control (as opposed to client or state control) over judging and evaluating professional work, and maintenance of a public interest ideology.

A labor market shelter represents "occupational control over supply and the substance of demand" for particular work and effective formally negotiated labor market shelters are always based on some public claim of specialized training and skill that secures a state sanction for an exclusive right to supply certain kinds of labor [Friedson, 1994, pp. 82-83].

Another key characteristic of professionals is that they have technical autonomy and some degree of discretion in performing work that must be conducted in accordance with a personal, schooled judgment [Friedson, 1986, p. 141]. Even though professional work is often employed within bureaucratic setting and control, supervision of the professional work and judgment of its quality is the purview of skilled professionals. For example, in accounting it is the peer review process, not the opinion of the client, that determines the quality of an audit. Freedom from the authority of others over their work is one of the defining characteristics of professions [Friedson, 1994, p. 115] and one that has been lost by the US auditing profession and elsewhere in the world with the current accounting scandals like Enron, World Com, Syatom, Parmalaot and many others since 1940s and more seriously in 1990 onwards..

Objective and structure of the paper

Professional accountancy bodies and firms under their umbrella are perceived to be non-performer in delivering their professional responsibilities towards the stakeholders. In every economic turmoil, stock market crash, bank failures and economic downturns the accountants are criticized whether this failure originated from wrong economic theory or not. The objective of this paper is to identify the different steps that needed the accountancy profession to bring under more scrutiny and surveillance to avoid the conflict of interest and protect the stakeholder interest and independence of public accountants. This paper tries to identify the causes of oversight on accountancy profession in general and, in particular, highlight the developments in the United States, Scandinavian country Sweden, Denmark, EU and Middle

Eastern and Asian countries. Finally, the paper provides a brief sketch of oversight on accountancy profession in Bangladesh. The paper is organized as follows. ***Section-I***: Provides a literature review on the foundation of the public accountancy profession. ***Section-II***: Open discussion on the causes of the failure of public accounting profession with stress and scandals, lawsuits, and criticism and reforms in regulation process including oversight of the profession. ***Section-III***: Mainly deals with the emerging need of oversight on the Accountancy profession, in particular, enactment of Sarbanes-Oxley Act and establishment of public company accounts, oversight Board in the USA. ***Section IV***: Attempts to display the updates on the implementation of Sox Act. In particular, this section provides an insight on how PCAOB started functioning and the accountancy firm inspection process followed. ***Section V***: Provides a sketch on Public Company Oversight Board in 15 countries, which covers 7 Middle East and 8 EU countries. ***Section VI***: details a brief on country survey results on accounting oversight Board and the regulation process in Asian Countries. A brief sketch on the regulation process is provided in this section with a brief on the current state of oversight on Accountancy Profession in Bangladesh. ***Section VII***: documents the summary of the paper.

Section I: Literature review on Public Accounting Profession

1.1   Issues in the Accounting Profession

While the Sarbanes-Oxley (Sox) legislation was a response to a particular set of market scandals, a number of unresolved issues had been developing surrounding public accountancy for years. If these underlying problems remain un-resolved, they will continue to affect the ability and willingness of the accounting profession to meets its public interest obligations. Several recent accounts trace the factors that led to the failure of the profession to retain its full professional status. Zeff [2003, pp. 189-205] places the pinnacle of status of the US accounting profession in the 1940s to mid 1960s. However, the subsequent movement of the profession into information-based services triggered an internal differentiation that would ultimately erode the public interest ideology of the profession. As the markets gained increased prominence and importance in the 1960s, activities surrounding the markets became more visible. The late 1960s ushered in an era of "scandals, lawsuits, and criticism of the profession" [Zeff, 2003, p. 196]. In the 1970s account-ing standard setting passed from the profession to a private standard-setting body and Zeff notes a decline in interest by the profession in taking public positions on accounting standards. Congressional hearings in the late 1970s resulted in the first of a series of reforms in the self-regulation process of the profession. In addition, growth of controversial management advisory services continued despite the concern of regulators. Zeff [2003, pp. 267-286] notes a deterioration of profes-sional values and professional climate in the 1980s on due to increases in the com-petitive environment. Economic pressures in turn led to an increasing move into provision of consulting services and changes in expectations of partners from deliv-

ering high quality audit services to bringing in revenue growth.

The profession responded weakly to the Savings and Loan crisis, other scandals and additional congressional hearings. Pressure from clients for favorable accounting treatments that showed continual growth also escalated in the 1980s and 1990s. Zeff [2003, pp. 267-286] concludes that the auditors themselves became even less involved with professional issues or identification, focusing more on growth of their consulting businesses. Zeff notes that the concerns of regulators were opposed or ignored by audit firms and the work climate and business model of accounting practice became even more oriented toward consulting work.

1.2   Economic Differentiation

In sociological theories of professions [Friedson 2001, Abbott 1988 , Larson 1977], economic interests are at the core of the professional project. When the perceived economic value of a peripheral activity, such as information technology consulting, begins to surpass the perceived economic value of the profession's core monopoly activity (auditing), problems are bound to result. The motivation of the profession to protect the value of its core product is diminished. In the case of auditing there are further problems because pursuit of the peripheral activity arguably has implications for the ability of the auditor to maintain a vestigal degree of independence from the client.

The "fall of the accounting profession" can be seen as a situation where perverse economic incentives associated with the consulting culture overwhelmed positive economic incentives to preserve the integrity of audits [Larson 1977] or as a situation where internal differentiation of the profession resulting from the precipitous rise of information services/consulting played havoc with the ability of the profession to remain committed to its core business of auditing [Abbott 1988]. For either of these two explanations, the solution is to revitalize the economic incentives associated with auditing—and ironically the internal control certification requirements associated with Section 404 of the Sarbanes-Oxley act appear to have just that effect. Douglas Carmichael, Chief Auditor of the PCAOB, presents the goal of the auditing profession in economic terms. He relies on the theory of inspired confidence, an economic theory wherein the goal of auditing is to meet society's needs and states that auditing standards will be set with a goal to "perform enough work to meet the expectations the auditor has aroused in society" [Carmichael, 2004, 13, p. 129].

In the short term Sarbanes-Oxley provisions, particularly in relation to internal control requirements, may have the effect of revitalizing the economic value of audit practice. Furthermore, Sarbanes-Oxley legislation severely restricts the ability of firms to provide consulting services to audit clients, therefore changing the business model that has dominated accounting practice. However, in the long

term, economic conflicts between the value of auditing and consulting are bound to reappear. The internal differentiation of the profession will continue to pose problems for the profession. While the public accounting profession, particularly the large firm segment engaged in audits of publicly traded companies, is directly affected by Sarbanes-Oxley, other segments of the accounting profession are affected as well. Abbott [Abbott 1988] explains that the different segments of professions and the other work groups with whom they compete are all inter-related. Abbott's "system of professions" is always in flux, with different work groups competing for jurisdiction.

1.3   Professional Character

Zeff [2003] and Wyatt [2004] describe the decline of the accounting profession to a turning away from the central ethical commitment of professionalism. This situation is not unique to accounting. Wolfe [1989] asserts that there has been a change in the moral sensibility of American society from reifying moral or character-based traits to admiring economic traits. Reiter and Williams [2004] explain how the narratives of legitimation of the profession have changed over the years from emphasis on the professional character of accountants to emphasis on the judicial neutrality of accountants to promotion of accountants as economic characters upholding audit independence because it serves their self-interest. While the SEC and the government seek to restore public confidence in CAs and audited financial statements by taking over regulation of auditing standards and practices and enhancing the role of corporate governance, particularly audit committees, in over-seeing the actions of management, the accounting profession is seeking to reestab-lish trust in CAs. PWC [2003] exhorts auditors to rebuild trust through rededica-tion to core values such as integrity, re-activation of professional judgment, and adoption of clear codes of conduct and corporate cultures emphasizing integrity.

Section II: A Chronology of stress on Accountancy Profession

All was not rosy as the three decades from the 1940s through the close of the 1960s. Threatening clouds began to form over the accounting profession in the middle and latter 1960s. Financial scandals burst on the scene, raising questions about the performance of auditors. Trailing in the wake of the scandals, auditors found themselves as defendants in a number of highly publicized lawsuits. And the accounting profession lost its prized authority to pronounce on generally accepted accounting principles (GAAP) to an independent body, with unfortunate ramifica-tions for the vitality of professional discourse.

Accounting scandals are political and/or business scandals which arise with the disclosure of financial misdeeds by trusted executives of corporations or govern-ments (See table 1) Such misdeeds typically involve complex methods for misus-ing or misdirecting funds, overstating revenues, understating expenses, overstating

the value of corporate assets or underreporting the existence of liabilities, sometimes with the cooperation of officials in other corporations or affiliates.

In public companies, this type of "creative accounting" can amount to fraud, and investigations are typically launched by government oversight agencies, such as the Securities and Exchange Commission (SEC) in the United States. It is fairly easy for a top executive to reduce the price of his/her company's stock – due to information asymmetry. The executive can accelerate accounting of expected expenses, delay accounting of expected revenue, engage in off balance sheet transactions to make the company's profitability appear temporarily poorer, or simply promote and report severely conservative (e.g. pessimistic) estimates of future earnings. Such seemingly adverse earnings news will be likely to (at least temporarily) reduce share price. (This is again due to information asymmetries since it is more common for top executives to do everything they can to window dress their company's earnings forecasts). There are typically very few legal risks to being 'too conservative' in one's accounting and earnings estimates.

A reduced share price makes a company an easier takeover target. When the company gets bought out (or taken private) – at a dramatically lower price – the takeover artist gains a windfall from the former top executive's actions to surreptitiously reduce share price. This can represent tens of billions of dollars (questionably) transferred from previous shareholders to the takeover artist. The former top executive is then rewarded with a golden handshake for presiding over the fire sale that can sometimes be in the hundreds of millions of dollars for one or two years of work. This is nevertheless an excellent bargain for the takeover artist, who will tend to benefit from developing a reputation of being very generous to parting top executives.

Similar issues occur when a publicly held asset or non-profit organization undergoes privatization. Top executives often reap tremendous monetary benefits when a government-owned or non-profit entity is sold to private hands. Just as in the example above, they can facilitate this process by making the entity appear to be in financial crisis – this reduces the sale price (to the profit of the purchaser), and makes non-profits and governments more likely to sell. It can also contribute to a public perception that private entities are more efficiently run, thereby reinforcing the political will to sell off public assets. Again, due to asymmetric information, policy makers and the general public see a government-owned firm that was a financial 'disaster' – miraculously turned around by the private sector (and typically resold) within a few years.

Not all accounting scandals are caused by top executives. Often managers and employees are pressured or willingly alter financial statements for the personal benefit of the individuals over the company. Managerial opportunism plays a large role in these scandals and public accountants through certification process become

part of these scandals. For example, managers who would be compensated more for short-term results would report inaccurate information, since short-term benefits outweigh the long-term ones such as pension obligations.

Table 1: List of reported accounting scandals

Company	Year	Audit Firm	Country	Notes
Associated Electrical Industries, after being acquired by General Electric Company plc	1967		United Kingdom	
Pergamon Press	1969		United Kingdom	
Lockheed Corporation	1976		United States	
Nugan Hand Bank	1980		Australia	
ZZZZ Best	1986		United States	Ponzi scheme run by Barry Minkow
Barlow Clowes	1988		United Kingdom	Gilts management service. £110 million missing
MiniScribe	1989		United States	
Polly Peck	1990		United Kingdom	
Bank of Credit and Commerce International	1991		United Kingdom	
Phar-Mor	1992	Coopers & Lybrand	United States	mail fraud, wire fraud, bank fraud, and transportation of funds obtained by theft or fraud
Informix Corporation	1996	Ernst & Young	United States	
Sybase	1997	Ernst & Young	United States	
Cendant	1998	Ernst & Young	United States	
Waste Management, Inc.	1999	Arthur Andersen	United States	Financial misstatements
MicroStrategy	2000	PWC	United States	Michael Saylor
Unify Corporation	2000	Deloitte & Touche	United States	
Computer Associates	2000	KPMG	United States	Sanjay Kumar

Company	Year	Audit Firm	Country	Notes
Lernout & Hauspie	2000	KPMG	Belgium	Fictitious transactions in Korea and improper accounting methodologies elsewhere
Xerox	2000	KPMG	United States	Falsifying financial results
One.Tel	2001	Ernst & Young	Australia	
Amir-Mansour Aria	2011	IAO (Audit organization) and other Audit firms	Iran	Business Loans Without Putting any Collateral and financial system
Bank Saderat Iran	2011	IAO (Audit organization) and other Audit firms	Iran	financial transactions among banks and Getting a lot of Business Loans Without Putting any Collateral
Enron	2001	Arthur Andersen	United States	Jeffrey Skilling, Kenneth Lay, Andrew Fastow
Swissair	2001	PricewaterhouseCoopers	Switzerland	
Adelphia	2002	Deloitte & Touche	United States	John Rigas
AOL	2002	Ernst & Young	United States	Inflated sales
Bristol-Myers Squibb	2002[20][26]	PricewaterhouseCoopers	United States	Inflated revenues
CMS Energy	2002[20][27]	Arthur Andersen	United States	Round trip trades
Duke Energy	2002[20]	Deloitte & Touche	United States	Round trip trades
Dynegy	2002	Arthur Andersen	United States	Round trip trades
El Paso Corporation	2002	Deloitte & Touche	United States	Round trip trades

Company	Year	Audit Firm	Country	Notes
Freddie Mac	2002	PricewaterhouseCoopers	United States	Understated earnings
Global Crossing	2002	Arthur Andersen	Bermuda	Network capacity swaps to inflate revenues
Halliburton	2002	Arthur Andersen	United States	Improper booking of cost overruns
Homestore.com	2002	PricewaterhouseCoopers	United States	Improper booking of sales
ImClone Systems	2002	KPMG	United States	Samuel D. Waksal
Kmart	2002	PricewaterhouseCoopers	United States	Misleading accounting practices
Merck & Co.	2002	Pricewaterhouse Coopers	United States	Recorded co-payments that were not collected
Merrill Lynch	2002	Deloitte & Touche	United States	Conflict of interest
Mirant	2002	KPMG	United States	Overstated assets and liabilities
Nicor	2002	Arthur Andersen	United States	Overstated assets, understated liabilities
Peregrine Systems	2002	KPMG	United States	Overstated sales
Qwest Communications	2002	1999, 2000, 2001 Arthur Andersen 2002 October KPMG	United States	Inflated revenues
Reliant Energy	2002	Deloitte & Touche	United States	Round trip trades
Sunbeam	2002	Arthur Andersen	United States	Overstated sales and revenues
Symbol Technologies	2002		United States	Overstated sales and revenues
Tyco International	2002	PricewaterhouseCoopers	Bermuda	Improper accounting, Dennis Kozlowski

Company	Year	Audit Firm	Country	Notes
WorldCom	2002	Arthur Andersen	United States	Overstated cash flows, Bernard Ebbers
Royal Ahold	2003	Deloitte & Touche	United States	Inflating promotional allowances
Parmalat	2003	Grant Thornton SpA	Italy	Falsified accounting documents, Calisto Tanzi
HealthSouth Corporation	2003	Ernst & Young	United States	Richard M. Scrushy
Nortel	2003	Deloitte & Touche	Canada	Distributed ill advised corporate bonuses to top 43 managers
Chiquita Brands International	2004	Ernst & Young	United States	Illegal payments
AIG	2004	PricewaterhouseCoopers	United States	Accounting of structured financial deals
Bernard L. Madoff Investment Securities LLC	2008	Friehling & Horowitz	United States	Massive Ponzi scheme.[44]
Anglo Irish Bank	2008	Ernst & Young	Ireland	Anglo Irish Bank hidden loans controversy
Satyam Computer Services	2009	PricewaterhouseCoopers	India	Falsified accounts
Lehman Brothers	2010	Ernst & Young	United States	Failure to disclose Repo 105 transactions to investors
Sino-Forest Corporation	2011	Ernst & Young	Canada-China	
Olympus Corporation	2011	Ernst & Young	Japan	*tobashi* using acquisitions
Autonomy Corporation	2012	Deloitte & Touche	United States	Subsidiary of HP.

The Enron scandal turned in the indictment and criminal conviction of one of the Big Five auditor Arthur Andersen on June 15, 2002. Although the conviction was overturned on May 31, 2005 by the Supreme Court of the United States, the firm ceased performing audits and is currently unwinding its business operations. The Enron scandal was defined as being one of the biggest audit failures. The scandal

included utilizing loopholes that were found within the GAAP (General Accepted Accounting Principles). For auditing a big sized company such as Enron, the auditors were criticized for having brief meetings a few times a year that covered large amounts of material. By January 17, 2002, Enron decided to discontinue its business with Arthur Andersen claiming they had failed in accounting advice and related documents. Arthur Andersen was judged guilty of obstruction of justice for getting rid of many emails and documents that were related to auditing Enron. Since the SEC is not allowed to accept audits from convicted felons, the firm was forced to give up its CPA licenses later in 2002, costing over 113,000 employees their jobs. Although later the ruling was overturned by the U.S. Supreme Court, the once-proud firm's image was tarnished beyond repair, and it has not returned as a viable business even on a limited scale.

On July 9, 2002 George W. Bush gave a speech about recent accounting scandals that had been uncovered. In spite of its stern tone, the speech did not focus on establishing new policy, but instead focused on actually enforcing current laws, which include holding CEOs and directors personally responsible for accountancy fraud. In July, 2002, WorldCom filed for bankruptcy protection, in what was considered the largest corporate insolvency ever at the time.

These scandals reignited the debate over the relative merits of US GAAP, which takes a "rules-based" approach to accounting, versus International Accounting Standards and UK GAAP, which takes a "principles-based" approach. The Financial Accounting Standards Board announced that it intends to introduce more principles-based standards. More radical means of accounting reform have been proposed, but so far have very little support. The debate itself, however, overlooks the difficulties of classifying any system of knowledge, including accounting, as rules-based or principles-based. This also led to the establishment of Sarbanes-Oxley.

On a lighter note, the 2002 Ig Nobel Prize in Economics went to the CEOs of those companies involved in the corporate accounting scandals of that year for "adapting the mathematical concept of imaginary numbers for use in the business world".

In 2003, Nortel made a big contribution to this list of scandals by incorrectly reporting a one cent per share earnings directly after their massive layoff period. They used this money to pay the top 43 managers of the company. The SEC and the Ontario securities commission eventually settled civil action with Nortel. However, a separate civil action will be taken up against top Nortel executives including former CEO Frank A. Dunn, Douglas C. Beatty, Michael J. Gollogly and MaryAnne E. Pahapill and Hamilton. These proceedings have been postponed pending criminal proceedings in Canada, which opened in Toronto on January 12,

2012. Crown lawyers at this fraud trial of three former Nortel Networks executives say the men defrauded the shareholders of Nortel of more than $5 million. According to the prosecutor this was accomplished by engineering a financial loss in 2002, and a profit in 2003 thereby triggering Return to Profit bonuses of $70 million for top executives.

In 2005, after a scandal on insurance and mutual funds the year before, AIG was investigated for accounting fraud. The company already lost over 45 billion US dollars' worth of market capitalization because of the scandal. Investigations also discovered over a billion US dollars worth of errors in accounting transactions. The New York Attorney General's investigation led to a $1.6 billion fine for AIG and criminal charges for some of its executives. CEO Maurice R. "Hank" Greenberg was forced to step down and is still fighting civil charges being pursued by New York state.

Well before Bernard Madoff's massive Ponzi scheme came to light, observers doubted whether his listed accounting firm—an unknown two-person firm with only one active accountant in a rural area north of New York City—was competent to handle a multi-million dollar operation. Ultimately, Madoff's accountant, David G. Friehling, admitted to simply rubber-stamping Madoff's filings with the SEC. He also revealed that he continued to audit Madoff even though he had invested a substantial amount of money with him. Accountants aren't allowed to audit broker-dealers with whom they're investing. He agreed to forfeit $3.18 million in accounting fees and withdrawals from his account with Madoff. His involvement makes the Madoff scheme the largest accounting fraud in world history.

2.2   Scandals, Lawsuits, and Criticism of the Profession

The collapse of Westec (1965) and National Student Marketing (1969), which were notorious practitioners of what Abraham J. Briloff, an acerbic critic of unprincipled accounting, called dirty pooling. (Briloff 1967, 1970), as well as the bankruptcies of Penn Central and Four Seasons Nursing Centers (both in 1970), visited huge losses on investors and raised questions about the performance of their auditors. The Westec case eventually animated a serious concern that its auditor's independence was compromised by rendering certain consulting services to the audit client. During the second half of the 1960s, criticism of the accounting profession was on the rise. John L. Carey, the Institute's administrative vice president, said in 1967 that the accounting profession is going through a most unusual and difficult period. On some days it seems as though we were being attacked from all sides. He was concerned over a feeling that CPAs are not quite the stalwart protectors of investors and creditors that the public had assumed they were.

The second half of the 1960s witnessed a series of important federal court

decisions: Fischer v. Kletz (1967), also known as the Yale Express case; Escott v. BarChris (1968); and United States v. Simon (1969), also known as the Continental Vending case triggered a litigation explosion against auditors in the 1970s. After decades of comparative calm, the profession was coming under attack by the plaintiff's bar. By the mid-1970s, hundreds of suits were filed against auditors.

2.3   Tribulations of the Accounting Principles Board (APB):

In the mid-1960s, under pressure from the SEC and from the Big Eight firms and at a time when the accelerated pace of corporate merger activity focused increased attention on the earnings measure, the APB began to issue longer and more prescriptive opinions. Several of these pronouncements attracted significant numbers of dissenting votes from board members. In two instances (on inter-period tax allocation in 1967 and on business combinations/goodwill in 1970), a board member from a Big Eight firm infuriated his colleagues in the majority by rescinding his vote on a contentious opinion after the board had, in a final vote, approved a position that had secured a bare two-thirds majority. In 1967, the reversal occurred after the Opinion in 1967 was printed and ready for distribution. In both instances, the board met in emergency session to rescue the pronouncement. Thus was the intensity of pressure on board members, probably brought, directly or indirectly, by a firm's important clients. Burton alluded to complicity by audit firms in helping their clients escape the adverse effects of the APB's pronouncements: By writing precise rules, the APB has made it possible for people to observe the letter and avoid the spirit, with the blessing (and often the assistance) of their auditors, a state of affairs that continues today.

In August 1970, the APB finally issued its two hotly contested Opinions, Nos. 16 and 17, on accounting for business combinations and goodwill; the two Opinions were regarded more as the result of intense lobbying by industry than the product of sound thinking and analysis. The Big Eight accounting firms themselves differed profoundly and even emotionally over the best solution, partly fueled by their clients' preponderant views. So strong were the firms' reactions to the pressurized process in which these two opinions were developed that three of the Big Eight notified the Institute in November 1970 that they had lost confidence in the APB. The three firms recoiled at the powerful intrusion of self-interested lobbying and lamented the board's lack of agreement on the objectives of financial statements. In August 1970, the American Accounting Association (AAA) became involved by appointing a special committee to inquire into the formulation of accounting principles. Acting swiftly, the committee urged the Institute and other interested bodies to cooperate with the AAA to convene a Commission of Inquiry to develop a better alternative to the APB. The Association's Executive Committee promptly endorsed its report (Report of the Committee on Establishment of an Accounting Commission 1971).

2.4   The Profession Loses its Accounting Standard Setting right

Declining to share the standard-setting stage with the AAA, the Institute itself appointed a Study Group to recommend a better way of establishing accounting principles. This Study Group, chaired by Francis M. Wheat, a former SEC Commissioner, recommended the establishment of the Financial Accounting Standards Board (FASB), which was to be an independent body, not a committee of the Institute. The Institute's Council promptly endorsed the Wheat recommendation in its entirety, thereby, for the first time, ceding the authority for setting accounting standards to a body outside the province of the organized accounting profession. Members of the FASB would hold full-time appointments, be supported by a large research staff, and could count on financial support to be provided by a newly established, broad-based Financial Accounting Foundation (FAF) (Report of the Study on Establishment of Accounting Principles 1972). This sea change disenfranchised the Big Eight firms from representation on the standard-setting body. As will be seen, this repositioning of the big firms from the center to the margin of standard setting soon served to dampen their interest in actively participating in the public dialogue on accounting principles, which should be a sine qua non of professional discourse. But the Institute did not surrender all of its influence over the new standard setter. The FAFs bylaws provided that four of the seven board members must be CPAs with experience in public practice and that the Institute's board of directors would be the sole elector of the FAFs trustees.

Yet, in 1977, the FAF's trustees repealed both of these provisions (Status Report No. 50 1977, 1). In 1974, less than a year after the APB passed the standard-setting baton to the FASB, Leonard M. Savoie (1974, 64), the Institute's principal spokesman on APB matters from 1967 to 1972, expressed his disappointment with the handover and the recent behavior of the big firms.

Even while the Wheat Study Group deliberated, the APB suffered another setback, again on the investment tax credit. In November 1971, when the Congress was about to enact a new form of the investment tax credit, the board, in its third such try, approved an exposure draft that required the deferral method, but the Treasury opposed it, as did the same large segment of industry as before. The opponents succeeded in persuading Congress to insert a provision in the eventual legislation that taxpayer corporations could use any method of accounting for the credit in their financial statements filed with the SEC.

The FASB's relations with the SEC during its first five years were anything but smooth. In 1978, the SEC again rebuffed the FASB, this time on accounting for oil and gas exploration. The SEC's decision took the FASB aback, yet the SEC made it clear that the oil and gas issue was a unique case and did not represent any change in the Commission's basic policy of looking to the FASB for the initiative in establishing and improving accounting standards. (Securities and Exchange

Commission Report to Congress on the Accounting Profession and the Commission's Oversight Role 1979, 50).

2.5   Important Implication of the Loss of the Professions Standard Setting right

It was not long into the FASB's tenure that the Big Eight firms began withdrawing from an active dialogue over accounting principles and standards, perhaps in the belief that their task had become one of persuading the FASB of their views and no longer persuading either academics or their brethren in the profession. Indeed, this was also a time when many accounting academics seemed to abandon interest in accounting policy issues as well. Another reason for audit partners withdrawing from this public dialogue was the increasing proliferation, complexity, and technical detail in the FASB's pronouncements.

By the mid-1980s, speeches by Big Eight audit firm partners taking positions on controversial accounting issues had almost disappeared from the scene, and only a few audit partners in, at most, three of the Big Eight firms continued to write articles intermittently on such topics. Moreover, in 1982 the Journal of Accountancy, the Institute's journal, announced that it was encouraging the submission of practical. articles, code language for the avoidance of controversy. As the audit market became more competitive, one inferred that the *firms did not wish to give prominence to their views on controversial issues, lest it might offend important clients, who might seek an audit firm with more accommodating views*. Opinion shopping, which began to occur in the 1960s, continued into the 1970s and 1980s, *as companies actively sought out more client-friendly audit firms*.

2.6   More Scandals, and Attacks from Congress

In 1973, the sudden collapse of Equity Funding, coming on the heels of the Stirling Homex bankruptcy a year earlier, jarred the accounting profession. (See Report of the Special Committee on Equity Funding 1975. As the Institute's executive director later wrote.The huge losses by investors in [Equity Fundings] securities, *closely following a series of other business failures, dealt a shattering blow to the credibility of independent auditors*. Propelled by these embarrassments, the Institute in 1974 appointed a Commission on Auditors Responsibilities, headed by former SEC Chairman Manuel F Cohen. These celebrated collapses, coupled with the discovery of illegal and improper payments by major corporations that were not disclosed in their financial statements, prompted two Congressional committees to level criticism at the accounting profession and at the private-sector setting of accounting standards. The profession thus came under its first broad attack in the Congress.

Rep John E. Moss, Democrat from California, chaired his sub-committees' inves-

tigation of federal regulatory agencies. The sub-committees report recommended that the SEC play a direct role in setting accounting and auditing standards (*Federal Regulation and Regulatory Reform* 1976, 51. 53) *and thus remove this authority from the private sector*. On the Senate side, a subcommittee headed by Sen Lee Metcalf, Democrat from Montana, launched a major investigation of the accounting profession. His subcommittees 1,760-page staff study, *The Accounting Establishment* (1976), consisted of an extensive factual examination of the Big Eight firms, the Institute, and the FASB, accompanied by a number of highly controversial conclusions and recommendations. Wallace E. Olson, the Institute's full-time chief executive, characterized the staff study as almost as damaging to the profession as the Japanese attack on Pearl Harbor was to the U.S. Navy in 1941.

Two of the staff study's conclusions were that the Big Eight firms lacked independence from their clients and that they dominated both the Institute and the process of setting of accounting standards. The study also asserted that the Big Eight firms, through their influence on the FASB, did the bidding of their corporate clients (*The Accounting Establishment* 1976, 1.24). Almost mirroring the course taken by the Moss subcommittee, the Metcalf sub-committees' staff study recommended that the federal government set accounting and auditing standards for publicly traded corporations (*The Accounting Establishment* 1976, 20.24). Although both subcommittees, held hearings and issued reports, they produced no legislation. Nonetheless, the two subcommittees' lengthy and well-publicized investigations, which finally concluded in 1979, put the accounting profession on the defensive.

In April 1977, both the Institute and the FASB responded at length to the Metcalf staff study's findings and recommendations. The Institute issued a 40-page booklet, The Institute Responds, in which it countered the arguments in the Metcalf staff study. To the charge that the Big Eight firms compromised their independence when they advocated positions that were favorable to their clients, the Institute asserted that, by doing so, they are not tools of their clients (*The Institute Responds* 1977, 32). Yet, a scant six years later, Touche Ross & Co. issued a booklet, *Employers' Accounting for Pensions* (1983, 3), in which it offered to help clients prepare an effective and persuasive response to the FASB by which the firm would assist your company in evaluating the effects, developing empirical supporting evidence, and identifying the economic consequences of the positions your company supports and rejects. Thus, as the competition for the favor of clients intensified in the 1980s, at least one of the Big Eight firms Touche Ross was willing to become a blind advocate for its clients. In its 44-page reply, the FASB defended the integrity, independence, and objectivity of its process (FASB 1977).

2.7   Under the Gun, the Institute Reforms

The unwanted public attention led the Institute to adopt a hurried reform in September 1977: creation of a Division for CPA Firms, composed of an SEC Practice Section and a Private Companies Practice Section.

The Institute also installed a Public Oversight Board (POB), composed of distinguished public servants, to oversee the activities of the SEC Practice Section, including the setting and enforcing of quality control standards and a newly established peer review process. The SEC, which had ordered several major firms to undergo peer reviews because of alleged audit deficiencies in early and middle 1970s, welcomed the Institute's new section and the POB (*Securities and ExchangeCommission Report to Congress on the Accounting Profession and the Commissions Oversight Role* 1978, 15.27). But pressure from Congress had clearly precipitated the Institute's restructuring.

2.8   Intrusions of Federal Antitrust Bodies that Fundamentally Altered the Professional Climate:

During the 1970s and 1980s, the Institute also felt unrelenting pressure from the Department of Justice and the Federal Trade Commission (FTC) over portions of its Code of Professional Ethics alleged to be in restraint of trade. In 1972, the Institute gave in to the department of Justice by removing the ban on competitive bidding from its code of ethics. By 1979, Justice and the FTC compelled the Institute to drop its rules prohibiting direct, uninvited solicitation and advertising that is purely informational. Many Institute members strongly opposed these forced concessions. During the 1980s, the FTC also pressed the Institute to remove its ban on contingent fees and commissions. In the end, the two bodies reached a compromise: to allow the receipt of commissions only from non-attest clients. These amendments to the Institute's code of ethics, particularly on competitive bidding and direct, uninvited solicitation, profoundly changed the climate in which audit firms conducted their affairs.

The elimination of the Institute's bans on competitive bidding, uninvited solicitation, and advertising, coupled with the apparent topping out of the audit market, all fundamentally changed the character of CPAs' relations with clients. Eli Mason, the managing partner of a medium-sized CPA firm in New York City, who had long been a vocal critic of the big firms and the Institute, complained in 1985 that the practice of accounting was no longer a profession, but an industry: Today, the media describes public accounting as an industry, seldom as a profession and it does have all the earmarks of an industry including cut-throat competition, lowballing, cheap advertising, and open solicitation by one CPA of another CPA's clients. Mason blamed the FTC and the Justice Department for creating this unprofessional and undignified atmosphere.

The heightened competitive climate in which the firms operated seemed to haunt partners' conduct in audit engagements. A gradual development within the Big Eight firms during the 1980s was a significant shift in the posture of audit partners toward their clients, probably spurred by their perceived pressure to retain valued clients. In previous years, partners conveyed a firm position on the propriety of any borderline accounting and disclosure practices adopted by the client, but increasingly in the 1980s partners would be seen huddling with the firms technical specialists to find any means perhaps restructuring a major vehicle, reconfiguring a transaction, or straining to rationalize the application of a suitable analogy to enable the firm to approve the accounting treatment sought by the client. The accommodation or negotiation mentality fostered by this important shift in focus may have led many audit partners to incline toward compromise rather than invoke their principles even in routine discussions with clients. More will be said about this development later.

Section III: Institutionalization of Oversight on Public Accountancy Profession

In 2001 the world was chocked as it was revealed that some senior managers at Enron, an energy trading company, had embezzled a large sum of money. The Chief Financial Officer (CFO) had been using off-balance sheet accounts to shuffle around large amounts of money, which eventually ended up in his own pocket (Brewster, 2003). Since off-balance sheet accounts were used, these transactions did not appear on the financial statements and therefore investors had no reason to mistrust the financial health of the company. Though, the truth was that Enron had been completely depleted of its funds and was forced to declare bankruptcy in 2002 (Reinstein & McMillan, 2004). At about the same time WorldCom, a telecommunication company, declared bankruptcy after having revealed that profits had been blown up in the financial reports in previous years (Moeller, 2004; Lander, 2004; Braun, 2005). The years of 2001-2002 came to be known as the dark years in American industry with Enron and WorldCom as the most prominent examples of large frauds.

The scandal that received the most attention was Enron. Its senior management had been helped somewhat by one of the "big five" auditing firms, Arthur Andersen, which led the Securities and Exchange Commission (SEC) start an investigation of the firm. However when SEC arrived at Andersen headquarters all documents had been destroyed. Andersen was convicted and sentenced to pay a fine of $500,000 and five years probation (Moeller, 2004; Brewster, 2003). Andersen's clients fled and the company ceased to exist in 2002 ending a 90-year long auditing career and "the big five" was reduced to four.

These circumstances pushed the U.S. market into uncertainty and the creditability of auditing firms plummeted. The American Institute of Certified Public Account-

ants (AICPA) received most of the criticism since they were responsible for establishing auditing standards (Moeller, 2004). However, Andersen had clearly violated almost all of these standards and AICPA had not been able to notice this and therefore could not act accordingly. *The U.S. Congress felt that AICPA clearly had failed in their role and argued that a radical change was needed to cool off the current climate and to satisfy investors*. The solution was a new Introduction legislation that would be the most radical change in auditing since the 1930s. The law was called Sarbanes Oxley Act (SOX) and was authorized by the American President George W. Bush on the 30th of July, 2002 (Lander, 2004). SOX is a law regarding internal and external accounting and corporate governance. The main purpose of SOX is to rebuild the public trust of companies and to prevent failure of inaccurate reports and frauds (Cenker & Nagy, 2004). With the implementation of SOX came much more strict rules about the general auditing role. Auditors are now given more direct responsibility for errors and are also subject to much more controls. A new controlling organ has been formed, Public Accounting Oversight Board (PCAOB), whose major task is to act as a controller over auditors and to make sure that the new legislation is followed (Moeller, 2004). Not only American auditing firms are affected by PCAOB. All firms, disregarding geographical location that performs audit on a company must follow SOX. This means that Swedish auditing firms who perform audits on SOX-clients must comply with PCAOB.

3.1   An overview of Sarbanes Oxley Act

To easier understand and interpret SOX, the Act is divided into eleven sections covering different issues regarding corporate accountability. The sections are given below with a short explanation. *Public Company Accounting Oversight Board*: consists of nine different sub-sections (101-109) which consider areas as registration of auditing firms, independence and accounting standards, and disciplinary actions. The overall task of the board is to review external auditors who perform audits for companies who comply with SOX. *Auditor Independence*: contains nine sub-sections (201-209) regulating various areas regarding the independence of the auditor as for example, audit partner rotation and that auditing firms are prohibited to offer both audits and non-audit services to a client. Corporate Responsibility: is divided into eight sub-sections (301-308) emphasizing on the importance of corporate responsibility when conducting audits. For example, an audit committee should be independent and the responsibility of management has been extended.

Enhanced Financial Disclosures: consist of nine sub-sections (401- 409). This part is considered to be the most extensive, which deal with internal control and documentation. Further, it contains a code of ethic and comprehensive demands of accounting and financial reports. *Analysts Conflicts of Interest*: sub-section 501, restrains securities analysts and their independence towards companies aiming to provide investors with more accurate information. *Commission Resources and*

Authority and Studies and Reports: contains sub-sections (601-604 and 701-705) which traverse rules related to the violation of professional or ethical public accounting standards and the involvement of SEC in future studies.

Corporate and Criminal Fraud Accountability: and White-Collar Crime Penalty Enhancement and Corporate Tax Returns: consists of sub-sections (801-807, 901-906 and 1001) which mainly brings up rules regarding forgery and destruction of documents but it also includes protection for employees that disclose corporate fraud. Finally, the last title, deals with the particular obligation of the CEO to confirm the corporate income tax return. *Corporate Fraud and Accountability*: contains sub-sections 1101- 1107 which describe overall corporate responsibility for irregularities in financial reports. This part differs from the others since it is the company as an entity, not the individual that is punished when violating the rules (Sarbanes-Oxley Act, 2002; Moeller, 2004).

3.2   Public Company Accounting Oversight Board (PCAOB)

The PCAOB was founded through SOX by the U.S. congress and SEC (Hilary & Lennox, 2005). PCAOB has major influence in rule making and regulatory power (Tackett, et. al, 2004; Grundfeld, 2004). Furthermore, PCAOB is a new non-profit board which is led by five members who are appointed by SEC. Three out of the five must not be auditors (Sarbanes-Oxley Act, 2002). This standard is stressed in SOX since one of PCAOB's roles is to be an unbiased controller (Moeller, 2004). The board members are instead dominated by lawyers and public interest activists. "The function of PCAOB is to restore the public's confidence in the accounting profession" (Osterland, 2004, p. 1).

Besides the role of controller, the board will issue ethics and conflict-of-interest standards and be responsible for disciplining auditors who do not comply with the standards. PCAOB will also conduct annual reviews of the auditing firms (Green, 2004). In short PCAOB is a regulative board who will control external, not internal auditors (Moeller, 2004). On the 25th of April 2003, it was determined by SEC that PCAOB was sufficiently organized and had enough resources to carry out its tasks, and by that PCAOB was launched (Lander, 2004). Since then, PCAOB has been constantly growing and in December 2004 PCAOB employed 260 persons besides its five board members (PCAOB, 2006a). PCAOB is an American institution but its powers stretch far beyond the US boarder. In Sarbanes-Oxley Act, section 106, it is clearly stated that any auditing firm, disregarding geographical location, that conducts an audit on a company which must comply with SOX is subject to PCAOB with its rules and standards (Sarbanes-Oxley Act, 2002). This basically means that auditing firms around the world that has an interest in conducting audits on companies registered on SEC or are partially owned by such a company must comply with PCAOB.

3.3   The tasks of PCAOB

As mentioned above, the overall role of PCAOB is to control auditing firms. Indirectly, this means that all auditors are under control of PCAOB. To do this, more specific responsibilities have been given to the board. These responsibilities are mentioned below.

First, PCAOB was to make sure that all public auditing firms register at PCAOB no later than 180 days after PCAOB was launched (Sarbanes-Oxley Act, 2002). In reality this means that in the end of 2003 all public accounting firms in America had to be registered at PCAOB. Non-American auditing firms had an extra six months to register and only the firms that deals with companies who has to comply with SOX must register (Lander, 2004). As of today there are 1646 registered auditing firms and the Swedish firms are: KPMG Bohlins AB, Ernst & Young AB, BDO Feinstein International AB, Deloitte & Touche AB and Öhrlings Pricewater-houseCoopers AB (PCAOB, 2006b).

Second, PCAOB is responsible for setting and administrating news standards about quality controls, ethics, independence and general auditing (Moeller, 2004).In the beginning these standards will look much like the old already existing ones but then continuously they will be replaced and developed to be more complex and detailed (Moeller, 2004). PCAOB will conduct reviews of registered firms in a quality-related matter. With these inspections the board shall assess if the firm follows the standards and SOX in general (Sarbanes-Oxley Act, 2002). These reviews are one of the key tasks of the board and it is expected that the American firms should be checked annually and non-American every three years (Lander, 2004).

Third, PCAOB must establish rules and manuals for how to deal with auditing firms that fails to comply with SOX. These disciplinary actions must be fair and are not just applicable towards entire firms but also towards individuals (Sarbanes-Oxley Act, 2002) An example of such a disciplinary procedure would be to prohibit an auditing firm to perform audits on companies that must follow SOX (Moeller, 2004). Such a disciplinary reprimand would be a hard blow against the firm and probably lead to its bankruptcy (Moeller, 2004).

Fourth, though not directly legislated in SOX but indirectly PCAOB should lobby strongly for that auditors and auditing firms achieve higher quality and become more trustworthy (Svernlöv & B:son Blomberg, 2003). PCAOB are allowed to get involved in other areas that does not deal directly with auditing if that leads to better protection of investors and if it is in line with the public interest (Moeller, 2004).

Fifth, the most significant change for the auditor is the establishment of an independent controller, PCAOB. The auditing profession set rules and standards through their professional organizations which are represented in America by the American Institute of Certified Accountants (AICPA) and in Sweden by FAR (Moeller, 2004). These organizations, which still exist today, consist of mostly auditors. This means that even though the auditors themselves, on an individual level, did not determine the rules for an audit, the organization that did still consist of auditors with basically the same knowledge and preferences. Furthermore, auditors were also controlled by other auditors before PCAOB (Hill et al., 2005). The system for controlling auditors was based on peer-reviews performed by AICPA. In Sweden the control of auditors were done by the Supervisory Board of Public Accountants (Revisorsnämnden). To summarise, the PCAOB today controls functions that earlier were self-regulated.

3.4 The current academic debate about PCAOB

Tackett, Wolf and Claypool (2004) are critical towards the likelihood of PCAOB's ability to reduce audit failures. According to a study that examined audit failures that have occurred for over 30 years in US, the conclusion was that the reason for audit failure was not dependent on the absence of a needed auditing rule or technique (Tackett et al., 2004). Instead, the major root of audit failure is that auditor ignored applying existing auditing rules and techniques. However, they further argue that the PCAOB's ability to do reviews of auditing firms to secure quality control may reduce the possibilities of audit failures.

This optimistic view of PCAOB's ability to enhance quality is not shared by everyone. Alles, Kogan, Vasarhelyi and Warren (2006) believes that PCAOB will have the same trouble as the old peer review groups since many of the board members are trained in the same way as auditors. PCAOB is independent but it is highly unlikely that they have developed a new inspection technique that would detect all errors (Alles et al., 2006). Bazerman et al. (2002) concur with this statement as they believe that PCAOB will not be able to change the true problem. The problem is that the mistakes from auditors are not deliberate and instead are caused by negligence and missed information. Since PCAOB reviewers will look at the same information the possibility for them to find and correct such a mistake is therefore minuscule (Bazerman et al., 2002). Alles et al. (2006) further argue that a more appropriate approach for the PCAOB would be to develop and enhance the auditing process rather than detecting faults that has already happened. The PCAOB's current approach presents an interesting dilemma. The key role of PCAOB is to restore the faith in auditing for investors and the public. By detecting the faults after they have happened and then publish this information will generate exactly the opposite. How could this happen? What did the auditors do? Such questions will then be the response from the public and faith towards auditor will only dimin-

ish further. Therefore PCAOB should try to detect faults before they happen and avoid this publicity (Alles et al., 2006).

3.5   Threats to the auditing profession

One of Montagna's ten attributes, a common body of knowledge, functions as a foundation for the auditing profession. Due to this, some problems have arise which can be considered as a threat to the legitimacy of the auditing profession (Hines, 1989). One of these is the expansion and diversification of auditing work which can have a negative effect on the profession (Hines, 1989, Artsberg, 2005). Furthermore, Zeff (1987) argues that the auditing profession has evolved towards an industry which he considers to be a sign of de-professionalizing. This is supported by Artsberg (2005) who discusses the fact that auditing firms nowadays offer non-auditing services, which has made the auditing profession developed more to an industry.

A prevention of auditing firms to offer non-auditing services to clients is therefore something that Swedish auditors strongly disagree with (Öhman et al., 2006). One explanation of this might be that the auditing firms are dependent on the huge revenues that stems from the possibility to offer non-auditing services. A restriction on that possibility would certainly strike the profession hard (Öhman et al., 2006). When such a variety of services are performed it is hard to distinguish a formal "body of knowledge" of auditors according to Hines (1989). This has required the auditing profession to absorb knowledge from other professions which results in that the knowledge base of the auditor profession does not solely consist of accounting knowledge anymore. Hence, due to the diversified tasks offered by auditors the coherent "body of knowledge" to sustain the profession is questioned (Hines, 1989). Öhman et al. (2006) points towards another threat of the auditing profession, namely, the standardization of work procedures. According to their study auditors are today focusing their attention on matters that they have standards and given procedures in order to quickly make a satisfactory audit. "Doing things right seems to be more important than doing the right things" (Öhman et al., 2006, p. 1). Hence, the unwillingness to change current practice and the presence of too many standards threatens the profession (Öhman et al., 2006).

3.6   Profession and change

With the establishment of PCAOB the auditing profession faced some changes, as discussed earlier. A profession can be characterized by change but the auditing profession is rather characterized by stability and similar work procedures (Matthews & Pirie, 2001). However a profession must react and adapt when the surrounding conditions are changing and according to Artsberg (2005) scandals involving auditors tend to strengthen the auditing profession and the requirement

of extended auditing increases which had been noticed during the 20th century. However, according to Hytti (2003) a strong profession tends to be less willing to accept changes and the auditing profession is considered to be a strong profession with a high level of professionalism according to Matthews and Pirie (2001). They further found that auditors see themselves as experts in their field of work and therefore do not appreciate when others try to force changes or rules upon them. This depends on the long period of time that auditors have worked in similar ways and therefore built up controls and manuals that they believe are completely satisfactory in terms of control (Matthews & Pirie, 2001). This is also confirmed by Hill et al. (2005) in their study. However, even though auditing is a strong profession, change is not considered bad by everyone. Zeff (2003) argues that the auditing profession is in some cases positive to change and that it even changes too quickly. He exemplifies this by pointing at the 1990s during which a large portion of the auditing profession changed their beliefs and became more concerned in making money than in doing good audits. He argues that this is a case of a major change in the profession that should have been taken a bit slower since much of the fundamental issues were lost (Zeff, 2003).

However, this fundamental change in the 1990s to the auditing profession was generated from within the profession by auditors which could be one explanation to why auditors adapted easily to this change (Zeff, 2003). A more reasonable explanation is though that auditors were exposed to large corporate pressure but were also rewarded extensively if they complied, argues Zeff (2003). However, PCAOB is not a change that comes from within the profession but instead from the government and therefore constitutes a regulatory change (Moeller, 2004). Such a change is there but still there is a great unwillingness to conform to in Sweden according to Öhman et al. (2006). The reason for this is that Swedish auditors are generally traditionalist and only twice in the last 25 years have external pressure succeeded in changing the profession and its practices. Further, it is assumed that there is a very high degree of homogeneity in the Swedish auditing profession which means that auditors basically think alike. Such a strong tradition and high level of homogeneity are signs of a strong profession according to Artsberg (2005) and Öhman et al. (2006). However, PCAOB constitute a major change for the profession which means that according to theory the implementation of PCAOB will be problematic. The establishment of PCAOB affects the whole profession which the theoretical discussion has focused on. However, the auditing profession consists of individuals which together creates and affects the professionalism of the profession. Therefore, it is also important to study and understand how individuals perceive changes in their profession.

3.7   US Supreme Court Upholds Constitutionality of the Public Company Accounting Oversight Board

On June 28, 2010, the Supreme Court announced its ruling in *Free Enterprise Fund, et al. v. Public Company Accounting Oversight Board,* requiring changes to the oversight structure by the Securities and Exchange Commission (SEC) of the Public Company Accounting Oversight Board (the PCAOB) but declining to invalidate the entirety of the Sarbanes-Oxley Act of 2002 (SOX) Peter et al (2010).

In *Free Enterprise Fund,* a nonprofit public interest organization (Free Enterprise Fund) and a Nevada accounting firm (Beckstead and Watts, LLP) brought suit against the PCAOB seeking declaratory and injunctive relief. Those plaintiffs made two arguments about SOX: (1) the PCAOB violated separation of powers by conferring executive power on Board members not subject to presidential control because they were not freely removable; and (2) Congress violated the Appointments Clause of the Constitution by giving the SEC the power to appoint members of the PCAOB. The trial court granted the United States' and PCAOB's motions for summary judgment and found that PCAOB was constitutional, and the D.C. Circuit affirmed. The plaintiffs then sought and were granted certiorari.

The Supreme Court's Decision: The Supreme Court unanimously rejected the overall challenge to the PCAOB. But in a 5-4 opinion authored by Chief Justice Roberts, the Court ruled that the mechanism for removing PCAOB members was defective as it violated the Constitutional separation of powers. Under SOX as written, PCAOB members were appointed by the SEC Commissioners, and could only be removed "for good cause." Likewise, SEC commissioners can only be removed by the President for good cause. Thus, the majority reasoned that there were two layers of good-cause restrictions on the President's ability to control the actions of the PCAOB. The Court rejected such an arrangement, noting that "[t]he result is a Board that is not accountable to the President, and a President who is not responsible for the Board." Because the removal of executive officers is a key element of the President exercising his executive powers, the arrangement SOX created for the PCAOB "stripped" the President "of the power our precedents have preserved, and his ability to execute the laws – by holding his subordinates accountable for their conduct – is impaired."

Although the case had the potential to invalidate the entire SOX law, the Court rejected the plaintiffs' argument on that point. The Court explicitly rejected the notion that the existence of the PCAOB violates separation of powers, and instead ruled only that its removal process was defective. The Court proceeded to analyze the severability of the PCAOB's removal process from the rest of the law, and found it severable. The Court noted that unconstitutional provisions from otherwise constitutional laws were to be severed when possible, so long as the "remain-

ing provisions are not incapable of functioning independently." Finding that the rest of SOX was permissible and capable of functioning apart from the removal mechanisms originally established for the PCAOB, the Court ruled that SOX "remains fully operative as a law with these tenure restrictions excised." But PCAOB members must now be removable by the SEC "at will." *Id*. Finally, the Court found no fault with PCAOB and the Appointments Clause, finding it permissible for the SEC to appoint PCAOB members. Thus, the PCAOB will continue to function largely as it did prior to this litigation, albeit with more potential for SEC oversight.

Section IV: Development of Oversight in Post PCAOB

4.1   Report Concerning Annually Inspected Firms : Misstatements and infringements ascertained

The Sarbanes-Oxley Act of 2002 requires the Public Company Accounting Oversight Board ("PCAOB" or "the Board") to conduct an annual inspection of each registered public accounting firm that regularly provides audit reports for more than 100 issuers. The Board's report on any such inspection includes this preface to provide context for information in the public portion of the report.

A Board inspection includes, among other things, a review of selected audits of financial statements and of internal control over financial reporting. If the Board inspection team identifies deficiencies in those audits, it alerts the firm to the deficiencies during the inspection process. Deficiencies that exceed a certain significance threshold are also summarized in the public portion of the Board's inspection report. The Board encourages readers to bear in mind two points concerning those reported deficiencies.

First, inclusion in an inspection report does not mean that the deficiency remained unaddressed after the inspection team brought it to the firm's attention. Under PCAOB standards, a firm must take appropriate action to assess the importance of the deficiency to the firm's present ability to support its previously expressed audit opinions. Depending upon the circumstances, compliance with these standards may require the firm to perform additional audit procedures, or to inform a client of the need for changes to its financial statements or reporting on internal control, or to take steps to prevent reliance on previously expressed audit opinions. A Board inspection does not typically include review of a firm's actions to address deficiencies identified in that inspection, but the Board expects that firms are attempting to take appropriate action, and firms frequently represent that they have taken, are taking, or will take, action.   If, through subsequent inspections or other processes, the Board determines that the firm failed to take appropriate action, that failure may be grounds for a Board disciplinary sanction.

Second, the Board cautions against drawing conclusions about the comparative merits of the annually inspected firms based on the number of reported deficiencies in any given year. The total number of audits reviewed is a small portion of the total audits performed by these firms, and the frequency of deficiencies identified does not necessarily represent the frequency of deficiencies throughout the firm's practice. Moreover, if the Board discovers a potential weakness during an inspection, the Board may revise its inspection plan to target additional audits that may be affected by that weakness, and this may increase the number of deficiencies reported for that firm in that year.   Such weaknesses may emerge in varying degrees at different firms in different years.

4.2   Notes Concerning the Report:

Portions of this report may describe deficiencies or potential deficiencies in the systems, policies, procedures, practices, or conduct of the firm that is the subject of this report. The express inclusion of certain deficiencies and potential deficiencies, however, should not be construed to support any negative inference that any other aspect of the firm's systems, policies, procedures, practices, or conduct is approved or condoned by the Board or judged by the Board to comply with laws, rules, and professional standards.

Any references in this report to violations or potential violations of law, rules, or professional standards should be understood in the supervisory context in which this report was prepared. Any such references are not a result of an adversarial adjudicative process and do not constitute conclusive findings of fact or of violations for purposes of imposing legal liability. Similarly, any description herein of a firm's cooperation in addressing issues constructively should not be construed, and is not construed by the Board, as an admission, for purposes of potential legal liability, of any violation.

Board inspections encompass, among other things, whether the firm has failed to identify departures from U.S. Generally Accepted Accounting Principles ("GAAP") or Securities and Exchange Commission ("SEC" or "Commission") disclosure requirements in its audits of financial statements. This report's descriptions of any such auditing failures necessarily involve descriptions of the related GAAP or disclosure departures. The Board, however, has no authority to prescribe the form or content of an issuer's financial statements. That authority, and the authority to make binding determinations concerning an issuer's compliance with GAAP or Commission disclosure requirements, rests with the Commission. Any description, in this report, of perceived departures from GAAP or Commission disclosure requirements should not be understood as an indication that the Commission has considered or made any determination regarding these issues unless otherwise expressly stated.

4.3   2008 Inspection of KPMG LLP in the United States

In 2008, the Board conducted an inspection of KPMG LLP ("KPMG" or "the Firm"). The Board is today issuing this report of that inspection in accordance with the requirements of the Sarbanes-Oxley Act of 2002 ("the Act"). The Board is making portions of the report publicly available.   Specifically, the Board is releasing to the public Part I of the report, Appendix A, and portions of Appendix B. Appendix A provides an overview of the inspection process. Appendix B includes the Firm's comments, if any, on a draft of the report.

The Board has elsewhere described in detail its approach to making inspection-related information publicly available consistent with legal restrictions. A substantial portion of the Board's criticisms of a firm (specifically criticisms of the firm's quality control system), and the Board's dialogue with the firm about those criticisms, occurs out of public view, unless the firm fails to make progress to the Board's satisfaction in addressing those criticisms.   In addition, the Board generally does not disclose otherwise nonpublic information, learned through inspections, about the firm or its clients. Accordingly, information in those categories generally does not appear in the publicly available portion of an inspection report.

4.4   Inspection Procedures and Certain Observations

Members of the Board's inspection staff ("the inspection team") performed an inspection of the Firm from April 2008 through October 2008.   The inspection team performed field work at the Firm's National Office and at 29 of its approximately 90 U.S. practice offices. Board inspections are designed to identify and address weaknesses and deficiencies related to how a firm conducts audits. To achieve that goal, Board inspections include reviews of certain aspects of selected audits performed by the firm and reviews of other matters related to the firm's quality control system. Appendix A to this report provides a description of the steps the inspection team took with respect to the review of audits and the review of certain firm-wide quality control processes.

In the course of reviewing aspects of selected audits, an inspection may identify ways in which a particular audit is deficient, including failures by the firm to identify, or to address appropriately, respects in which an issuer's financial statements do not present fairly the financial position, results of operations, or cash flows of the issuer in conformity with GAAP.   It is not the purpose of an inspection, however, to review all of a firm's audits or to identify every respect in which a reviewed audit is deficient. Accordingly, a Board inspection report should not be understood to provide any assurance that the firm's audits, or its issuer clients' financial statements or reporting on internal control, are free of any deficiencies not specifically described in an inspection report.

4.5   Review of Audit Engagements

The scope of the inspection procedures performed included reviews of aspects of selected audits performed by the Firm.   Those audits and aspects were selected according to the Board's criteria, and the Firm was not allowed an opportunity to limit or influence the selection process. In reviewing the audits, the inspection team identified matters that it considered to be audit deficiencies. These deficiencies included a failure by the Firm to identify or appropriately address an error in the issuer's application of GAAP. In addition, the deficiencies included failures by the Firm to perform, or to perform sufficiently, certain necessary audit procedures.

In some cases, the conclusion that the Firm failed to perform a procedure may be based on the absence of documentation and the absence of persuasive other evidence, even if the Firm claims to have performed the procedure. PCAOB Auditing Standard No. 3, *Audit Documentation* ("AS No. 3") provides that, in various circumstances including PCAOB inspections, a firm that has not adequately documented that it performed a procedure, obtained evidence, or reached an appropriate conclusion must demonstrate with persuasive other evidence that it did so, and that oral assertions and explanations alone do not constitute persuasive other evidence. For purposes of the inspection, an observation that the Firm did not perform a procedure, obtain evidence, or reach an appropriate conclusion may be based on the absence of such documentation and the absence of persuasive other evidence.

When audit deficiencies are identified after the date of the audit report, PCAOB standards require a firm to take appropriate actions to assess the importance of the deficiencies to the firm's present ability to support its previously expressed opinions, and failure to take such actions could be a basis for Board disciplinary sanctions. In response to the inspection team's identification of deficiencies, the Firm, in some cases, performed additional procedures or supplemented its work papers. In some cases, the deficiencies identified were of such significance that it appeared to the inspection team that the Firm, at the time it issued its audit report, had not obtained sufficient competent evidential matter to support its opinion on the issuer's financial statements.

4.6   Review of Quality Control System

In addition to evaluating the quality of the audit work performed on specific audits, the inspection included review of certain of the Firm's practices, policies, and processes related to audit quality.   This review addressed practices, policies, and procedures concerning audit performance and the following five areas (1) management structure and processes, including the tone at the top; (2) practices for partner management, including allocation of partner resources and partner evaluation,

compensation, admission, and disciplinary actions; (3) policies and procedures for considering and addressing the risks involved in accepting and retaining clients, including the application of the Firm's risk-rating system; (4) processes related to the Firm's use of audit work that the Firm's foreign affiliates perform on the foreign operations of the Firm's U.S. issuer audit clients; and (5) the Firm's processes for monitoring audit performance, including processes for identifying and assessing indicators of deficiencies in audit performance and processes for responding to weaknesses in quality control. Any defects in, or criticisms of, the Firm's quality control system are discussed in the nonpublic portion of this report and will remain nonpublic unless the Firm fails to address them to the Board's satisfaction within 12 months of the date of this report.

4.7   The Inspection Process

The inspection process was designed and performed to provide a basis for assessing the degree of compliance by the Firm with applicable requirements related to auditing issuers. This process included reviews of components of selected issuer audits completed by the Firm. These reviews were intended both to identify deficiencies, if any, in those components of the audits and to determine whether the results of those reviews indicated deficiencies in the design or operation of the Firm's system of quality control over audits. In addition, the inspection included reviews of policies and procedures related to certain quality control processes of the Firm that could be expected to affect audit quality.

4.8   KPMG LLP Response to the Draft Inspection Report

Pursuant to section 104(f) of the Act, 15 U.S.C. § 7214(f), and PCAOB Rule 4007(a), the Firm provided a written response to a draft of this report. Pursuant to section 104(f) of the Act and PCAOB Rule 4007(b), the Firm's response, minus any portion granted confidential treatment, is attached hereto and made part of this final inspection report.

We appreciate the opportunity to read and comment upon the PCAOB's Draft Report on the 2008 Inspection of KPMG LLP dated April 24, 2009 ("Draft Report"). We share a common objective - serving our capital markets by performing high quality audits - and we value the input and information provided by the PCAOB in connection with its inspection process.

We acknowledge the professionalism and commitment of the PCAOB inspection staff and the important role the PCAOB plays in improving audit quality. We would also like to recognize the people of KPMG and the effort they expend to perform high quality audits in an increasingly challenging environment.

We recognize that professional judgments are involved in both the performance of

an audit and the PCAOB's inspection process. In specific circumstances, we may have differing views on the assessment of audit risk, the materiality of particular issues in the context of the financial statements taken as a whole and the related nature and extent of necessary auditing procedures, resulting conclusions, and/or required documentation.   We also understand that the comments made on individual Issuers cannot by their nature include a description and analysis of all procedures performed in a particular audit area.

As we previously communicated to the PCAOB, we conducted a thorough review of the matters identified in the Draft Report and addressed the engagement-specific findings in a manner consistent with PCAOB auditing standards and KPMG policies and procedures. Based on this review, in some cases, we performed additional audit procedures and/or supplemented our audit documenta-tion; in other cases, we determined that no remediation was necessary.

None of the matters identified by the PCAOB required the reissuance of any of our previously issued reports.

In the past several years, we have further strengthened our commitment to quality. We remain dedicated to evaluating our systems of quality control, monitoring audit quality and implementing changes to our policies and practices in order to enhance audit quality.   We have taken these actions mindful of our responsibility to the capital markets. We are committed to continually improving our firm and the profession and working constructively with the PCAOB to improve audit quality.

4.9   US Senate Members Proposal to PCAOB Rulemaking on Disclosing Audit   Engagement Partners

Proposed Amendments.   In 2009, in a bid to strengthen audit quality, transpar-ency, and accountability, the PCAOB issued a Concept Release seeking comment on whether auditors should require the engagement partner with final responsibil-ity for a particular audit to sign the audit report. The engagement partner is the key person within a registered public accounting firm who is "responsible for the engagement and its performance," and who coordinates and oversees the audit work and issuance of the audit report. After receiving multiple comments, the PCAOB in 2011 issued the revised proposal currently under consideration. This proposal would require public auditors to disclose the name of the engagement partner in each audit report, but would not require the partner to sign the report; it would require each audit report listed in a public accounting firm's Annual Report Form to identify the relevant engagement partner; and it would require each audit report to disclose the name of any independent public accounting firm or other person who took part in the audit. All three of these proposals are important reforms that would strengthen public company audits.

Increased Public Disclosure. The Board's proposal to increase public disclosures about who actually conducts and is responsible for a particular audit is a welcome departure from a history of excessive secrecy and weak accountability for public company audits. Most public company audits are now performed by a small number of large firms. The "Big Four" accounting firms, which reported $45 billion in revenue in 2011 alone, employ thousands of auditors with differing experience, qualifications, expertise, and work performance. Currently, these firms provide no routine public information about the engagement partner who is responsible for the audit of a particular company nor do they provide information about any third party contributor to their audits. Investors, lenders, regulators, and others currently have no means for tracking audit partners responsible for accurate audits, audit failures, or audits later found to have varying strengths and weaknesses. Because auditing firms are paid by the companies whose financial statements they audit, inherent conflicts of interest make public accountability and transparency all the more important. An accounting firm that receives large auditing fees from a client becomes susceptible to pressures by that client to overlook problems or resolve auditing issues in ways that are overly favorable to the client, or risk losing fee revenue. Engagement partners that recommend advising a client to accept a disagreeable auditing result may receive little or no support from colleagues concerned about losing business. Public accountability, in which specific individuals are recognized for high quality audits, as well as audit failures, can be a powerful antidote to such internal pressures.

Disclosing the Engagement Partner. Multiple reasons support disclosing the name of the engagement partner responsible for a particular audit. First is the impact on audit quality. Publicly tying the lead auditor's professional reputation to the audits for which that partner is responsible would encourage the partner to require better audit procedures, exercise better supervision of the audit team, and perform a more careful review of the audit results. It may also deter poor oversight, sloppy procedures, and high risk audit practices leading to unreliable audit opinions.

Second, disclosure of the engagement partner's name would strengthen audit transparency by shedding light on the audit process and facilitating communications. Identifying the engagement partner would alert the audited corporation's officers, directors, audit committee, and employees to the key person responsible for resolving audit issues and help corporate employees communicate any auditing concerns to the right person. It would also inform third parties, including investors, lenders, regulators, and others, of the right person to contact with financial reporting interests or concerns. In addition, knowing the key person responsible for an audit could facilitate investigations, simplify research, and aid in evaluations of audit reports. Investigations examining financial misconduct would also

be more efficient and effective if they had ready access to the names of the engagement partners responsible for particular audit reports.

Public disclosure would also facilitate evaluation of senior auditors and the audit reports for which they are responsible. Disclosure would enable not only the audit client, but also investors, lenders, regulators, and other financial statement users, to identify and evaluate an engagement partner's experience, expertise, track record, and work for other clients that might present conflict of interest problems.

Third, disclosure of the engagement partner would strengthen both partner and firm accountability for audit failures. Right now, when a company is found to have engaged in misleading or fraudulent accounting, the identity of the engagement partner is not readily apparent; making that information publicly available would facilitate holding particular engagement partners accountable for the audits they oversee. Because both the engagement partner and the public accounting firm would be identified in the audit report, the current proposal intentionally and clearly signals that accountability is intended to attach to both. In addition, as engagement partners are often indemnified by their employers in the same manner as officers and directors of corporations, any lawsuit over inaccurate financial reporting would likely affect the firm as well as the partner, providing an added incentive for the firm to monitor the performance of its engagement partners.

A fourth reason to support the PCAOB proposal is that it would promote auditor independence by highlighting the occasions on which an engagement partner is replaced. The Permanent Subcommittee on Investigations conducted an examination into the collapse of Enron Corporation in 2002, and discovered that when an Arthur Anderson senior partner raised objections to certain Enron accounting practices, he was removed at Enron's request, with no public notice. The Enron investigation demonstrates that even senior auditors can be removed at the request of a client displeased with their accounting advice. Disclosure of an engagement partner's name and any replacement might discourage audit clients from inappropriately pressuring that partner or the audit firm to cooperate with its accounting requests, since any replacement would require public notice and, in turn, raise public questions about the reasons for the replacement. To further support auditor independence, the proposal could be strengthened by requiring registered public accounting firms to file a special report on Form 3 within a few days of replacing an engagement partner in charge of a public company audit.

Still another reason to support disclosure of the engagement partner is that it would bring U.S. audit professionals in line with other U.S. corporate professionals and their international counterparts. U.S. corporate officers already sign their names to a variety of opinions and reports filed with the SEC, including certifications

regarding the accuracy of the corporation's financial statements, while a majority of corporate directors sign their corporation's Annual Form 10-K. Attorneys are required to sign a variety of documents filed with federal and state regulators and the courts. In addition, the Federal Reserve already requires bank holding companies to provide the names of audit engagement partners. The European Union already requires its member states to compel audit reports to be "signed by at least the statutory auditor(s) carrying out the statutory audit on behalf of the audit firm." The PCOAB would bring U.S. audit professionals into closer alignment with other public company professionals by requiring public auditors to identify their audit engagement partners in the documents which they make publicly available and which they intend to be relied upon by the investing public.

Requiring A Signature. The PCAOB proposal seeks comment on whether, in addition to disclosing the name, an engagement partner should be required to sign the audit report for which the partner is responsible. The proposal should require such signatures. Critics contend that requiring a signature would increase liability for individual audit partners, while decreasing the liability of the audit firm as a whole. Those criticisms fail to acknowledge, however, that through indemnification and insurance agreements, the liability of senior audit partners and their employers are already typically closely intertwined. In addition, professions such as public accounting have long nurtured trust and respect by placing the reputation of their senior professionals on the line in support of their work. An audit report that carries the personal signature of a financial professional would not only strengthen audit quality, transparency, and accountability, but also help restore the personal responsibility critical to a trustworthy and respected accounting profession.

Disclosing Engagement Partners in Annual Reports. Public accounting firms currently file with the PCAOB an Annual Report Form listing each of the audit reports they have issued during the covered year. The proposal would amend the Annual Report Form to also require public accounting firms to identify the engagement partner for each of their listed audits. This proposed disclosure offers an inexpensive, sensible, and effective means for further strengthening public audits.

The proposed disclosure would provide a convenient mechanism for financial statement users to retrieve information about the work assigned by a public accounting firm to its engagement partners over the course of a year. Naming engagement partners in the Annual Report Form would further strengthen audit quality, transparency, and accountability by enabling more efficient and effective research into the work of individual partners and of audit firms as a whole. These disclosures would encourage engagement partners to provide consistent, high quality work, because knowing that the public can obtain one's name only by inquiring about a particular audit is not the same as knowing that the public can

easily associate one's name with every audit performed during the year. In addition, the disclosures would help ensure that public accounting firms assign audits to engagement partners with appropriate expertise and availability, and avoid conflicts of interest that might otherwise be hidden from public view. The disclosures could also promote auditor independence by highlighting any engagement partner replacements during the covered year.

Disclosing Third Party Audit Participants. In addition to disclosing engagement partner names, the PCAOB proposal contains an important provision that would require disclosure of third party participants in particular audits. This provision would significantly strengthen audit quality, transparency, and accountability.

The Permanent Subcommittee on Investigations has firsthand experience with the variability of audit work performed by different firms. For example, a year-long investigation conducted by the Subcommittee into illicit money flows involving banks in foreign jurisdictions uncovered a host of problems with foreign auditors, especially those operating in foreign jurisdictions with strong secrecy laws and weak anti-money laundering controls. A number of foreign accountants contacted during the investigation were uncooperative or even hostile when asked for information. A PricewaterhouseCoopers auditor in Antigua serving as a government appointed liquidator for Caribbean American Bank (CAB), for example, refused to provide copies of its report on CAB's liquidation proceedings, even though the reports were filed in court, they were supposed to be publicly available, and the Antiguan government had asked the auditor to provide the information to the investigation. The investigation also came across evidence of conflicts of interest and incompetent or dishonest accounting practices. Naming engagement partners in the Annual Report Form would further strengthen audit quality, transparency, and accountability by enabling more efficient and effective research into the work of individual partners and of audit firms as a whole. These disclosures would encourage engagement partners to provide consistent, high quality work, because knowing that the public can obtain one's name only by inquiring about a particular audit is not the same as knowing that the public can easily associate one's name with every audit performed during the year. In addition, the disclosures would help ensure that public accounting firms assign audits to engagement partners with appropriate expertise and availability, and avoid conflicts of interest that might otherwise be hidden from public view. The disclosures could also promote auditor independence by highlighting any engagement partner replacements during the covered year.

Section V: Public Oversight System in Mediterranean Countries

This survey has been prepared by Federation Des Experts Compatables Mediterrneens, the representative organization of the accountancy profession in the Mediter-

ranean area, and the objective of this survey is to provide a brief overlook of public oversight arrangements across the area. Fifteen countries, of which 8 are EU member states, plus Kosovo, a special status territory within Serbia, have contributed.

5.1   Existing public oversight systems or the implementation in the near future

The Survey poses the question which Mediterranean Countries have an implemented public oversight system and which will see an implementation in the near future. The answer is that a public oversight system exists in 7 out of the 15 countries which contributed to the survey. A public oversight system exists also in the Kosovo region. Of these 7 countries, 5 are EU member states (France, Greece, Italy, Malta, and Spain) and 2 are non EU member states (Israel and Tunisia). Of the other 8 countries which do not have a public oversight system, 3 are EU member states (Cyprus, Bulgaria and Romania). To comply with the EC Directive on Statutory Audit, these countries would however have to implement a public oversight system. Among the remaining 5, only Serbia and Turkey envisage to implement a PO system in the near future, while Albania, Egypt and Morocco do not. Respondents from Albania and Egypt think that a public oversight system is needed in their countries, while respondents from Morocco indicated that the introduction of such a system would not be needed in the near future, because a "quality control system" has just recently been introduced and members need some time to be trained and used to quality control procedures.

5.2   Details of public oversight systems implemented

The public oversight systems differ significantly among the responding countries, also among those within the EU member states, depending on the regulatory framework for the statutory audit activity (the EU Directive allows for the implementation of a range of different public oversight systems in the European Union1).

5.3   Nomination procedure and Composition (practitioners/non-practitioners)

In 5 out of 8 countries the public oversight board is nominated by the local governments. In Spain, there is a national law stating the composition of the public oversight board and its members are appointed with consideration of their position in other regulatory bodies such as Stock Exchange, Central Bank, etc. In France, Greece, Italy, and Spain (within the EU) as well as in the Kosovo region, the public oversight board is composed by a majority of non-practitioners. In Malta, the public oversight board currently has a majority of practitioners but will change over the next two years to conform to the EU Statutory Audit Directive. In Tunisia, the public oversight board functions are carried out by two committees: the Disci-

pline Committee with a majority of non practitioners, and the Quality Control Committee, composed equally of civil servants and practitioners. In Israel, the public oversight board (Steering Committee) is composed by all practitioners.

5.4   Scope of activities and responsibilities

Regarding the scope of activities and responsibilities, all respondents mentioned that a public oversight system exists in their countries and its functions include monitoring and supervision of the auditing profession. In all countries having a public oversight board in place, the board also has the responsibility to ensure the oversight of the profession through quality control. Within the EU, France, Italy and Malta's public oversight board approves and registers statutory auditors and audit firms. This is also a responsibility of the board in the Kosovo region. Stand-ard setting is a public oversight system responsibility in France, Greece, Spain (within the EU) and in the Kosovo region. The investigative and disciplinary systems are a public oversight board's responsibility in France, Italy, Malta (within the EU) as well as in the Kosovo region.

5.5   Composition (practitioners/non-practitioners) in Public Accounting Oversight Board

France: The Haut Conseil du Commissariat aux Comptes is composed of 12 members. Three judges from the Cour de Cassation, Cour des Comptes and the judicial order, the President being the judge from the Cour de Cassation. The President of the AMF (Autorité des Marchés Financiers, former COB) or his repre-sentative, one representative from the Ministry of Economy, a university professor specialised in legal, economic or financial matters. Three experts in financial and economic matters : two being competent in public issue matters, one being compe-tent in small or medium sized companies or in matters involving associations. Three statutory auditors, two of which having knowledge in the statutory audit of companies issuing securities to the public or in donation. The members are nomi-nated by decree for a period a six years. The HC is renewable by half every three years.

Greece: The President and two Vice Presidents are appointed by the Minister of Finance. The Bank of Greece (Central Bank), the Capital Market Committee, the Federations of Greek Industries and Industries of Northern Greece nominate one member each. Total number of members are hence seven.

Italy: The Commissione Centrale per i Revisori Contabili is composed of 12 members, three of them are practitioners.

Kosovo: Of the seven members of the board, five shall be representatives from the

Kosovo business community and the
accounting and auditing professions.

Malta: The board currently has a majority of practitioners but will change over the next two years to conform to the Eight Directive of the EU where the number of practitioner has to be in minority.

Spain: The Advisory Auditing Committee of the Accounting and Auditing Institute is an advisory body chaired by the Chairman of the Institute and composed by the following 13 members appointed by the Ministry of Economy. One member proposed by the Tribunal de Cuentas (Public Account Court). One member from the "Intervención General del Estado". One member from the Ministry of Justice. One member from the National Bank. One representative from the CNMV (Stock Exchange Institution) and by an investor analyst. One member from the "Dirección General de Seguros" (Insurance Department). Four members by the Professional Auditing Bodies. A Professor at University and an expert on auditing and accountancy. Some other experts on the issue may be invited to participate if needed.

Tunisia: Two committees legally supervise the activities of the Tunisian practitioners. The "Chambre de Discipline" (Discipline Committee). Chaired by a Judge, designated by the Minister of Justice. Three civil servants, designated by the Minister of Finance. Three practitioners elected for 3 years at a time. It is referred to in case of violation of the Code of Conduct and the Internal Rules and Regulations of the profession. The "Commission de Contrôle" (Quality Control Committee). Three civil servants, designated by the Minister of Finance, one of them being the Chairman. Three practitioners elected for 3 years at a time. It is responsible for the quality control of the practitioners engaged in statutory audits.

5.6   Scope of activities (quality assurance, standard setting, approval of auditors, discipline, education and others for listed, public interest or other entities)

France: The legislator has charged the Haut Conseil du Commissariat aux Comptes with two main missions: to ensure the oversight of the profession; to check that ethics is duly followed and that the independence of the statutory auditors is duly maintained. To this end, the Haut Conseil should: organise the reviews of the professionals in practice, give its opinion to the Minister of Justice on the « Code de déontologie des commissaires aux comptes », gives its opinion to the Minister of Justice on professional standards, identify and promote the good professional practices, define and supervise the new professional trends and the framework of periodic reviews.

Greece: Activities include recommendations to the Ministry of Finance on

accounting and auditing standards, professional ethics setting, quality control on auditor's work and oversight of the audit profession.

Israel: Peer review, administrated by the Steering Committee. Its responsibilities include selection and affirmation of certified public accountants who will undertake the review work; supervision over the review - timing and frequency of the review, branch offices that are reviewed, considering the need for repeat reviews, etc. In deciding on the timing of the review, the steering committee will take into account, inter alia, the periods of work – related pressures at the firms under review. Receiving the review reports and the preparation of findings. The Steering Committee will consider forwarding its broad findings to every firm and will consider the need to publish its guidelines/clarifications, and if necessary, will forward its recommendations to the Accounting Standards Committee for further attention.

Italy: The Commissione Centrale per i Revisori Contabili keeps the statutory auditor's register (including the practical trainer register); it approves the auditors and supervises their activity. It carries out investigation and provides sanctions on the basis of external complaint for inadequate execution of the statutory audit. Consob supervises the auditing firms and their activity, verifies their independence and technical adequacy and recommends the auditing standards. The quality assurance carried out by Consob regards the internal quality control system of the audit firm and its client dossier.

Kosovo region: The board shall be independent in the execution of its responsibilities and functions, subject to the overall authority of the Special Representative of the Secretary-General. It may issue administrative instructions on any matters pertaining to its functions. It shall have the authority to enter into contracts as required to carry out its functions, including employment contracts and contracts for rental accommodation and leasing of equipment. The Board shall issue accounting standards in conformity with IAS. The board shall determine which IAS standards apply, taking into consideration the business environment in Kosovo. It shall further issue auditing standards in conformity with ISA and provide technical guidance and information to business organizations concerning accounting and auditing standards issued by it. The board shall establish and issue standards for the technical training for certification of accountants and for the licensing of auditors, as well as having the responsibility for the licensing of auditors.

Malta: The Accountancy Board (the Regulator and Public Oversight Board) has a wide scope and is responsible for the conduct of the profession in Malta even though it appoints recognised professional bodies to assist it in the execution of its

role. For example whilst it remains responsible for CPE, it delegates its administration to the Malta Institute of Accountants.

Spain: The Advisory Committee has an advisory role on audit issues (standard setting, quality assurance, control and discipline of auditors etc.) The final decision is taken by ICAC. The Professional bodies recognized by ICAC are responsible for: a) To draft, adapt and review audit and ethical standards, as well as the code of professional conduct of its members and to control the compliance with such standards and code, as provided for in the Audit Law and related legislative provisions. b) To collaborate with the Institute of Accounting and Auditing (Instituto de Contabilidady Auditoría de Cuentas, ICAC) in exercising the technical control assigned to the said Institute in the Audit Law. Due to an agreement with ICAC, the professional institute carries out quality control revisions on behalf of ICAC. c) To propose to the Institute of Accounting and Auditing (ICAC) that disciplinary procedures be taken against members, in accordance with applicable legislation. d) To carry out the corresponding disciplinary procedures against members. e) To provide CPE and Access Education, namely: - to provide, either directly or through delegation, theoretical training programmes to be approved by the Institute of Accounting and Auditing, and to be mastered by those wishing to become members of the Official Register of Auditors; - to establish the standards and procedures to be followed in the practical training of those wishing to become members of the Official Register of Auditors. f) To organize the access examination to enter into the Official Register of Auditors. The Examination Board is chaired by the ICAC who has the final decision on the admission of a candidate. g) To maintain the professional training of its non-practising members. h) To regulate the professional practice of its members, whether this be on an individual basis or through some form of association with auditors or other professionals.

Tunisia: The Quality Control Committee is responsible for the Peer review of the Tunisian auditors. But the financial auditor(s) also report to other public oversight bodies: The "Banque Centrale de Tunisie" (The Central Bank) BCT : Are forwarded to the BCT. The banks auditor(s) report(s) as well as the mid-term audit report and monthly and quarterly statistic data. The listed entities and issuers' audit report(s). The audit reports of entities with over 5 million Tunisian dinars (about 3.5 Million USD) of financial debts. The audit report(s) of consolidated financial statements of entities with over 10 million Tunisian dinars of assets. The "Conseil du Marché Financier" (Listed Entities Oversight Board): It supervises the listed entities and is entitled to control the auditors work. Are forwarded to the CMF. The listed entities and investment funds audit report(s) : Financial audit reports and Internal Control reports. The mid-term financial reports of listed entities. Any "warning report' at any time. The quarterly statistical data on the activities of the listed entities. The "Comité Général des Assurances" (The super-

vising body of Insurance Companies) CGA. Are forwarded the CGA. The audit reports of insurance companies. A specific financial and statistics report prepared by the auditors. Mid term audit reviews Started from 2005,"Loi sur la Sécurité Financière" (The financial Security Act) introduced. The joint audit for banks, multi-branch insurances and consolidated financial statements for entities with other 50 million Tunisian dinars of assets. The obligation for listed entities to have an "Audit Committee". The requirement for auditors to give an opinion on the Internal Control Procedures of listed entities.   The State Owned Entities are controlled by several public control structures (Cour des Comptes; CGF etc.) They also have to be audited by a member of the OECT.

5.7   Funding of Accounting Oversight Board

France: The Haut Conseil du Commissariat aux Comptes is a public body. It is funded by the Ministry of Justice, and the Minister in charge of the budget.

Greece: The public oversight system in Greece is entirely funded by contributions by the audit firms. These are calculated as a percentage of audit fees.

Israel: The committee is funded by the audited firms. The rate is set according to the number and the size of the public companies.

Italy: Both the public oversight bodies are public, and funded by public resources. The statutory auditors enrolled in the register kept by the Commissione Centrale per i Revisori Contabili have to pay a contribution for the keeping of the register. Also the audit firms enrolled in the special register kept by Consob have to pay a contribution proportional to their revenue.

Kosovo: The board shall have an annual appropriation from the Kosovo Consolidated Budget that provides honoraria, reasonable expenses and adequate administrative and technical support that shall be no less than the amount appropriated from the previous year's budget.

Malta: It is funded by the Ministry of Finance. It also levies fees on practitioners.

Spain: The ICAC is a department of a Ministry and therefore funds come from the General Budget of the State. However, recently a special tax has been issued to finance the quality control of audits.

Tunisia: The OECT has its own budget levied through membership fees. From this budget, two sub-budgets are allocated to the "Discipline Committee" and the "Quality Control Committee". The other entities that have the possibility to control and supervise the work of the auditors (Banque Centrale; CMF; CGA etc.) have their own budgets.

Section VI: Public Accounting Oversight in Asia

After global focus on the U.S. accounting scandals of the early 2000s, several Asian economies adopted measures to enhance the integrity of their local accounting professions and to promote the transparency of financial statements issued by local companies. As in the United States, these economies focused on two major types of provisions: the creation of an accounting oversight organization and the tightening of auditor rules. The roles of Asian accounting oversight bodies are similar to those of the PCAOB in the United States. All oversee the registration of public accounting firms and inspect the quality of audits performed by these firms. The quality of an audit is determined by a number of factors, including an auditor's independence from the firm it reviews and it's testing of internal controls. To support audit quality, independence, and accurate financial statements, accounting oversight bodies may mandate a number of requirements, including: (i) auditor rotation, (ii) restrictions on non-audit services, and (iii) attestations by external auditors on the quality of a firm's internal controls over financial reporting.

The regulatory bodies of seven Asian economies—Japan, Malaysia, Singapore, South Korea, Sri Lanka, Taiwan, and Thailand—have joined the International Forum of Independent Audit Regulators (IFIAR), an organization of independent audit regulators through which members share their experience and knowledge about regulatory practices and activities. As of early 2012, IFIAR had 39 member economies, including the United States. Although Hong Kong and China are not IFIAR members, they do have regulatory organizations that perform the audit oversight function of firms operating within their territories. Table 2 summarizes the structure of accounting oversight bodies in selected Asian economies and the United States.

Table 2: Accounting Oversight Bodies in Asia and the United States

Economy	Accounting Oversight Body	Description
IFIAR Member Economies		
Japan	Certified Public Accountants & Auditing Oversight Board (CPAAOB)	Under the Financial Services Agency (FSA).
Malaysia	Audit Oversight Board (AOB)	Under the Securities Commission (SC).
Singapore	Accounting and Corporate Regulatory Authority (ACRA)	Statutory board under the Ministry of Finance (MOF).
South Korea	Financial Supervisory Service (FSS)	Under the Financial Services Commission (FSC).
Sri Lanka	Sri Lanka Accounting and Auditing Standards Monitoring Board (SLAASMB)	Currently funded by the Parliament. Its governing board is heavily comprised of government officials, including the Director General of the Securities and Exchange Commission

Taiwan	Financial Supervisory Commission (FSC)	An independent authority under the Executive Yuan (the executive branch of the government). The Accounting and Auditing Supervision Division of the Securities and Futures Bureau under the FSC implements audit regulatory oversight.
Thailand	Securities and Exchange Commission (SEC)	An independent state agency whose board chairman is appointed by the Finance Minister
United States	Public Company Accounting Oversight Board (PCAOB)	A private-sector, nonprofit corporation under the oversight of the Securities and Exchange Commission (SEC).
Non-IFIAR Economies		
China	Ministry of Finance (MOF)	Acts as the primary audit oversight body, but the Chinese Institute of Certified Public Accountants conducts quality reviews of public accounting firms.[5]
Hong Kong	Hong Kong Institute of Certified Public Accountants (HKICPA)	A professional accounting association responsible for both overseeing auditor registrations and audit quality.[6] The Chief Executive of the Hong Kong Special Administrative Region may appoint four lay persons to its Council.

Source: "Accounting Regulatory Architecture in Asia", **COUNTRY ANALYSIS UNIT FEDERAL RESERVE BANK OF SAN FRANCISCO APRIL 2012, Asia Focus-**

6.1   Key Audit Roles and Requirements in Four IFIAR Member Economies

A detailed comparison of the key roles of accounting oversight bodies and related audit requirements is possible based on available information covering four IFIAR economies: Japan, Malaysia, Singapore, and Thailand. These roles and requirements are summarized below.

Registration of Auditors and Audit Firms: In audit oversight practices, a designated authority is responsible for registering the auditors and audit firms of relevant companies under their jurisdiction. Typically, this responsibility lies with the appropriate national accounting association or oversight body. The audit registration requirement implies that the designated authority has reviewed and played a role in vetting the quality of the auditor or audit firm in order to approve the registration. The requirement also ensures that auditors and audit firms fall under the oversight of the designated authority. All four Asian economies require all audit firms to register with their respective audit oversight body or national professional organization. In addition, some Asian economies require firms that audit financial institutions to register separately with the local bank regulator. For example, bank audit firms in Malaysia, Singapore and Thailand must receive approval from their regulatory agency, which is the central bank in these economies. This additional requirement ensures an adequate level of oversight for bank because of their economic importance.

Inspections of Audit Quality and Audit Firms: Audit inspections play a critical oversight role in ensuring audit quality. In audit inspections, the designated author-

ity reviews the quality of audit firms' work and their internal controls and practices. Depending on the designated authority's scope, the inspection may review compliance with auditing and ethical standards, the quality of individual audit reports, and the potential impact of corporate culture on audit quality. Audit inspections are typically more rigorous for the Big Four and other major audit firms that employ a large number of auditors or audit a large number of listed clients. Both the United States and the four Asian economies subject these firms to a more frequent inspection cycle ranging from one to four years, as opposed to three to five years for smaller audit firms. Audit inspections target the Big Four because they tend to audit the majority of listed companies in a given economy, ranging from 61 to 88 percent in the selected Asian economies and 98 percent in the United States. As such, the quality of the Big Four's audit performance has a greater potential impact on the integrity and reliability of financial reporting in the market. Indeed, Japan's audit oversight agency (CPAAOB: the Certified Public Accountants & Auditing Oversight Board) subjected these firms to a series of special investigations following a spate of accounting scandals in 2005. The investigations resulted in the agency's issuance of a number of recommendations to improve audit quality control at the four accounting firms (CPAAOB, 2005),

Requirements on Auditor Rotation: Audit rotation requirements mandate that companies periodically change auditors or audit firms to ensure auditor independence. The concern is that if an auditor works with the same client for an indefinite period of time, the auditor may develop too close a relationship with the client that might impair his/her objectivity and professional skepticism. The Enron scandal highlighted the importance of auditor independence, particularly given Arthur Anderson's questionable role in shredding key documents. Audit rotation requirements may apply to auditors, audit firms, or both. They typically specify the length of the mandatory rotation period and the length of the subsequent "time-out period," during which the auditor or audit firm may not engage in an audit for a particular client. The strictness of requirements strictness varies across Asian economies, with the audit rotation period for key auditors ranging from five to seven years, and the time-out period for key auditors ranging from two to five years, if any. Singapore is the only selected Asian economy that requires mandatory rotation of audit firms; however, this requirement applies only to firms that audit banks. These firms face a five-year rotation period and five-year time-out period.

The United States also does not require the mandatory rotation of audit firms, although PCAOB is seeking public comments on a proposal to do so (Public Company Accounting Oversight Board, 2011). During a public hearing in March 2012, the Big Four and many large U.S. corporations expressed opposition to the proposal (Reuters, March 22, 2012).They argued that new auditors would not have the institutional knowledge required for an in-depth audit, particularly for complex

multinational corporations. They alleged that this lack of familiarity with the client operations would lead to more costly audits because of the time required to fully understand the company's business and accounting system. Opponents also opined that there could be a higher risk of missing potential problematic areas resulting in poor audit quality, and that the mandatory audit partner rotation is sufficient for a "fresh look" at the audit. The PCAOB reportedly expects the debate over mandatory audit firm rotation to extend into 2013.

Restrictions on Providing Non-Audit Services: Audit oversight agencies in both the United States and Asia restrict audit firms from providing non-audit services to promote independence. The importance of non-audit service restrictions is highlighted by Arthur Anderson's non-audit services to Enron in both the nature of the service provided and the magnitude of the fees. Arthur Anderson had provided extensive tax advisory services in structuring many of Enron's special purpose vehicles, which hid the company's off-balance sheet losses. In addition to services that directly affected Enron's financial statements, Arthur Anderson's non-audit fees exceeded its audit fees from Enron and generated a significant conflict of interest in providing an objective audit opinion. Restrictions on non-audit services vary based on how the audit regulatory body anticipates which activities will impair the auditor's independence. The restrictions may range from a prescriptive list of prohibited services to broad guidance. For example, similar to the United States, Japan explicitly prohibits the same audit firm from providing non-audit services related to the client's financial statements and investment advisory services. However, Singapore allows the same audit firm to provide non-audit services if the resulting threat to auditor independence is at an "acceptable" level. Malaysia is unique in that it provides a quantitative criterion based on audit fees. Specifically, the non-audit fees may not be more than 20 percent of audit fees.

Attestation of Internal Controls: Auditor attestation of internal controls over financial reporting is a relatively new development in Asia. Under this requirement, the external auditor must issue a statement that opines on the effectiveness of the internal controls over financial reporting. This statement effectively ensures that the auditor thoroughly assess internal controls as part of the external audit. Auditor attestation requirements have been partially driven by accounting scandals, which by nature imply a breakdown of internal control. This breakdown of internal control at management levels was exemplified in the Enron scandal in the United States and in Japan by the Livedoor and Nikko Cordial scandals in 2006 and 2007, respectively. In 2011 and 2012, Japan and China implemented auditor attestation requirements similar to those of the United States (Standard for Enterprise Internal Control, dated May 22, 2008). These are the only two economies to have issued such requirements. Notably, both economies have experienced a number of accounting scandals in recent years. Indeed, the high-profile Kanebo scandal in 2005 was one of the catalysts that prompted audit oversight reforms in Japan. China goes beyond requiring the review of internal controls over financial report-

ing by including non-financial reporting objectives.

Over the last decade, regulators in Asia have acknowledged the need for continual improvement in audit regulatory oversight. High-quality external audits are crucial to ensuring the integrity of financial statements and bolstering market confidence. During critical times, market stress may add pressure on corporate management to meet performance targets and expectations, and manage cash flow and ongoing operations. Indeed, recent accounting scandals in some Asian economies reinforce the importance of audit oversight. Given the increasing complexity of business transactions and the opportunity for "creative" accounting practices, the continual development of audit oversight by Asian economies is highly encouraging and should contribute to supporting market confidence and stability.

6.2   Oversight of Accountancy Profession in Bangladesh

Soon after the independence of the country in 1971 from the Pakistani rulers, accountancy profession started its journey with the former 77 members of Pakistan Institute of Chartered Accountants located in the newly created Bangladesh through passing an ordinance. Accountancy profession worked under an environment where 92% of industrial assets were nationalized. The professional accountants took lead in taking over industrial and financial service conglomerates abandoned by the Pakistani owners. The Government of Bangladesh was the main service receiver from the professional accountants when the country was running to implement the socialist economic agenda. The Stock Exchange located in Dhaka was not in operation up to 1976 until starting of financial deregulation and denationalization. The changing economic philosophy from command to market started grounding in Bangladesh. Liberalization of import and export, foreign exchange, and the right of ownership took place and the country was exposed to international market when Dhaka Stock Exchange started operation, restriction on foreign investment in stock market was withdrawn, and the accountancy profession was exposed to international and national investors, including the government. As a critical component of market economy, accountancy profession started playing its role. Professional Accounting bodies became member of IFAC, IASB and Regional bodies and adopted International Accounting Standards (IAS/IFRS) and International Standards on Auditing (ISA).

Soon after the independence, Bangladesh became a hot destination for the international donors and funding agencies and subsequently the UNDP, World Bank, Asian Development Bank and International Monetary Fund took interest in the accountancy profession. Several studies were done on the structure and functioning and development of the profession by development partners. Bangladeshi researchers undertook PhD research on the Accounting and Financial Reporting in universities of UK, USA, Australia, Canada, New Zealand, India and in many

other countries.   All these research studies and reports identified problems of accountancy profession. In particular, structural problems relating to the Institute of Chartered Accountants of Bangladesh (ICAB), practicing CA firms with regard to corporate governance, code of ethics, independence, disciplinary process and the quality of financial reporting, including corporate financial disclosures, are widely criticized by the stakeholders and regulators. All these reports suggested for oversight on the accountancy profession since the country was fast moving towards marker economy considering private sector as the engine for growth. The latest one was produced by the World Bank. This report came with specific suggestion to reach an oversight Board in the post Enron Era similar to the creation of Public Company Accounting Oversight Board of USA under the Sarbese-Ouxly Act. In Bangladesh, the name of the Act is proposed as Financial Reporting Act (FRA) under which Financial Reporting Council (FRC) would be enacted and established to oversight the Accountancy Profession of Bangladesh. Regulators like central bank, Securities and Exchange Commission, stock exchanges, bankers association, FBCCI, MCCI, DCCI and other trade bodies like Association of Listed Companies are supporting the oversight of accountancy profession in line with the developments taken place internationally.

Arguments put forward in favor of Financial Reporting Act and the proposed Financial Reporting Council under the proposed act is that the ICAB and ICMAB are operated through elected body voted by the members. This is a conflicting situation as compared to the separation of management from the owners in public companies. In the corporate world there is a line of separation from management and the Board. However, the accountancy profession of Bangladesh is operated by the elected body and management is not separated. The council members seek votes from the members and after election they rule them. Those who voted against the elected members suffer in the hands of the winning council members, like the members of stock exchange in pre-demutualization era. In the Stock Exchanges, elected members used to sit at committees like, listing, surveillance, Board, and doing brokerage and working as IPO managers, including consulting on valuation of IPO of listed companies. The ICAB council members sit at committees like Executive Committee, Examination Committee, disciplinary, ethics and independence, and award committee on evaluation of financial reports. There is widespread criticism on the state of transparency, governance, and accountability of the Institute of Chartered Accountants of Bangladesh and practicing accounting firms. History provides ample evidence that when regulatory institutions run by elected body cannot perform efficiently and miserably fail in dealing with conflicting situation and right handling with the independence and maintain professional ethics, it ultimately leads to moral hazards. At the end of the day those who are engaged in such profession become greedy and do anything they wish to do.

There exists evidence that large number of partners of public accounting firms is engaged actively in the ownership of Brokerage Companies in the Stock Exchanges, conduct tax practice in the prevailing corrupt environment of revenue department of Bangladesh. Many practicing partners in public accounting served as Board members of the clients and used their transport logistics. In case of foreign clients they use international travel facilities and other logistics, including the local clients.

Taking disciplinary action against those who are involved in violation of code of ethics, principles of independence, certification of false financials (one for bank, one for tax and regulators and other unprofessional actions) is not politically feasible by the elected council (vote seekers). Consequently, like other institutions, ICAB as a professional body has failed to establish regulatory norms within its members. Most of the practicing members are involved in share business which is restricted in other market economy countries as they are treated as insider having access to   confidential and price sensitive information. In the recent time many CA firms as auditors have merchant bank and member of brokerage firm which is their important window of revenue. These are few of the justifications for establishing an oversight institution over the public accounting profession.

There is a competitive bidding who becomes the Chairman of Award for Best Financial Reporting Evaluation Committee on annual basis. There is a rumor that in the market listed companies remain busy to appease the Chairman and Committee members of ICAB and ICMAB. Listed companies perceive that with high marking market value of their share will increase. Critics argue that this is unethical and market sensitive. Partners of public accounting firms lobby to enter in this committee to help their audit client getting higher score. In the context of price sensitive information the BSEC need to interfere against all these unethical activities that can adversely affect the general investors of Bangladesh.

Big international public accounting firms Deloitte, Ernst & Young, KPMG, PWC and Stephen Moore started creating liaison with Bangladeshi public accounting firms in different nomenclature followed in line with their own culture. However, out of the current big four, only KPMG has their member firm in Bangladesh with 3 partners and other 3 do not have their relationship with Bangladesh local firms. In the recent time Grant Thronton and BDO is known to establish their practice with the Bangladeshi local firms.

All these informations on the current state of public accounting profession justify the creation of an independent authority to have oversight for establishing transparency to promote generation of reliable financial report.

Section VII: Summary and Recommendations

This paper deals with public accountancy (audit) profession. It has reviewed the literature on how public accountancy has emerged as a highly prestigious profession and positioned itself as one of the critical components of market economy. As a self regulatory body of public accountancy profession it has gained social respect being respectful and compliant to their own prescribed code of ethics, independence and by gaining professional skill and competence. Public accountancy has played its role differently compared to Government Accounting, education accountancy, and non-Government accountancy. Governments provided legal and institutional support for creation of professional accountancy bodies through rules and acts with economic growth under different development models. Public accountancy profession has played a crucial role in establishing oversight by reporting to stakeholders, which is very significant for the investors.

The paper has presented a chronology on the state of oversight on the public accounting profession. Initially, the oversight of audit firms was self regulatory meaning that the institutes used to regulate their Public Accounting Practicing firms based on certain principles like Stock Exchanges in pre-demutualization period. In the post II world war period USA became the engine of capitalist development and Public Accounting profession positioned as the critical component of market economy. Listed companies, public entities, banks and financial institutions and other components of financial, capital and bond markets are certified by the public accountants. Literature review reveals how public accountancy emerged as a highly prestigious profession and played a crucial role in establishing oversight by reporting to stakeholders, which is very significant for the investors. Summary of this paper is documented in the following.

1. **Failure of Public Accounting Profession**: Public accounting profession requires due diligence with regards to ethics, independence, and dealing with conflicts of interest, but due to personal greed and lack of core professional competence it has failed to protect public interest. Consequently, social confidence and public perception regarding their integrity decreased. After every incidence of share market crash, economic recession, financial scandals, the public accountancy came under scrutiny. These events put a black mark on the self regulatory right of the profession. The era of self regulation started getting reduced and oversight on the public accounting profession got upper hand.

2. **Whistle blow from the USA**: The USA being the engine of capitalist development after World War II, took the lead on the oversight of public accountancy profession compared to their English counterpart, which once was considered as the nucleus of public accounting profession. The Securities and Exchange Commission (SEC), Senate Committee, Politicians & Policy

makers, Public interest groups raised their concern and started chalking out regulation for oversight of public accountancy profession. Rules and procedures were developed for compliance to deal with the accounting and auditing standard setting, principles of corporate governance, ethics and independence, conflict of interest, separation of statutory audit service from consulting services on tax, human resources, ICT and other areas. The public accounting profession gradually lost its image and prestige.

3. **Role of Big Accounting Firms**: The big public accounting firms started influencing major government policy decision, including framing laws to serve their interest just like syndicate in capturing business. They exert influence in Accounting and Auditing Standards, fiscal and commercial codes in favor of their clients jeopardizing public interest. Perception is that public profession as institutional body and firm negotiate with government and policy makers in favor of their clients but not in the public interest. Evidence from Bangladesh company law 1994 can be seen that the big public accounting firms (in disguise) influenced government to keep a provision putting a restriction on change of auditors which protected big accounting firms from losing their big multi-national private companies. This is a violation of constitutional rights of citizens. For example since the creation of KFCO in 1982 the audit firm was not changed as of today. The same also applies to Lever Brothers of Bangladesh. Foreign banks also fall in such category. Still the foreign banks and MNCs use the same technique in a different way. By appointing a dummy auditor they keep their old ally audit firms in different capacity. Critics claim that public accounting firms in Bangladesh could not attract the international firms' affiliation. For experimental basis, few have been associated, but they (PWC, Ernest &Young and Deloitte) left witnessing bitter experience of bad corporate governance within their associate firms regarding disputes on fake partnership deed, partners' involvement in share brokerage business, certification of false financials, keeping the firm within family limit to keep fake financials of the firm etc.

4. **Accounting Scandals**: Series of accounting scandals took place in different parts of the world, including Bangladesh. These scandals resulted in huge loss to the economy and led to the recession. Issuing of false financials with underground support of public accounting firms, the record of Bangladesh is proven more black after the share market crash (2010), and Banking Scams. Politicians and other policy makers became alert after each scandal and shocks routed from excessive greed and growth at any cost syndrome, increasing trend in violation of self regulatory code of conduct spread among public accounting firms. Allegation began to surface that fierce competition among firms for clients became more intense and vicious. For winning client,

Bangladeshi firms started paying bribe to the clients to win audit assignments at higher figure than professional service fees.

5. **Taking over of standard setting to independent body**: In the public interest, the policy makers took initiative for oversight of public accounting profession from principle based to rule based by creating independent regulator like public oversight Board in USA. The standard setting process was taken over by separate independent body to monitor the public accounting practitioner.

6. **Professional accounting bodies under Gun**: Reform of the professional accounting bodies took place under gun from the regulators of market and the USA took the lead. Attack on Congress and public representative became more and more fierce in case of more accounting scandals and audit failures.

7. **Conflict of interest and separation of statutory audit and other professional services** : Restrictions are imposed on the public accounting firms with regard to statutory audit tax, consulting, system design, ICT, Human Resources and any other consulting services, employment of relatives and former employees of the auditor firm in the client companies. The SOX has sharpened this separation to get rid of the conflicting situation. The SOX requires the auditor of subsidiary companies outside USA to enlist in the Stock exchange in the jurisdiction where the parent company is located. For example, auditor of Bangladesh subsidiary of a foreign parent company listed in the US stock exchange needs to meet the eligibility criterion of PCAOB prescribed rules of that stock exchange.

8. **Impact of SOX on the public accounting profession**:. SOX and PCAOB have changed the land scape of public account profession. Conflicts of interest, partner rotation, employment of relatives, separation of audit consulting and taxation services including any other consulting services have been prohibited starting from USA. All other market economy countries have followed and others are set to follow the process of creation of oversight bodies to oversee and control professional accounting bodies solely run by the elected council members. The public accounting firms earlier considered the watch dog on management of publicly listed and public interest entities from the stakeholder side and the Government are now surveillance by another watch dog in different name in different countries. The self regulatory regime of public accounting profession is shifted to oversight bodies under the defined professional code of conduct, conflict of interest regulation, firewall between audit and non-audit services. In accepting audit assignments the audit firm partners are to be careful whether they have any share

holding in such client. In case of bank audit the auditor cannot be a borrower of that bank, auditor cannot be a director of stock brokerage firm, merchant bank including his family members and partners. Like the BSEC, central bank, insurance regulator, BTRC and other regulator including Proposed Financial Reporting Council in Bangladesh shall do surveillance on the ICAB and ICMAB like other country practice.

9.   **Legal challenge of creating oversight body**: In many countries creation of watch dog for the watch dogs was challenged in the court by the public accounting firms which was denied by the highest court of the country. For example, Free Enterprise Foundation challenged the formation of Public Accounting Oversight Board in the USA but the Supreme Court awarded verdict against this challenge. This rejection by the Supreme Court has become a demoralizing case reference to countries where public accounting firms were preparing for legal action against the proposed oversight bodies to oversight public accounting profession.

10.   **Updates on institutionalization of oversight bodies**: Obviously, USA took the lead in post Enron collapse and demise of Arthur Anderson, one of the mighty big five. After enactment of SOX and establishment of PCAOB which is now doing surveillance on the public accounting firms and profession in parallel to Securities and Exchange Commission, most of the West European Countries including Scandinavian countries made quick response to such change. The Mediterranean and European countries also responded to the establishment of oversight body for watching watch dogs of public accounting profession. In South Asian region, Bangladesh is going to be the first country to respond to the call for watching the watch dogs of public accounting profession. This is going to happen (although late) by accepting the draft bill on Financial Reporting Act and establishing the Financial Reporting Council.

Recommendations:

1.   **Implementation of Financial Reporting Act and Financial Reporting Council**: Government of Bangladesh should form a task force stipulating time limit to make rules and regulation i.e. Standard Operating Procedure and rules of business to function and activate Financial Reporting Act and Financial Reporting Council without any further delay to stop harmful routes damaging for operation of efficient financial and capital market.

2.   **No objection on auditor appointment**: BSEC, Central Bank and relevant regulators before issuing no objection certificates to the appointment of public accounting firms as auditors mandatorily take a declaration in appro-

priate form that partner of audit firm (or his close relative as defined by central bank in case of bank director) his shareholding in the listed entities, borrowings, directorship (sponsor or nominated). Original copy of the partnership deed of the firm certified by the ICAB needs to be submitted.

3. **Separate auditor for Statutory, Branch and Incentive Audit**: In case of Bank audit, statutory auditors should not be allowed to audit the Export Incentives Audit. Appoint separate auditor to audit bank branches. Specific Terms of Reference for Statutory Audit and Export Incentive Audit need to be drawn recommended by the audit committee, approved by the Board and then forwarded to the central bank for information.

4. **Standard Methodology for Evaluation of Public Accounting Firms**: Central Bank, BSEC and other regulators must work out methodology for evaluating the institutional, intellectual, ICT and logistical capacity of public accounting firms counting also audit failures on yearly basis to determine who can handle what volume of clients. Currently central bank has a three year term while SEC and other regulators do not have such practice. The partnership deed (registered with RJSC) of public accounting firms is like that of memorandum and articles of association of public and private limited companies should be submitted to the Bangladesh Bank for scrutiny by the bank for transparency. This would give indication as to who can do what.

5. **Signing the Audit Report**: Critics argue that currently audit report is signed in the name of firms which is ridiculous and not acceptable and creates confusion in terms of legality. There is ample scope for forgery of signature. There is a requirement that the signing partner must put his name below which is not followed in most reports. To have a check on this kind of forgery the ICAB on issuing of practicing license to a public accountant should preserve specimen signature card mandatorily like banks keeping their customers specimen signature. The regulators should also maintain specimen signature of public accounting firms' specimen signature to stop forgery in audit report signing. There are many instances that audit reports are signed by the manager, articled students which clients can not detect. However, as per mandate, the audit report can only be signed by a partner.

6. **Limit on Bank audit and listed entity**: Critics argue that there should be maximum limit for audit of complex and economically sensitive clients like Banks, FIs, and listed companies in a particular year. There is, say, a public accounting firm that accepts assignment beyond its capacity and at end it cannot deliver the reliable and quality service because less/inexperienced staff. The central bank, BSEC and other regulators can establish monitoring process over the issue to reduce the possible scam. Critics also argue that

currently more than 90% of the listed companies are audited by those public accounting firms who do not possess the institutional capacity.

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The Banking Sector of Bangladesh:
A General Discussion on Ten Years' Achievement.

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Abstract: *This paper examines the extent of achievements accomplished by the banking sector of Bangladesh during the past ten years (2003 onwards) in terms of profitability, earnings efficiency, cost efficiency etc. One important indicator of financial stability and soundness is the share of non-performing loans (NPL). In addition to these indicators, the paper adopts relevant indicators to estimate the overall soundness of the banking sector. The banking sector of Bangladesh has witnessed significant changes over the last decade, particularly in the areas of financial inclusion and e-banking. The study finds that, after deregulation and libaralisation the concentration has declined which resulted in enhancing competition. The share of private and foreign banks in banking asset, deposit and credit has gone up. The profitability of all groups of banks except DFIs recorded uptrend. However, foreign banks are outperforming all other banks in maintaining profitability. Diversification of banking operation has reduced the weight on the traditional sources of income of the banking sector, from reliance on interest income to emphasis on fee based income. The paper concludes that creating an enabling environment for a rational spread rate, introducing tailored products on both asset and liability front and ensuring proper management of NPLs alongwith accuracy in risk management devices may further improve the current financial stability of the banking system.*

JEL Classification: *E52, G21*

Keywords: *Banking sector, reforms, non-performing loans, profitability.*

1. Introduction

In economies where capital and debt markets are as yet undeveloped, the principal conduit for economy-wide investment and saving is the banking system. The efficiency of banks is an indicator of the efficiency of financial intermediation. A

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well-functioning banking system efficiently mobilizes resources and allocates capital for productive investment projects. Voluminous studies have established that financial instruments, markets, and institutions together lessen the effects of information problems on lending and transaction costs. Additionally, "information asymmetry" problem remains severe in developing economies and this information asymmetry problem reduces the depth of the capital market (Allen et al., 2000). Developing economies also suffer from a shortage of supporting institutions such as venture capitalists, security houses, rating companies, and asset management bodies which are in fact preconditions for accepting the Anglo-Saxon system (King & Levine, 1993; Rajan and Zingles, 1998).

Just after the liberation war, the whole banking system of Bangladesh (excepting 3 foreign banks with 14 branches) was restructured and nationalized. "The logic of bank nationalization lay in the need to build a democratic banking system built on principles of social justice. The system was designed to serve a much broader constituency of borrowers, small farmers, rural and small entrepreneurs, new medium sized entrepreneurs as well as the nationalized industries largely based on the major private industries abandoned by their non-Bangali owners" (Sobhan 2000)

The evolution of Bangladesh banking sector in the post liberation period till today can be divided into four distinct phases. The first phase[1] 1982-1989 initiated privatisation, which allowed banks to operate in a competitive environment. The second phase[2] of reforms was launched in 1990 and ended in 1995. This phase worked on imposing financial discipline in the shortrun and making the financial institutions operate increasingly on the basis of market forces and achieving operational efficiency and financial deepening in the long run. The third phase[3] during the

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[1] **Phase I: Ownership Reform:** Period 1982- 89. This phase was dedicated to Restructuring for denationalization of nationalized banks and allowing the operation of the private commercial banks with the purpose of bringing competition and operational efficiency of the banks.

[2] **Phase II:** Financial Sector Reform Project (FSRP 1990-95): The reform measures under this project were freedom in fixing deposit and lending rates and making them flexible according to market forces, strengthening of criteria/procedure for loan classification and provisioning, greater autonomy or self regulation by banks and non bank financial institutions, improvement of capital positions of NCBs and PCBs, replacement of refinance facilities with a single discount window, rationalization of branch network, strengthening of Bangladesh Bank's role in the field of supervision of banks, protection of banks from shouldering the cost of subsidized loan and transferring the cost to the government, adoption of indirect and market oriented monetary policy instruments, strengthening the operation of NCBs and PCBs ensuring enabling legal environment by enacting the Bank Companies Act, 1991, opening of current account, making taka convertible and computerization of bank etc. These reform measures aimed at imposing financial discipline in the shortrun and making the financial institutions operate increasingly on the basis of market forces and achieving operational efficiency and financial deepening in the long run (Choudhuri et al., 1995)

[3] **Phase III:** BRC/CBRP 1996-2002: The reform measures in this phase broadly included supervisory and regulatory restructuring, reforms of Bangladesh Bank, reforms of NCBs and restructuring the legal framework related to finance and banking.

period 1996-2002 covered supervisory and regulatory restructuring. Finally, in the 4th phase (2002 onward) the reform initiatives were made to improve legal aspects, corporate governance, corporatization of nationalised commercial banks (NCBs), risk management, financial inclusion, e-banking etc.

The various banking reform programmes resulted in significant improvements in quantitative as well as qualitative dimensions of Bangladesh financial system. A significant number of banks and other financial institutions with variegated types of financial instruments emerged. The institutional network and volume of operations of the financial system expanded and were diversified, with the number of scheduled banks going up from 11 in 1980 to 56 in 2013.

Underscoring the importance of the banking sector, several banking sector specific reforms as a part of financial reforms were introduced to improve the performance of the banking sector of Bangladesh and to make the banks more competent and efficient. Against this backdrop, the present paper intends to study the achievements accomplished by the banking sector of Bangladesh during the past ten years (2003 onwards) in terms of profitability, earnings efficiency, cost efficiency, etc. In addition to these indicators, the paper adopts relevant indicators to estimate the overall soundness of the banking sector. Keeping this background in mind, this paper aims at addressing the following research questions:

1. *To view different aspects of reforms undertaken in the 4th phase (2002 onwards) and*
2. *To find out   the achievements of the reforms on the performance of banking sector of Bangladesh during the past ten years (2003 onwards).*

In order to answer these questions the study proceeds as follows. Section 2 describes research methodologies. Section 3 discusses reform measures undertaken in the 4th phase of reforms. Section 4 records past ten years' achievements of reforms. Section 5 concludes.

2. Research Methodology

The study uses secondary information. Publications of both printed and electronic sources of different banks, Bangladesh Bank, Ministry of Finance, different organs of the Govt., International agencies like IMF, World Bank, BIS, and Asian Development Bank have been used as data sources.

The achievements accomplished by the banking sector of Bangladesh during the past ten years (2003 onwards) in terms of profitability, earnings efficiency, cost efficiency, etc. have been assessed. In this regard, simple accounting techniques, descriptive statistics and relevant parametric tests have been used.

3. Reform measures undertaken in the 4th phase of reforms (2002 and beyond)

The 4th phase, which began at 2002, was a multifaceted one. In terms of several indicators like financial deepening, accounting and auditing standards, risk management, compliance of Basel II, e-banking, modernization and automation, The banking sector of Bangladesh is still lagging behind in comparison with many emerging economies. In a globalized and competitive environment, The banking sector of Bangladesh must follow more effectively the accepted international norms and standards. With these views in mind, the focus in the fourth phase (2000 and beyond) was on further strengthening the prudential norms in line with international best practices, improving credit delivery, strengthening corporate governance practices, promoting financial inclusion, rapid technology adoption and improving the customer service. The experience of banks facing asset-liability mismatches in the South East Asian countries during 1997 underlined the need for putting in place sound asset liability management (ALM) practices. The ALM framework was, therefore, complemented with guidelines on risk management. One of the significant achievements of this phase was the introduction of comprehensive policy framework of ownership and governance in private sector banks to ensure that (i) ultimate ownership and control was well diversified; (ii) directors and CEO and the important shareholders were 'fit and proper' and observed sound corporate governance principles; (iii) (iv) policy and processes were transparent and fair. The current phase also attempted to improve legal aspects, corporate governance, loan recovery, exchange and interest rates management, corporatization of nationalized commercial banks (NCBs), risk management and efficiency of the Bangladesh Bank with the objectives to strengthen the legal framework of the financial sector, bring dynamism therein, extend autonomy to the central bank, combat money-laundering offences and obtain decrees and executions against defaulters of loans. Better disclosure and transparency standards have been introduced; fit and proper tests have been prescribed for bank directors, chief executives and advisors; restrictions have been imposed on the composition of the membership of the board of directors; the roles and functions of the board and management were clarified and redefined. The capacities of the Bangladesh Bank (BB) to supervise and regulate banks effectively, monitor non-performing loans, and enforce actions against banks violating regulations and laws have been strengthened. Audit Committees were mandated for all banks with clear guidelines and terms of references (TOR) and Early Warning System (EWS) was introduced. To strengthen the banking operation, minimum capital requirement was raised from Tk. 400 million to Tk. 1000 million and the requirement on risk-weighted basis was also increased.

In order to reform and build up a banking system of international standard and to strengthen, fortify and reinforce the overall banking system of the country, following reform initiatives have been taken during the past ten years (See Box 1).

Box 1: Selected Current Reforms in the Banking Sector

- Central Bank Strengthening Project (CBSP) with the financial assistance of the International Development Agency (IDA).(Strengthening the Legal Framework, Reorganization and Modernization, Capacity Building)
- Formation of Audit Committee by individual banks to assist the Board in fulfilling its oversight responsibilities.
- Provision for appointing two independent directors representing the depositors' interest.
- Measures to strengthen risk management through recognition of different components of risk, assignment of risk-weights to various asset classes.
- Several provisions of the three important Acts relating to Banking, viz. the Bangladesh Bank Order, 1972, the Bank Company Act, 1991 and the Banks Nationalization Order, 1972 were amended during the period 2003-2013 with a view to further strengthening the activities of the banking sector, bringing dynamism and extending greater autonomy to the central bank.
- Enactment of the Artha Rin Adalat Ain 2003 to provide mainly for speedy procedures for obtaining decrees and execution. Provision was also made for Alternative Dispute Resolution to ensure early settlement of disputes through settlement conference and negotiations.
- Development of a basic risk management model for selected areas of banking operation.
- Promulgation of "Money Laundering Prevention Act, 2012 repealing Money Laundering Prevention Act, 2009 and Anti Terrorism (Amendment) Act, 2012".
- High priority is accorded to ensure Corporate Governance in Banks.
- Introduction to uniform account opening and KYC profile form for all banks. Besides, the National Payment System Council (NPSC) was reorganized to support the development of sound and efficient payment, clearing and settlement systems, and to serve as a forum for cooperation in domestic and international payment matters.
- Mapping of External Credit Assessment Institutions (ECAIs) rating with the Bangladesh Bank Rating Grade.
- Introduction of New Capital Accord (Basel II) and Risk Based Capital Adequacy (RBCA) for Banks, and preparation to introduce Basel III" .Now, Action plan for Implementation of Basel-III.
- Prudential Guidelines for Consumer Financing and Small Enterprise Financing were issued.
- Marking to Market Based Revaluation of Treasury Bills & Bonds Held by the Banks.
- Introduction of CAMELS supervisory rating system, move towards risk-based supervision, consolidated supervision of financial conglomerates, strengthening of off-site surveillance through control returns.
- Corporatization of nationalised commercial banks (NCBs)
- Stress Testing became mandatory for the Scheduled Banks.
- Single Borrower Exposure Limit.
- Introduction to Corporate Social Responsibility
- Safeguard Policy for the banks on capital market activities.
- Financial Inclusion.
- Green Banking- a new dimension.
- On-line CIB services.
- E-banking.
- Agent Banking Operation.
- Coordinated Supervision Framework.
- The Financial Projections Model (FPM)
- 'Interbank Transaction Matrix'(Liquidity Monitoring Tool)
- MOU was signed with SCBs & DFIs

Source: Banking Regulation & Policy Department, Department of Off-Site Supervision, Bangladesh Bank.

3.1. Strengthening the Regulatory Framework

Banks are exposed to unique risks and challenges. Therefore, the more immediate motivations for banking regulation are the protection of the depositors' interest and maintaining public confidence in the banking system. Banking regulations also aim at building efficiency and resilience of the banking system on the one hand and address the concerns that arise from the functioning of the financial system on the other. Contagion and systemic risk, moral hazard, too big to fail phenomenon, public bailouts of banks are some of the issues that came under sharp scrutiny following the global financial crisis that gyrated in 2008. As such banking regulation assumes critical significance to retain the resilience and soundness of the banking entities and the macro-prudential stability of the financial system as a whole and thereby also prevents volatility and disruptions in the real sector and the overall economy.

Banking regulation can take the form of formalized legislation and statutory provisions, regulatory directions and guidelines, moral suasion, etc. Evolutions in different stages in the banking sector in response to unfolding financial and banking crises influenced substantive regulatory reforms from time to time. As the effectiveness of traditional control based rules diminishes with increasing competition, liberalization, globalization and innovation, ongoing regulatory reform assumes great significance. The recent global financial crisis called for banking sector reforms through new regulatory measures to ensure safety and stability by drawing lessons from other countries. They ought to be consistent with the goals of capital deepening and financial inclusion to spur economic development.

In light of the above, several provisions of the three important Acts relating to banking, viz. the Bangladesh Bank Order 1972, the Bank Company Act 1991 and the Banks (Nationalization) Order 1972 were amended during 2002-2013 with a view to further strengthening the activities of the banking sector, bringing dynamism and extending greater autonomy to the central bank.

Besides, The Artha Rin Adalat Ain 2003 (Money Loan Court Act, 2003) was enacted in March 2003 with a view to streamlining the process of realization of overdue loans and advances by the banks and financial institutions. In order to strengthen the process of recovering defaulted loans, banks, under this Act are now empowered to sell the collaterals without prior approval of the court. Effective application of this Act has started yielding encouraging results.

In recognition of the fact that financial institutions may be particularly vulnerable to being used by money launderers, the Prevention of Money Laundering Act & Anti Terrorism Act, was enacted and amended during the period of 2002-2013. Bangladesh Bank as part of its supervisory process will assess the adequacy of

procedures adopted to counter money laundering and the degree of compliance with such procedures.

3.2. Prudential Regulations

In order to reform and build up a banking system of international standards and to strengthen, fortify and reinforce the overall banking system of the country, several initiatives were taken in 2002 beyond.

3.2.1.   Credit Ratings of the Banks: Earlier, it was made mandatory only for the banks to have themselves credit rated to raise capital from capital market through IPO. With a view to safeguarding the interest of the prospective investors, depositors and creditors and also the bank management as a whole for their overall performances it was made mandatory from January, 2007 for all banks to have themselves credit rated by a Credit Rating Agency. Banks will disclose their credit rating prominently in their published annual and half yearly financial statements.

3.2.2.   Merger/Amalgamation of Banks/Financial Institutions: A detailed guideline for merger/amalgamation of banks and financial institutions has been issued by the Bangladesh Bank. Under the policies, a bank may be merged with another bank or a financial institution with other financial institutions/banks.

3.2.3.   Issue and Purchase of Banking Instruments: Banks have been advised to introduce more effective, transparent and effective internal controlling system to ensure that proper banking norms are meticulously followed by the banks in course of banking transactions related to issues and purchases of the banking Instruments (pay order, TT, DD etc.).

3.2.4. Corporate Governance in Banks: Liquidity and solvency problems caused by poor governance in banks can have harmful systematic consequences in the broader economy reliant on banks for credit and payment services. High priority is therefore accorded to ensure corporate governance in banks, putting in place checks and balances comprising a mix of legal, regulatory and institutional provisions specifying the roles and accountabilities of the board, the executive management, external and internal audit, disclosure and transparency prescriptions.

Corporate governance is a sine-qua-non for a sound financial system in private commercial banks. Good corporate governance can contribute substantially to a shared working environment between banks and its supervisors. It supports not only a well managed banking system but it is also necessary to protect depositors' interest. BB has taken several measures in recent times to put in place good corporate governance in banks. These include regulation limiting the tenure of directors not more than six years at a stretch; reduction in the size of bank boards to a maxi-

mum of thirteen directors; appointment of two independent directors by BB; fit and proper test for appointment of board members and chief executive officers of PCBs; constitution of audit committee of board and enhanced disclosure require-ments, etc. In continuation of the above reforms, the roles and functions of the Board and Management were redefined and clarified with a view to specifying the powers of the management and restricting the intervention of directors in day to day management of the bank.

3.2.5. Capital Adequacy for Banks

3.2.5.1. Implementation of Basel- II

In order to strengthen the capital base of banks as required by Basel-II accord, guidelines for risk-based capital adequacy for banks have been issued, and as per the guidelines, commercial banks will calculate their Minimum Capital Require-ment (MCR) against Credit Risk, Market Risk and Operational Risk. Apart from these three risks, banks will determine their adequate capital against comprehen-sive risk under their Supervisory Review Process (SRP). In addition to guarantee-ing adequate capital through SRP, necessary action has been taken to ensure public disclosure of information about banks' capital structure through market disclosure. In Bangladesh, full implementation of Basel II started from the beginning of 2010 (BB).

3.2.5.2. Stress Testing

Under the new Basel Accords on Banks' Capital Adequacy, the presence of sound stress testing methodologies is a prerequisite for the adoption of the advanced methods for the qualification of minimum capital requirements. In Bangladesh, as a part of pillar-2 adoption, all banks are doing this stress-testing and are reporting their results to Bangladesh Bank regularly. Stress test is a general term covering the techniques and methodologies which financial institutions can employ to measure their vulnerability or exposure to the impacts of exceptional, rare but potentially occurring events. Such events can be interest rate changes, exchange rate fluctuations, changes in credit rating, events which influence liquidity, etc. (BB).

3.2.5.3. Implementation of Basel Accord III

In response to the 2007-2009 global financial crises, the Basel Committee for Banking Supervision (BCBS) provides Basel III (A Global Regulatory Framework for More Resilient Banks and Banking Systems) with the goal of improving the banking sector's ability to absorb shocks arising from financial and economic stress. Basel III is expected to be implemented during 2013-2019 (BCBS, 2010). Basel III introduces several new or enhanced rules, including the introduction of a

new and stricter definition of capital designed to increase quality, consistency and transparency of the capital base and the introduction of a global liquidity standard. Basel III also imposes a new leverage ratio, a supplement to the Basel II framework. Study (QIS) to assess the preparedness of banks for implementing Basel III in Bangladesh.

Following this framework, the Bangladesh Bank has conducted Quantitative Impact

Based on the findings of the last QIS, an Action Plan/Roadmap is finalized for implementing Basel III. Deadline for Basel III implementing process was July, 2014 and initiation of full implementation in January, 2019 (detailed action plan/roadmap is shown in Appendix -5). Under Basel III too in Bangladesh, the minimum capital requirement has been retained at 10% of Risk Weighted Assets as against Basel III requirement of 8%. Leverage Ratio requirement is proposed to be at par with Basel III proposal of 3%. In Bangladesh, the real sector is predominantly dependent on the banking sector for credit needs. Any disruption in provision of credit supply from banks may be catastrophic for the economy. In view of the foregoing, it is desirable to reduce the probability of bank failures by having additional capital. The Basel Committee for Banking Supervision (BCBS) provides flexibility to national regulators to prescribe higher minimum capital requirements. Several other jurisdictions (e.g., Singapore, China, South Africa, Brazil, Australia, etc.) have also prescribed higher capital requirements than 8% of the risk weighted assets. Bangladesh Bank had prescribed higher capital requirements even under Basle II.

However, capital ratio prescription at levels higher than the global standards and additional 'buffer' concept and leverage ratio prescriptions can have constraining effect on the supply of adequate credit from banks to the productive sectors which, in turn, can adversely impact growth to some extent raising questions of trade-off between growth and banking stability. Further, questions have been raised about requiring banks to mobilize additional capital, given the huge capital needs and a lackluster capital market. This compels to take a balanced view about continuing with the additional requirements to ensure banking resilience by having adequate cushion towards identified weaknesses and the practical difficulties the banks face.

3.2.6. Exposure norms

In Bangladesh, our efforts have been to harmonize our guidelines with the international best practices to conform to the same global prudential standards. Stricter group exposure limits would also leave surplus lendable resources with banks which may result in adverse selection. At the same time, high exposures to specific

businesses or business groups impair stability and results in excessive concentration of credit. Thus, while we are aware of the need to reduce the group borrower limit, we have to take a considered view as to what extent and how smoothly this can be brought down going forward without adversely impacting the growth prospects of the economy. BCBS in the Standards published on Supervisory framework for measuring and controlling large exposures' (the BCBS Standards) in April 2014 stipulated that the sum of all the exposure values of a bank to a single counterparty or to a group of connected counterparties must, at all times, not be higher than 25% of the bank's available eligible capital base. As per the Standards, the eligible capital base is also revised to the effective amount of Tier 1 capital only.

3.2.6.1. Single borrower exposure

Individual loans amounting to 15 percent of a bank's capital and reserves is defined as a large loan for that particular bank. The total amount of large loans of a bank is to be kept within a limit prescribed by the central bank depending upon the percentage of the bank's net classified loans. A bank with 0-5 percent classified loans can lend up to 56 percent of total loans in the large loan category. Single borrower exposure has been restricted to 50 percent of bank's capital and reserves subject to a maximum funded loan of 15 percent of capital. Considering power sector development as a government priority, the present guidelines also allow banks to exceed the norm with respect to a single borrower and group borrower, for extension of credit to produce and distribute electricity against the award provided by the Electricity Department or the institutions controlled by the Electricity Department (BB).

3.2.7. Liquidity Standards

During the early "liquidity phase" of the financial crisis that began in 2007, globally many banks faced unprecedented difficulties despite adequate capital levels. The Basel Committee on Banking Supervision (BCBS) recognized that such difficulties were due to lapses in basic principles of liquidity risk management. In response, as the foundation of its liquidity framework, the BCBS in 2008 published Principles for Sound Liquidity Risk Management and Supervision ("Sound Principles"), which provide detailed guidance on the risk management and supervision of funding liquidity risk. To complement these principles, the BCBS further strengthened its liquidity framework by developing two minimum standards for funding liquidity, viz., the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) to achieve two separate but complementary objectives. While the LCR's objective is to promote short-term resilience of a bank's liquidity risk profile by ensuring that it has sufficient high-quality liquid assets to survive a significant stress scenario lasting for one month, the NSFR is aimed at

promoting resilience over a relatively longer time horizon (one year) by creating additional incentives for banks to fund their activities with more stable sources of funding on an ongoing basis.

3.2.7.1. Treatment of the SLR holdings

Following the issue of final standards by BCBS, the BB in its phase-in arrangements for implementing Basel III proposed 'Liquidity Coverage Ratio (LCR), Liquidity Risk Monitoring Tools and LCR Disclosure Standards. The balance sheets of our banks have adequate liquid assets due to the CRR and SLR requirements of 6% and 19%, respectively.

The Statutory Liquidity Ratio (SLR) for the scheduled banks, except banks operating under the Islamic Shariah and the specialized banks, is 19% of their demand and time liabilities, excluding interbank items since December 15, 2010 The SLR for the Islamic banks is 11.5%. The specialized banks excepting erstwhile BASIC bank are exempted from maintaining SLR. The Cash Reserve Requirement (CRR) for the scheduled banks with the Bangladesh Bank is 6.5% of their total demand and time liabilities. It may be noted that banks are required to maintain CRR daily at the rate of 6% on average on bi-weekly basis provided that the CRR would not be less than 5.5% in any day with effect from December 15, 2010 (BB).

3.2.8. Countercyclical Capital Buffer

In the aftermath of the financial crisis in 2008, BCBS *published Guidance for national authorities operating countercyclical capital buffer* (CCCB) to propose a framework for dampening excess cyclicality of minimum regulatory capital requirements with the aim of maintaining the flow of credit from banks to the real sector in economic downturns with the capital accumulated in good times. Moreover, in good times, while the banks will be required to shore up capital, they may be restrained from extending indiscriminate credit. In Bangladesh context, its implementation may have to be well calibrated by recognizing structural changes in the banking system due to financial deepening and the need for separating the structural factors from cyclical factors. Accordingly, it has been envisaged that while the credit-to-GDP gap shall be used for empirical analysis to facilitate CCCB decision, other indicators like Gross Non-Performing Assets' (GNPA) growth, Industrial Outlook Survey, Credit to Deposit Ratio, etc., will also be considered in Bangladesh. CCCB regime will be effective from January, 2016.

3.2.9. Accounting Norms and International Financial Reporting Standards (IFRS) implementation

The bank companies required to disclose more information in their financial statements as per the International Accounting Standards (IAS) from 2003. It is aimed

at providing investors, depositors and other stakeholders with transparent and adequate information about the bank, especially the capital deficit/surplus, steps for recovery of defaulted loans, written off loans, contingent liabilities, etc. Financial statements shall have to be published in the national dailies and disclosed on the banks' websites.

At their summit in London in 2009, the G- 20 leaders called on "the accounting standard setters to work urgently with supervisors and regulators to improve standards on valuation and provisioning and achieve a single set of high-quality global accounting standards". The International Accounting Standards Board (IASB) has now replaced IAS 39 with IFRS 9 with a view to reducing complexity and improving convergence. In order to address implementation issues and facilitate a smoother transition, the BB has set up a Working Group comprising professionals with experience in IFRS implementation, bankers and BB staff engaged in regulation and supervision.

3.2.10. Know Your Customer (KYC), Anti Money Laundering (AML) and Combating Financing of Terrorism (CFT) Standards

The international standards for KYC/AML/ CFT are set by the Financial Action Task Force (FATF) and the Bangladesh Bank issues KYC/AML/CFT guidelines mainly on the lines of FATF recommendations. However, irrespective of the FATF recommendations covering many areas, the Bangladesh Bank issues instructions to banks only if there are enabling provisions in Prevention of Money Laundering Act. Thus, for example, Recommendation 17 of FATF provides for third party verification of KYC, subject to certain conditions.

3.2.11. Corporate Social Responsibility

Corporate social responsibility (CSR) is mainly about the awareness of and actions in support of environmentally sustainable societal development. CSR actions aim at mitigating the diverse environmental impacts of the activities of the business, and at reducing inequalities and alleviating deprivation and poverty in the communities across the country. All banks had undertaken CSR practices which focused on i) financial inclusion of less privileged population segments and underserved economic sectors; ii) emergency relief in humanitarian distresses; iii) promotion of health, education and cultural/recreational activities for advancement and well-being of underprivileged population segments; iv) promotion of environmentally-friendly projects; and v) adoption of energy efficient, carbon footprint-reducing internal processes and practices in own offices and establishments.

Besides CSR initiatives involving direct expenditure, all banks participated actively in promoting SMEs and agricultural financing. PCBs were particularly active in these areas. Banks proceeded ahead on multiple fronts including the

presence of increased rural bank branches for broader, deeper financial inclusion, mobile phone banking, and opening of bank accounts with Taka 10 as initial deposit for farmers/poor/ultra poor and thereby increasing transactions in these bank accounts. BB also directed the banks to include their CSR activities in their Annual Report as a part of fair disclosures. (BB Annual Report-13)

3.2.12. Deposit Insurance Scheme

The Deposit Insurance Scheme (DIS) is designed to minimize or eliminate the risk of loss of funds that the depositors may incur by placing funds with a bank that subsequently fails. The direct rationale for deposit insurance is customer protection. The indirect rationale for deposit insurance is that it reduces the risk of a systemic crisis involving, for example, panic withdrawals of deposits from sound banks and breakdown of the payments system. From a global point of view, deposit insurance provides many benefits and, over the long term, appears to be an essential component of a viable modern banking system. In Bangladesh, DIS was first introduced in August 1984, in terms of "The Bank Deposit Insurance Ordinance 1984". In July 2000, the ordinance was repealed by an Act of parliament called "The Bank Deposit Insurance Act 2000". DIS in Bangladesh is now being administered by the said Act. In accordance with the Act, Bangladesh Bank (BB) is authorized to administer a fund called the Deposit Insurance Trust Fund (DITF). The Board of Directors of BB acts as the Trustee Board for DITF. The DITF is now being administered and managed under the guidance of the Trustee Board. In addition, Bangladesh Bank is a member of the International Association of Deposit Insurers (IADI).

In accordance with "The Bank Deposit Insurance Act 2000," the main functions of DITF are: collecting premium from all scheduled banks on a half-yearly basis (30 June/31 December) and investing the proceeds in Government securities. The income derived from such investments is also credited to the DITF account for further investment. In case of winding up of an insured bank, as per the said Act, BB will pay to every depositor of that bank an amount equal to his/her deposits not exceeding Taka one hundred thousand. To enhance the effectiveness of market discipline, BB has adopted a system of risk based deposit insurance premium rates applicable for all the banks effective from January-June, 2007. Very recently, the premium rate has been increased, effective from January-June, 2013. Along with the scheduled banks, BB has also taken the initiative to bring the FIs under the umbrella of DIS, an initiative which is now under the consideration of the MOF. The effectiveness of DIS in reducing systematic risk would surely increase if the public became well aware of its existence and scope. With this end in mind, BB has already issued a circular regarding public awareness about DIS and more information and updates are available in the Bangladesh Bank website so that the general public can be informed on an ongoing basis about the benefits and capa-

bilities of the DIS (BB Annual Report-13).

3.2.13. Managing Core Risk in Banking

Deregulated regimes along with globalization of business have opened new frontiers that have made risk management an even greater priority. Therefore, managing these risks must be one of the fundamental concerns of the management and the boards of the Banks. This is an attempt of the Bangladesh Bank for risk management.

A concept paper was prepared for the project which identified five core risks areas of banking. The concept paper outlines the various steps/ processes to bring it to successful conclusion. These core risks are:

- Credit risks
- Asset and liability/ Balance sheet Risks
- Foreign Exchange Risks
- Internal control and compliance Risks
- Money Laundering Risks.

3.2.14. Prudential Guidelines for Consumer Financing and Small Enterprise Financing

With a view to facilitating more credit towards consumers and better customer service a guideline named "Prudential Guidelines for Consumer Financing" was issued in 2006. Since small and medium industries can make important contributions to growth, employment and poverty alleviation, for establishing such type of industries, a guideline named "Prudential Guidelines for Small Enterprise Financing" was also issued by the Bangladesh Bank in the reporting year. To encourage (i) Housing Finance and (ii) Loans for Professionals to set up business, provisioning for these two sub-sectors under Consumer Financing was lowered from 5 percent to 2 percent in 2006. And in case of Small Enterprise Financing also, banks were advised to maintain 2 percent general provision instead of 5 percent against unclassified loan amount.

3.2.15. Marking to Market Based Revaluation of Treasury Bills & Bonds Held by the Banks

With a view to widening the application of fair value accounting of Government Securities and encourage secondary trading of these securities after issuance, some changes were made in the note no. 4 (kha) of the first schedule of section 38 of the Bank Companies Act, 1991. As per the instructions stipulated, the securities held for the fulfillment of Statutory Liquidity Requirement (SLR) by a banking company, would be treated as Held to Maturity (HTM). The gain/loss due to the

revaluation would be taken to Capital Account and disclosed in the 'Statement of Changes in Capital'. And Government treasury bills and bonds held in excess of SLR would be treated as Held for Trading (HFT). The portion of securities Held for Trading should be revaluated at least on weekly basis based on marking to market or at current market prices.

The banking company would show the gain/loss due to this revaluation in the Profit and Loss Account of the concerned period. The weekly revaluation based on marking to market for the portion of securities held for trading by the banks was made compulsory since 1 February, 2006.

3.2.16. Financial Inclusion

Financial Inclusion is defined as the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low-income groups in particular at an affordable cost in a fair and transparent manner by mainstream institutional players.

Financial Inclusion is at the centre stage of international policy discourse under the G-20 umbrella. More than fifty countries have set formal targets and goals of Financial Inclusion.

Bangladesh has accorded high priority to Financial Inclusion. Furthering the pace of financial inclusion is a mission through a combination of strategies ranging from relaxation of regulatory guidelines, provision of new products and supportive measures to achieve sustainable and scalable financial inclusion.

Although financial services are available to poor people, they are compelled to pay four times the price usually paid for them because they are not linked to formal financial system and have to rely on unreliable informal sector providers. Bangla-deshBank has since the last decade addressed these asymmetries through macro policy interventions:

3.2.16.1. Opening of Account by Depositing Tk. 10-50. Bank account can be opened by depositing Tk. 10/ to Tk.50/ by farmers, unemployed youth, hardcore poor, physically handicapped people, Freedom Fighters, beneficiaries under Social Security Program, and distressed people, etc.

3.2.16.2. School banking

To build the habit of saving among the youngsters, the Bangladesh Bank (BB) introduced the 'school banking' program for financial inclusion in November, 2010 and issued a guideline in 2013 to provide students with necessary banking services.

3.2.16.3 Mobile banking facilitates

Bangladesh has been gradually moving towards branchless banking, referred to as 'mobile financial services' (MFS), which, since 2011, has been providing easy access to formal financial services.

3.2.16.4. Relaxed Know Your Customer (KYC) requirements

To facilitate easy access to bank accounts, Know Your Customer (KYC) require-ments have been simplified to such an extent that small accounts can be opened with self-certification in the presence of bank officials.

3.2.16.5. Agent Banking

Agent Banking Guidelines have been framed by the Bangladesh Bank to permit banks to be engaged in agent banking.

Agent banking means providing limited scale banking and financial services to the underserved population through engaged agents under a valid agency agreement, rather than a teller/ cashier. It is the owner of an outlet that conducts banking trans-actions on behalf of a bank. Globally, these retailers are being increasingly utilized as important distribution channels for financial inclusion. The Bangladesh Bank has also decided to promote this complementary channel to reach the poor segment of the society as well as existing bank customer with a range of financial services specially to geographically dispersed locations. Banks will accord much emphasis on the rural area to cover a lion share of the target group. At the same time, they will not ignore the rest of the target group by limiting concentrating on the urban area. Thus, the opening of outlets by agent banking in service areas has to be designed by the following criteria:

The ratio of the number of sub-agents/outlets of a bank will be 2:1 for rural and urban areas. This means a bank must have at least 2 rural agent banking outlets to have 1 urban agent banking outlet.

3.2.16.6. Financial inclusion plan and its performance evaluation

A large number of small bank accounts have been opened (Table-1). However, it has been observed that the accounts opened have not seen substantial operations in terms of transactions. In order to continue with the process of ensuring meaningful access to banking services to the excluded, the focus should now be more on the volume of transactions in the large number of accounts opened. A brief of the performance of banks under FIP up to December-2013 appears in Table 1.

Table-1: Financial Inclusion plan and its performance evaluation. (up to December-2013)

Name of the Account	Total No.of A/Cs	Amount
a) Bank Account for Farmers (with initial deposit of Tk.10/- at any SCBS & SPBS)	96,75,313	
b) Bank account for Beneficiaries under social security program (with initial deposit of Tk.10/- at any SCBS & SPBS)	30,07,346	
c) Bank account for Freedom fighter's (with initial deposit of Tk.10/- at any SCBS & SPBS)	1,38,998	
d) Bank account for small life insurance policy holders (with initial deposit of Tk.10/- at any SCBS & SPBS)	12,945	
e) Bank account for hardcore poor women, labor & Aila affected people (with initial deposit of Tk.10/- at any SCBS & SPBS)	10,10,532	
Total:	1,38,45,134 A/Cs	
f) School Banking (46 banks already initiated school banking program)	2,86,544	Deposit balance: 304.65 core
g) Mobile Financial Service (No. of Banks permitted-28)	(1).Registered Customers:1,31,80,000 (2). Agent: 1,88,647	Transaction: 6.64 Billion Taka
h) Green Banking a new dimension (26 Banks & NBFIS participation contact with BB)	Refinance Scheme	Refinance Facility: 74.83 core

Source: i) Economic Review, Chapter-5, MOF-2014. ii) Bangladesh Bank [Compilation]

3.2.16.7. Financial Literacy

Financial Literacy is an important adjunct for promoting financial inclusion, consumer protection and ultimately financial stability. In this direction, the Bangladesh Bank has initiated 'Financial Literacy Project' with the help of 'Department for International Development (DFID)'of UK to elevate financial literacy through awareness drives to make people understand the benefits of linking with the formal banking system.

3.2.17. Technological Advancement

Technology has brought a complete paradigm shift in the functioning of banks and

delivery of banking services. Over the last three decades, the role of banking in the process of financial intermediation has been undergoing a profound transformation owing to changes in the global financial system. The banking system of Bangladesh has seen some major financial innovations in the past decade as well as steps to promote financial inclusion. The various innovations in banking sector are Automated Clearing House System (ACHS), Electronic Fund Transfer (EFT), Real Time Gross Settlement (RTGS) for ensuring the fastest payment and settlement system, On-line, SWIFT, ATM and POST Network, Online CIB, Call Center, Retail Banking, Debit & Credit Cards, payments of utility bills, fund transfers, internet banking, telephone banking, mobile banking, introducing MICR cheques, traveler's cheques and many more value-added services. The major impetus for financial innovation has been globalization of financial systems, deregulation, and great advances in technologies. In increasingly integrated financial systems facing higher volatilities, more competition and wide varieties of risks, financial innovation has become an essence to provide new products and strategies to better suit different circumstances of time and market and to meet different requirements of participants in financial system. Banks boost technology investment spending strongly to address revenue, cost and competitiveness concerns.

3.2.17.1. Guideline on ICT for Scheduled Banks

In recent years, the banking industry has undergone massive changes in providing service to their customers by using information technology. So, it is important to ensure security in IT setup as well as in IT operations, and banks must take adequate measures to prevent the information from unauthorized access, modification, disclosure and destruction so that customers' interest is fully protected. To address this sensitive issue, the Bangladesh Bank issued guidelines for banks for establishing an effective IT security framework. Banks are had been advised to follow the Guideline in their IT area and implement all the security standards by 15th May, 2006.

Besides, the Bangladesh Bank introduced the Integrated Supervision System (ISS) through launching software in October 2013, aiming to facilitate quicker financial analysis of all aspects of banking activity, but especially to lower the risk of fraud and forgery in the country's banking sector.

3.2.18. Other Developments in the Financial System during 2013

The following initiatives were taken in the financial system of Bangladesh during 2013:

3.2.18.1. Coordinated Supervision Framework

The Bangladesh Bank took an initiative to develop a 'Coordinated Supervision Framework' for maintaining financial stability, considering the individual roles of regulators without creating any conflicts over polices adopted by the individual regulators . A high-powered coordination council was formed under a memorandum of understanding (MOU) with the institutions mandated for financial sector regulation in Bangladesh in 2012, under the stewardship of the Governor of the Bangladesh Bank. In this regard, a working committee, comprising the officials from Bangladesh Bank, Bangladesh Securities and Exchange Commission, Insurance Development and Regulatory Authority, Microcredit Regulatory Authority and Registrar of Joint Stock Companies and Firms, was formed. The working committee was obliged to finalize a concept paper with the approval of the coordination council by 2014 and subsequent consideration of the Ministry of Finance for adoption of the framework by the financial system. Officials of the aforementioned regulatory bodies would be members of the coordination committee and a fresh memorandum of understanding on formation of the committee would be signed by the five regulators (Financial Stability Report 2013, BB).

3.2.18.2. Financial Projections Model

The Financial Projections Model (FPM) is a multi-purpose analytical tool which has been developed in collaboration with the World Bank and is directed to the banks to identify potential/contingent risks inherent in the financial system as well as to ensure the soundness of the entire system.

The FPM is fully customized to reflect the existing prudential, regulatory and accounting practices in the financial sector of Bangladesh. It is, therefore, ready for integration into the supervisory process of the Bangladesh Bank as a tool and was introduced in the banking system from early 2014 to: (i) assess the strengths and weaknesses of individual banks in the system based on hypothetical scenarios; (ii) perform comprehensive scenario analyses to identify risks; and (iii) improve BB's risk assessment capacity for individual banks. (Financial Stability Report 2013, BB)

3.2.18.3. Interbank Transaction Matrix

With a view to assessing the risk arising from the liquidity interdependence and placements among the institutions in the banking system, the Bangladesh Bank introduced a liquidity monitoring tool known as the 'Interbank Transaction Matrix' covering all the banks and NBFIs. It is helping to analyze and review the interbank transactions regularly to detect the risks arising from the interconnectedness among banks and non-bank financial institutions. Identifying highly interconnected institutions has since become one of the key objectives of systemic risk

assessment and a necessary prerequisite for developing a well-organized macro prudential supervision framework.

This matrix, indeed, will help in finding such institutions and give early warning signals for safeguarding the financial institutions as well as the system from liquidity stresses arising from other financial institutions and the interbank market, by applying techniques from network economics. The ultimate goal of this matrix is to focus on the liquidity management of the whole banking sector. Thus, this matrix will help the Bangladesh Bank to focus its liquidity monitoring attention on both the individual financial institutions and the system as a whole towards establishing a more stable and resilient financial system in Bangladesh. (Financial Stability Report 2013, BB)

4. Ten Years' Achievements of Reforms

4.1 Banking Sector Performance

The banking sector of Bangladesh comprises four categories of scheduled banks. Table-2 shows that as of 2013 (June) there were 4 (four) state-owned commercial banks (SCBs), 4 (four) state-owned development financial institutions (DFIs), 38 (thirty eight) private commercial banks (PCBs) and 9 (nine) foreign commercial banks (FCBs). (Group wise Banks and Bank Branches Expansion over the period 2003-2013 can be seen in table-2).The number of banks remained unchanged at 47 during the period from 2010-2012. At the end- June 2013, the total number of banks increased to 55 due to opening of new PCBs during the year. The number of bank branches increased from 6253 to 8427 during the period from 2003- 2013 mainly owing to opening of new branches by the PCBs during the year.

4.1.1. Banking system structure

The structure of the banking sector with breakdown by type of banks is shown in table-2 .In 2013, the SCBs held 26.75 percent of the total industry assets as against 41.7 percent in 2003. PCBs' remarkably share rose to 61.49 percent in 2013 as against 40.8 percent in 2003. The FCBs held 6.13 percent of the industry assets in 2013, which was 7.3 percent in2003. The DFIs' share of assets declined from 10.2 percent to 5.63 percent during the stated period.

Total deposits of the banks in 2013 rose to Taka 5692.84 billion from Taka 1140.3 billion in 2003. The SCBs' (comprising the largest 4 banks) share in deposits declined from 46.0 percent in 2003 to 26.75 percent in 2013. On the other hand, PCBs' deposits sharply increased in 2013 amounted to Taka 3551.17 billion or 62.38 percent of the total industry deposit against Taka 468.2 billion or 41.1 percent in 2003. FCBs' deposits in 2013 rose to Taka 316.95 billion or 5.57 percent of the total industry deposit against Taka 84.5billion or 7.4 percent in 2003. The

DFIs' deposits in 2013 were Taka 301.84 billion or 5.30 percent of the total industry deposit against Taka 62.6 billion or 5.5 percent of the total industry deposit in 2003.

The sector-wise classification of advances over the years 2003-2013 is shown in Appendix-1. As observed, advances by the private banking sector increased over the years. The public/private ratio over the years revealed a declining trend, which indicates positive development in the private banking sector.

Table-2: Movement of Banking Variables: Branch Expansion, Asset Position and Deposit Mobilization

(Billion Taka)

Bank types	2003						2004					
	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits
SCBs	4	3397	631.6	41.7	525.0	46.0	4	3388	683.7	39.6	567.5	42.8
DFIs	5	1314	154.5	10.2	62.6	5.5	5	1328	167.9	9.7	75.1	5.7
PCBs	30	1510	617.8	40.8	468.2	41.1	30	1550	749.3	43.5	588.0	44.3
FCBs	10	32	110.1	7.3	84.5	7.4	10	37	124.6	7.2	95.5	7.2
Total	**49**	**6253**	**1514.0**	**100.0**	**1140.3**	**100.0**	**49**	**6303**	**1725.5**	**100.0**	**1326.1**	**100.0**

Contd. Table-2

Bank types	2005						2006					
	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits
SCBs	4	3386	763.1	37.4	621.3	40.0	4	3384	786.7	32.7	654.1	35.2
DFIs	5	1340	197.2	9.7	89.5	5.8	5	1354	187.2	7.8	100.2	5.4
PCBs	30	1635	934.3	45.6	731.3	47.0	30	1776	1147.8	47.7	955.5	51.3
FCBs	09	41	148.2	7.3	112.6	7.2	09	48	284.9	11.8	150.87	8.1
Total	**48**	**6402**	**204.28**	**100.0**	**1554.7**	**100.0**	**48**	**6562**	**2406.7**	**100.0**	**1860.6**	**100.0**

Contd. Table-2

Bank types	2007						2008					
	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits
SCBs	4	3383	917.9	33.1	699.7	32.6	4	3386	1030.9	31.1	758.8	29.6
DFIs	5	1359	201.7	7.3	115.6	5.4	5	1362	222.3	6.7	137.8	5.4
PCBs	30	1922	1426.6	51.4	1150.2	53.5	30	2082	1794.5	54.2	1450.7	56.6
FCBs	09	53	227.7	8.2	183.4	8.5	09	56	265.8	8.0	214.1	8.4
Total	**48**	**6717**	**2773.9**	**100.0**	**2148.9**	**100.0**	**48**	**6886**	**3313.5**	**100.0**	**2561.4**	**100.0**

Contd. Table-2

Bank types	2009						2010					
	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits
SCBs	4	3387	1135.6	28.6	869.1	28.6	4	3404	1384.3	28.5	1044.9	28.1
DFIs	5	1365	261.69	6.6	161.1	5.3	4	1382	295.4	6.1	183.4	4.9
PCBs	30	2285	2275.7	57.4	1792.4	59.0	30	2810	2854.6	58.8	2266.5	60.9
FCBs	09	58	292.6	7.4	215.0	7.0	09	62	320.8	6.6	227.1	6.1
Total	**48**	**7095**	**3965.8**	**100.0**	**3037.6**	**100.0**	**47**	**7658**	**4855.1**	**100**	**3721.9**	**100**

Contd. Table-2

Bank types	2011						2012					
	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits
SCBs	4	3437	1629.2	27.8	1235.6	27.4	4	3478	1831.9	26.0	1377.9	25.5
DFIs	4	1406	328.8	5.6	214.4	4.8	4	1440	385.5	5.5	260.4	4.8
PCBs	30	3055	3524.2	60.0	2787.5	61.8	30	3339	4371.5	62.2	3430.7	63.6
FCBs	9	63	385.4	6.6	272.2	6.0	9	65	441.8	6.3	327.0	6.1
Total	47	7961	5867.6	100	4509.7	100	47	8322	7030.7	100	5396.0	100

Contd. Table-2

Bank types	2013 (June)					
	No. of banks	No. of branches	Total Assets	% of industry assets	Deposits	% of Deposits
SCBs	4	3499	2013.15	26.75	1522.88	26.75
DFIs	4	1476	424.02	5.63	301.84	5.30
PCBs	38	3386	4628.21	61.49	3551.17	62.38
FCBs	9	66	461.26	6.13	316.95	5.57
Total	55	8427	7526.51	100	5692.84	100

Source: Compiled from various issues of Bangladesh Bank Annual Report of different years

The number of branches and outstanding deposits and advances in the banking system classified by rural and urban areas are showr in Appendix-2. In 2003, the number of rural branches was 3694 (59.38 percent of total branches), which increased to 4827 (57.3 percent of total branches) at end of June, 2013. The number of branches in urban areas increased from 2526 (40.61 percent of total branches) as of 2003 to 3600 (42.7 percent of total branches) at end- June 2013. The number of rural branches increased at a lower rate compared with the number of urban branches. Total deposits of rural branches increased to Taka 1030.9 billion (17.76 percent of total deposits) at end- June 2013. The amount of advances in rural areas increased from Taka 102.5 billion as of end June 2003 to Taka 434.3 billion at end- June 2013. However, the share of rural advances decreased to 10.2 percent as of end- June 2013 from 17.76 percent of the same period in 2003. The amount of urban advances increased from Taka 744.8 billion (87.90 percent of total advances) at end June 2003 to Taka 3813.8 billion (89.8 percent of total advances) as on 30th June, 2013.

4.2. Earnings and Profitability

Strong earnings and profitability profile of a bank reflect its ability to support present and future operations. More specifically, this determines the capacity to absorb losses by building an adequate capital base, finance its expansion and pay adequate dividends to its shareholders. Although there are various measures of earning and profitability, the best and widely used indicator is return on assets (ROA), which is supplemented by return on equity (ROE) and net interest margin (NIM). Return on Assets (ROA) indicates the productivity of the assets i.e. how

much income is earned from per unit of assets. According to Basel-__ accord, ROA should be more than 1 percent. On the other hand, Return on Equity (ROE) is another important measure of earning and profitability determination which indicates net income after tax to total equity.

Table-3 shows ROA and ROE by types of banks the aggregate position of these two indicators for all banks. SCBs have achieved negative and nearly zero percent of return on assets (ROA) over the period of 2004 to 2007. In case of the DFIs, the ROA were even worse (negative) over the period of 2003 to 2008. PCBs had an inconsistent trend but satisfactory and FCBs' return on assets ratio has been consistently strong during the last 10 years. In 2010, overall ROA in the banking sector peaked at 1.8 percent whereas it was 0.6 percent in 2013.

Similar trends are observed in ROE during the same period. Overall ROE in banking sector was 21.7 percent in 2009, which reduced to 8.2 percent in 2012 and 2013. Fall in ROE ratio in the banking sector indicates that profits of shareholders declined gradually. SCBs return on equity was 3.0 percent in 2003, but it suddenly spiked to 22.5 percent and 26.2 percent in 2008 and 2009, respectively. In case of DFIs, the ROE position remained worse (-171.7 percent) in 2009 due to huge losses. Difference of ROE between PCBs and FCBs reduced substantially since 2005, but, again, it increased since 2012. The ROE of PCBs and FCBs were strong (21.0 percent & 22.4 percent, respectively) in 2009.This tendency signals growing competition between FCBs and PCBs. Past superior performance of foreign banks might be due to their technological advantage and product differentiation capabilities, though it might have subdued to some extent in the local private banks in recent years.

Table- 3: Profitability Ratios by Type of Banks

(In Percent)

Type of Banks	Return on Assets (ROA)						Return on Equity (ROE)					
	2003	2004	2005	2006	2007	2008	2003	2004	2005	2006	2007	2008
SCBs	0.08	-0.14	-0.10	0.00	0.00	0.7	3.00	-5.75	-6.90	0.00	0.00	22.5
DFIs	-0.04	-0.13	-0.13	-0.2	-0.3	-0.6	-0.61	-2.14	-2.14	-2.00	-3.4	-6.9
PCBs	0.69	1.24	1.06	1.1	1.3	1.4	11.37	19.53	18.10	15.2	16.7	16.4
FCBs	2.55	3.15	3.09	2.2	3.1	2.9	20.39	22.47	18.40	21.5	20.4	17.8
All Banks	0.49	0.69	0.60	0.8	0.9	1.2	9.75	12.97	12.40	14.1	13.8	15.60

Contd. Table-3

Type of Banks	Return on Assets (ROA)					Return on Equity (ROE)				
	2009	2010	2011	2012	2013 June	2009	2010	2011	2012	2013 June
SCBs	1.0	1.1	1.3	-0.6	0.6	26.2	18.4	19.7	-11.9	11.7
DFIs	0.4	0.2	0.1	0.1	-0.5	-171.7	-3.2	-0.9	-1.1	-28.9
PCBs	1.6	2.1	1.6	0.9	0.4	21.0	20.9	15.7	10.2	5.5
FCBs	3.2	2.9	3.2	3.3	3.4	22.4	17.0	16.6	17.3	19.7
All Banks	1.4	1.8	1.5	0.6	0.6	21.7	21.0	17.0	8.2	8.2

Source: Bangladesh Bank Quarterly, Annual Reports of different years.

4.2.2. Interest Rate Spread

It is to mention here, the government liberalized interest rate fully in 1999 to make the banking system market-driven and competitive. In such a market-driven system, one of the important indicators of competitiveness in the financial markets is the interest rate spread (the difference between lending and deposit rates). The higher the level of competitiveness, the lower the interest rate spread. However, in the wake of the deregulation of interest rates it has been observed that the spread has increased over the years in Bangladesh — the spread in the banking sector decreased from 6.49% in 2002-2003 to 5.31% in 2013-2014 (Appendix-3.). In 2013-14, the spread declined to 5.31%, but in terms of competitiveness, this remained very high for the banking system. In other words, the high nominal spread indicates that previous reforms are yet to bring about the expected degree of competitiveness in the banking system, rather, market distortions have increased. Arguably, the presence of higher NPLs is one of the factors responsible for those market distortions, but government-led distortions (for example, high interest rates on government savings certificates) and misconceived price strategies of the bank management are also responsible for these unusually high spreads. Fortunately, the real interest spread was found negative in most of the years during the period of 2002-03 to 2013-14, indicating that the financial liberalization policies provided incentives for banks to expand their bank branches as well as financial intermediation.

4.2.3: Net Interest Income

Table-4. shows that aggregate net interest income (NII) of the banking sector has been positive and consistently increased from Taka 16.6 billion in 2003 to Taka 153.8 billion in 2012. However, the NII of the SCBs was negative in the amount of Taka 1.1 billion in 2004 and had turned positive in the amount of Taka 7.7 billion in 2005. In 2009, the NII of SCBs was Taka 34.3 billion and, again, it slid into negative territory in June, 2013. The DFIs had a positive trend since 2003 and it was Taka 2.7 billion in June2013. Since 2005, SCBs have been able to increase

their net interest income (NII) by reducing their cost of fund. The NII of the PCBs has shown positive trend since 2003 and incredibly high trends over the period from 2005 through 2012. The trend of NII indicates that the PCBs and the FCBs are charging higher lending rates in contrast to deposit rates.

Table-4: Net interest income by type of banks

(Billion Taka)

Bank types	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 June
SCBs	-0.3	-1.1	7.7	9.0	7.4	7.9	12.1	19.8	34.3	14.9	-0.03
DFIs	1.3	1.8	1.0	1.7	1.4	1.9	1.9	6.2	4.9	4.7	2.7
PCBs	12.0	13.7	21.0	25.4	36.1	48.5	56.7	82.8	91.4	114.7	53.7
FCBs	3.6	4.2	5.6	8.2	69.9	12.6	10.7	13.0	16.1	19.6	8.0
Total	**16.6**	**18.3**	**35.3**	**44.3**	**54.8**	**70.9**	**81.5**	**121.9**	**146.7**	**153.8**	**64.4**

Source: Bangladesh Bank Quarterly, & Annual Reports of different years.

4.2.4 Liquidity

Table-5. shows that the FCBs are having the highest liquidity ratios followed by the SCBs. This situation of constant surplus of liquidity warrants creation of effective demand for credit at lower costs. Lastly, all banks have maintained a sufficient liquidity position in terms of cash and balances with the BB in conjunction with investment in government securities. They thus suggest that banks, in general, are poised to cope with unforeseen adverse circumstances at least in the near term.

Table-4.2.4: Liquidity ratio by type of banks

(In Percent)

Bank types	Liquid assets						Excess Liquidity					
	2003	2004	2005	2006	2007	2008	2003	2004	2005	2006	2007	2008
SCBs	24.4	22.8	20.0	20.1	24.9	32.69	8.4	5.8	2.0	2.1	5.9	14.9
DFIs	12.0	11.2	11.2	11.9	14.2	13.7	5.8	4.7	6.2	3.8	5.5	4.9
PCBs	24.4	23.1	21.0	21.4	22.2	20.7	9.8	8.8	5.1	5.8	5.4	4.7
FCBs	37.5	37.8	41.5	34.4	29.2	31.3	21.9	21.9	23.5	16.4	11.2	13.3
Total	**24.7**	**23.4**	**21.7**	**21.5**	**23.2**	**24.8**	**9.9**	**8.7**	**5.3**	**5.1**	**8.9**	**8.4**

Contd. Table-5

Bank types	Liquid assets					Excess Liquidity				
	2009	2010	2011	2012	2013 June	2009	2010	2011	2012	2013 June
SCBs	25.1	27.2	31.3	29.2	37.9	17.5	8.2	12.3	10.2	18.9
DFIs	9.6	21.3	6.9	11.5	16.4	7.1	2.3	1.3	1.4	5.7
PCBs	18.2	21.5	23.5	26.3	27.4	5.3	4.6	6.6	9.5	10.6
FCBs	31.8	32.1	34.1	37.5	43.5	21.8	13.2	15.3	18.7	24.7
Total	**20.6**	**23.0**	**25.4**	**27.1**	**30.5**	**9.0**	**6.0**	**8.4**	**9.9**	**13.3**

Source: Bangladesh Bank Annual Reports of different years.

4.2.4.1. Advance to deposit Ratio

ADR is one of the useful indicators of adequacy of a bank's liquidity. BB is currently measuring the advance to deposit ratio (ADR) as a gross measure to calculate the liquidity condition prevailing in the economy. There is no international guideline regarding the benchmark of ADR or upper limit on ADR. Banks were instructed in February, 2011 to cut down their ADR within a prescribed level (for conventional banks it is up to 85 percent and for Shari'ah banks it is up to 90 percent) by June, 2011.

The ADR of banking industry from the beginning of 2012 started declining from 80.0 percent in January, 2012 to 71.2 percent in December, 2013 (Appendix-4). This decline of ADR was attributable to higher growth in deposits than growth in credit in 2013. Banking sector deposit and credit growths was 16.26 percent and 7.41 percent, respectively, in 2013 (Financial Stability Report, BB).

4.3: Management Soundness

Since indicators of management quality are primarily specific to individual institutions, These cannot be easily aggregated across the sector. In addition, it is difficult to draw any conclusion regarding management soundness based on monetary indicators, as characteristics of a good management are rather qualitative in nature. Nevertheless, the total expenditure to total income, operating expenses to total expenses, earnings and operating expenses per employee, and interest rate spread are generally used to gauge management soundness. In particular, a high and increasing expenditure to income ratio indicates the operating inefficiency that could be due to flaws in management.

It transpires from Table-6 that expenditure-income (EI) ratio of the DFIs was very high with 112.1 percent in 2009. This was mainly because of huge operating loss incurred by DFIs. The position however improved after 2009 and the ratio came down to 87.8 percent and 88.6 percent in 2010 and 2011, respectively. However, it rose again to 107.6 percent in 2013. The EI ratio of the SCBs exceeded 102.3 percent in 2004, situation improved to 62.7 percent in 2011. It again rose to 84.2 percent in 2013. Very high EI ratio of SCBs was mainly attributable to high administrative and overhead expenses; suspension of income against NPLs. EI ratio of PCBs is substantially high due to deduction of loan loss provision, other assets and corporate tax from current income.

Table-6: Expenditure-income ratio by type of banks

(Percent)

Bank types	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 June
SCBs	98.8	102.3	101.9	100.0	100.0	89.6	75.6	80.7	62.7	73.2	84.2
DFIs	101.1	104.0	103.9	103.5	107.7	103.7	112.1	87.8	88.6	91.2	107.6
PCBs	93.1	87.1	89.3	90.2	88.8	88.4	72.6	67.6	71.7	76.0	78.0
FCBs	80.3	76.3	70.8	71.1	72.9	75.8	59.0	64.7	47.3	49.6	51.6
Total	93.9	90.9	92.1	91.4	90.4	87.9	72.6	70.8	68.6	74.0	79.2

Source: Bangladesh Bank Annual Report of different years

4.3.2: Capital Adequacy

Table 7 provides risk- weighted capital asset ratios by type of banks over the period 2003-2013. It shows that DFIs and SCBs were not able to meet the required capital over the period except SCBs in 2011. On the other hand, PCBs and FCBs acquired 20.3 percent and 11.4 percent capital, respectively, to its risk- weighted assets in the year of 2013. This indicates that SCBs and DFIs were yet to comply the required 10% CAR. It is noted here that at the end-December 2012, the capital adequacy of the banking industry was 10.5 percent; the same stood at 11.5 percent at end December 2013. (Financial Stability Report-201)

Table: 7: Risk Weighted Capital Asset Ratios by Type of Banks

(In Percent)

Type of Banks	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 June
SCBs	4.3	4.1	-0.4	1.1	7.9	6.9	9.0	8.9	11.7	8.1	1.2
DFIs	7.7	9.1	-7.5	-6.7	-5.5	-5.3	0.4	-7.3	-4.5	-7.8	-9.0
PCBs	10.5	10.3	9.1	9.8	10.6	11.4	12.1	10.1	11.5	11.4	11.4
FCBs	22.9	24.2	26.0	22.7	22.7	24.0	28.1	15.6	21.0	20.6	20.3
All Bank	**8.4**	**8.7**	**5.6**	**6.7**	**9.6**	**10.01**	**11.6**	**9.3**	**11.4**	**10.5**	**9.1**

Source: Bangladesh Bank, Annual Report of different years

4.3.3 Asset Quality

4.3.3.1: Gross Non-performing Loans

It appears from the Table-8 that non-performing loans of the banking sector from 6.1 percent in 2011 to 11.9 percent in June 2013. Table 9 shows that. Net Non-Performing Loans to total loans are higher in SCBs and DFIs. In 2011, net-NPLs

were - 0.3 and 17.0 percent in SCBs and DFIs, respectively, whereas in 2012, the percentages stood much high at 12.8 and 20.4, respectively. Overall net NPLs was 0.70 percent in 2011 but increased to 4.4 percent in 2012. The classified loans increased due to tightening of the guideline. Besides, sluggish business during the political uncertainty and lack of gas and electricity pushed the classified loans up.

Table-8: Trend of Classified Loans (Gross) by Category of Banks.

(In Percentage)

Bank types	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 June
SCBs	29.0	25.3	21.4	22.9	29.9	25.4	21.4	15.7	11.3	23.9	26.4
DFIs	47.4	42.9	34.9	33.7	28.5	25.5	25.9	24.2	24.6	26.8	26.2
PCBs	12.4	8.5	5.6	5.5	5.0	4.4	3.9	3.2	2.9	4.6	6.6
FCBs	2.7	1.5	1.3	0.8	1.4	1.9	2.3	3.0	3.0	3.5	4.7
Total	**22.1**	**17.6**	**13.6**	**13.2**	**13.2**	**10.8**	**9.2**	**7.3**	**6.1**	**10.0**	**11.9**

Source: Compiled from various issues of Bangladesh Bank Annual Report of different years

4.3.3.2: Net Non-performing Loans

It appears from the Table-9 that the ratio of net NPLs (net of provisions and interest suspense) to net total loans (net of provisions and interest suspense) stood at 1.9 percent (SCBs), 18.3 percent (DFIs), 0.5 percent (PCBs) and 1.7 percent (banking sector) in 2009. It is seen in the Table that DFIs' non-performing portfolios were still high after adjustment of actual provision and interest suspense, whereas FCBs had excess provision against their NPLs.

Table- 9. Ratio of Net NPL to total loans by type of Banks

(Percent)

Bank types	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 June
SCBs	28.3	17.6	13.2	14.5	12.9	5.9	1.9	1.9	-0.3	12.8	8.1
DFIs	38.3	23.0	22.6	23.5	19.0	17.0	18.3	16.0	17.0	20.4	19.5
PCBs	8.3	3.4	1.8	1.8	1.4	0.9	0.5	0.0	0.2	0.9	2.4
FCBs	0.1	-1.5	-2.2	-2.5	-1.9	-2.0	-2.3	-1.7	-1.8	-0.9	0.1
Total	**18.8**	**9.8**	**7.2**	**7.1**	**5.1**	**2.8**	**1.7**	**1.3**	**0.7**	**4.4**	**4.4**

Source: Compiled from various issues of Bangladesh Bank Annual Report of different years

4.3.3.3 Status of Classified Loans

Among the classified loans, bad/loss loans constitute about 78.7 percent in 2013

which was 80.97 percent in 2003. The total classified loan ratio declined markedly from 22.1 percent in 2003 to 8.9 percent in 2013 (Table-10). In 2013, the sub-standard category of loans out of total classified loans declined to 11.2 percent, but doubtful loans increased from 8.75 percent in 2003 to 10.1 percent in 2013.

Table- 10. Status of classified loans: sub-standard, doubtful and bad/loss loans of all banks (2003-2013)

(Taka in Billion)

Year	Total loans	Total classified loans	Classified loans as % of total loans	Sub-standard loan as % of TCL	Doubtful loans as % of TCL	Bad/loss loans as % of TCL
2003	914.90	203.2	22.1	10.24	8.75	80.97
2004	1079.71	190.03	17.6	7.2	6.6	86.19
2005	1292.51	175.14	13.6	8.66	6.96	84.37
2006	1515.90	200.1	13.2	13.13	7.15	79.72
2007	1713.63	226.2	13.2	9.75	7.51	82.74
2008	2081.48	224.8	10.8	9.43	9.42	81.14
2009	2493.20	229.37	9.2	12.2	8.4	79.4
2010	3198.60	227.10	7.1	13.4	8.4	78.2
2011	3792.50	235.13	6.2	14.8	11.5	73.7
2012	4386.70	438.67	10.0	19.1	14.2	66.7
2013	4720.06	420.08	8.9	11.2	10.1	78.7

Source: Financial Stability Report, BB.

4.3.3.4. Default Risks: Loan Loss Provisions

Table- 11 shows the aggregate amount of NPLs, required loan loss provision and actual provision maintained there against by the banks from 2003 to 2013. It depicts that in aggregate, the banks have been continuously unable to maintain the required level of provisions against their NPLs from 2003 through 2009. It also shows that in 2009 the banking sector was able to maintain 100% or more provision for the first time. During the years from 2003 through 2009, the banks maintained 40.3 percent of the required provision in 2003; which increased thereafter to 103.0 percent in 2011 and again it dropped to 78.3 percent in 2012.The main reasons for the shortfall in provision adequacy from 2003 through 2008 was the inability of some SCBs, DFIs and PCBs including those in problem bank category to make sufficient provisions due to inadequate profits and transferred provision for write-offs. Notably, the FCBs have been in much better shape in meeting adequate provisions in the recent years.

Table- 11: Required provision and provision maintained -all banks

(Billion Taka)

Bank types	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 June
Amount of NPLs	203.2	187.3	175.1	200.1	226.2	224.8	224.8	227.1	226.4	427.3	523.1
Required provision	92.5	87.8	88.3	106.1	127.2	136.1	134.8	149.2	148.2	242.4	299.0
Provision maintained	37.3	35.9	42.6	52.9	97.1	126.2	137.9	142.3	152.7	189.8	274.4
(Excess(+)/ Shortfall(-)	-55.2	-51.9	-45.7	-53.2	-30.1	-9.9	3.1	-6.9	4.6	-52.6	-24.6
Provision maintenance ratio (%)	40.3	40.9	48.2	49.9	78.3	92.7	102.3	95.4	103.0	78.3	91.8

Source: Compiled from various issues of Bangladesh Bank Annual Report of different years

A comparative position of loan loss provision by category of banks is shown in table-12

In line with the long-existing trend, the data show that actual provision fell short of required provision for all excepting FCBs during 2003- 2008 indicating lack of efficiency in fund management especially in disbursing and recovering loans, sustained pressure of non-performing loans (NPLs) in all commercial banks (excepting FCBs) including state-owned DFIs. After 2008, actual provisioning scenario for SCBs has reversed. The actual provision remained higher than required provision for SCBs in 2009 mainly because of intensified recovery drive and rescheduling of overdue loans under the new management of the state-owned banks. This was supported by the Election Commission's requirement of non-defaulter status of potential candidates in national and local elections. For FCBs, the amount of actual provision remained higher than required provision throughout the whole period. It is noteworthy that the shortfall in the provisions for all PCBs is improving and the shortfall for DFIs remained high during the entire period.

Table-12: Comparative position of provision adequacy by Category of Banks

(Billion Taka)

Year	Items	SCBs	DFIs	PCBs	FCBs
2003	Required provision	53.3	14.7	23.1	1.4
	Provision maintained	3.5	14.6	17.5	1.7
	Provision maintenance ratio (%)	6.6	99.2	75.4	125.2
2004	Required provision	50.7	13.5	22.3	1.3
	Provision maintained	3.4	12.4	18.5	1.6
	Provision maintenance ratio (%)	6.7	91.9	83.0	123.1

2005	Required provision	52.8	13.4	20.5	1.6
	Provision maintained	13.2	9.3	17.8	2.2
	Provision maintenance ratio (%)	25.0	89.4	85.8	137.5
2006	Required provision	61.6	14.8	27.5	2.2
	Provision maintained	18.2	9.1	22.6	3.1
	Provision maintenance ratio (%)	229.5	61.5	82.2	140.9
2007	Required provision	71.4	17.3	34.9	3.5
	Provision maintained	56.5	8.7	28.2	3.8
	Provision maintenance ratio (%)	79.1	50.3	80.5	108.6
2008	Required provision	73.1	17.0	41.3	4.6
	Provision maintained	75.6	8.6	37.0	5.0
	Provision maintenance ratio (%)	103.4	50.6	89.6	108.7
2009	Required provision	66.0	17.5	48.5	4.6
	Provision maintained	79.5	8.9	43.5	5.9
	Provision maintenance ratio (%)	120.5	50.9	93.8	128.3
2010	Required provision	70.6	19.1	53.3	6.2
	Provision maintained	69.9	13.3	51.8	7.4
	Provision maintenance ratio (%)	98.9	69.7	97.1	119.4
2011	Required provision	60.8	21.7	58.3	7.4
	Provision maintained	69.0	13.9	61.2	8.5
	Provision maintenance ratio (%)	113.5	64.1	105.0	114.9
2012	Required provision	119.2	29.8	84.4	8.9
	Provision maintained	81.9	13.6	84.9	9.3
	Provision maintenance ratio (%)	68.7	45.7	100.6	104.3
2013 June	Required provision	149.7	34.8	104.9	9.6
	Provision maintained	145.7	15.4	103.8	9.5
	Provision maintenance ratio (%)	97.4	44.3	98.9	98.2

Source: Bangladesh Bank Annual Report of different years

4.3.4. Writing off Bad Debts

To wipe out the unnecessarily and artificially inflated size of balance sheet, uniform guidelines of write-off were introduced in 2003. According to the policy,

banks may, at any time, write-off loans classified as bad/loss. Those loans, which have been classified as bad/loss for last 5 years and above and loans for which 100 percent provisions have been kept, should be written-off immediately. The total amount of written-off bad debts from June, 2004 to June, 2013 in different bank categories is given in Table-13. It is revealed from the Table that banks were able to write-off an amount of Taka 65.8 billion as on 30-06-2004 and an amount of Taka 253.3 billion as on 30-06-2013. It also shows that as on 30-06- 2013 the SCBs, DFIs, PCBs and FCBs were able to write-off an amount of Taka 107.2, 32.6, 109.7 and 3.7 billion, respectively.

Table-13: Writing off bad debts in different bank categories (From June, 2004 to June, 2013)

(Billion Taka)

Bank types	30/6/04	30/6/05	30/6/06	30/6/07	30/6/08	30/6/09	30/6/10	30/6/11	30/6/12	30/6/13
SCBs	26.3	29.7	36.7	42.8	48.4	64.5	70.5	82.4	72.9	107.2
DFIs	17.4	27.6	28.6	30.4	31.0	31.8	31.8	32.0	24.5	32.6
PCBs	21.2	32.9	40.7	45.5	49.4	54.7	69.6	77.1	64.9	109.7
FCBs	0.9	1.1	1.5	1.6	1.7	2.0	2.1	2.4	2.6	3.7
Total	65.8	91.3	106.5	120.3	130.5	153.0	174.0	193.9	164.9	253.3

Source: Bangladesh Bank Annual Report of different years

4.3.5. CAMELS Rating

Bangladesh Bank also undertakes a yearly performance evaluation of all banks through conducting CAMELS   rating which involves analysis and evaluation of the six crucial dimensions of banking operations. The six indicators used in the rating system are (i) Capital Adequacy, (ii) Asset quality, (iii) Management Soundness (including implementation status of Core Risk Management Guidelines),(iv) Earnings, (v) Liquidity, and (vi) Sensitivity to market risk. Performance indicators of the banking industry depict a trend similar to that of the state-owned banks, which is understandable due to their predominant market share. CAMELS ratings indicate that financial performance of the PCBs and FCBs, in general, has been better than that of the industry average. Any bank rated 4 or 5 i.e., 'Marginal' or 'Unsatisfactory' under composite CAMELS rating is generally identified as a Problem Bank.

BB had introduced Early Warning System (EWS) of supervision from March 2005 to address the difficulties faced by the banks in any of the areas of CAMELS. Any bank found to have faced difficulty in any areas of operation, is brought under Early Warning category and monitored very closely to help improve its performance. Presently, no banks are monitored under EWS. As at end of 2012, the

CAMELS rating of 3 banks were 1 or Strong; 29 banks were rated 2 or Satisfactory; rating of 6 banks were 3 or Fair; 6 banks were rated 4 or Marginal and 3 banks received 5 or Unsatisfactory rating (BB Annual Report).

4.3.6 Activities of Credit Information Bureau

CIB online services were opened up on 19th July, 2011. The CIB database consists of detailed information on borrowers, owners and guarantors. It has brought huge advantages in CIB related operations over the previous system. The total number of borrowers was 844,404 at the end-June 2013, recording an increase of 18.9 percent over the previous period (710,020 as of end- June, 2012). (BB Annual Report)

4.3.7: Corporate Social Responsibility

All banks had undertaken CSR practices in different forms in 2012. As shown in Table 14, the CSR expenditure in 2012 was higher than that in 2011 and around six times higher than 2009. As in preceding years, CSR initiatives of banks continued.

In terms of direct monetary expenditure, engagements of banks in CSR initiatives are increasing, particularly following issuance of BB guidance. Table-14 shows an increasing trend in CSR expenditure in the country's banking over the period 2007 through 2012.

Table-14. Corporate Social Responsibility

Year	2007	2008	2009	2010	2011	2012
CSR Expenditure (million Taka)	226.4	410.7	553.8	2329.8	2188.3	3046.7

Source: Bangladesh Bank Annual Report of different years.

4.4. The Deposit Insurance Scheme (DIS)

The deposit insurance system aims at minimizing the risk of loss of depositors' funds with banks. The present coverage of the deposits is Tk.1.00 lac per depositor per bank. A proposal to enhance the ceiling of coverage to 2.00 lac per depositor per bank is under process of approval (BB).The percentage of depositors (in number) who are fully insured increased from 84.4 percent in 2012 to 87.72 percent in 2013. This factor indicates a comparatively higher effective deposit safety net in that year compared with the previous year. Table-15 shows Deposit Insurance Trust Fund Position. As of 2013, the Deposit Insurance Trust Fund reached around Tk. 30 billion, which is around 2.5 times that of 2009.

Table: 15. Deposit Insurance Trust Fund and its Composition

(Amount in Billion BDT)

Particulars	2009	2010	2011	2012	2013
Insurable Deposits	2,439.84	3,238.58	3,857.33	4,229.77	5,322.93
Insurance Premium	1.34	1.65	1.92	2.31	3.34
i. Investment	12.50	16.10	19.46	23.99	29.76
ii. Cash	0.06	0.01	0.32	0.15	0.07
Deposit Insurance Trust Fund Balance	12.56	16.11	19.78	24.14	29.83

Source: BB Financial Stability Report.

Table-16 shows the recent premium rate as per new schedule. Banks under problem bank category have to pay 0.09 percent whereas other banks have to pay 0.07 percent as premium on their deposits. As per new schedule effective from 2013, sound bank categories will have to pay 0.08 percent, Early Warning Bank Categories will pay 0.09 percent and Problem bank Categories will pay 0.10 percent.

Table: 16. The Recent Premium Rate

Particulars	Premium Rate before 2013	Premium Rate 2013
Sound bank categories	0.07	0.08%
Early Warning Bank Categories	0.07	0.09%
Problem bank Categories	0.09%	0.10%

Source: Bangladesh Bank Annual Report.

4.5: Status of ICT in the Banking Sector

Table-17 provides the overall picture of computerization in the banking sector of Bangladesh during 2003-2013. In 2003, only 31.10 percent branches (SCBs 11.89%; DFIs 4.20%; PCBs 97.76%; and FCBs 100%) were computerized. SCBs are also progressing in computerization of their branches. They have already computerized almost 96% of their branches till 2013. By 2013, a significant improvement in computerization can be observed especially by the PCBs. In 2013, a total of 88.32% branches (SCBs 96.49%; DFIs 27.03%; PCBs 100%; and FCBs 100%) were computerized. The performance of DFIs in computerization is unsatisfactory with only 27.03 percent of the branches computerized by 2013 (BIBM survey).

Table-17: Computerization of Bank Branches by Categories, (In Percentage).

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SCBs	11.89	14.43	16.12	16.38	19.4	21.7	23.59	40.15	64.92	71.16	96.49
DFIs	4.20	4.39	4.35	4.38	8.51	12.57	15.22	15.93	16.23	19.21	27.03
PCBs	97.76	98.45	98.90	98.92	98.97	99.0	99.01	99.11	99.15	100	100
FCBs	100	100	100	100	100	100	100	100	100	100	100
Total	**31.10**	**33.50**	**35.42**	**36.95**	**37.2**	**37.5**	**47.49**	**55.22**	**69.17**	**76.21**	**88.32**

Source: BB, BIBM survey

4.5.1: Modern and Innovative Products and Services: Present Status

The existing modern and innovative banking products and services in Bangladesh are: (i) modern and innovative banking products - Debit Card and Credit Card, (ii) services- Automated Teller Machine (ATM), Point of Sales (POS), and e-services- Internet, Tele banking, On-line banking, Society for Worldwide Inter-Bank Financial Telecommunication (SWIFT), and Reuter. It is evident from the following figure that during the last couple of years the trends in technology adoption in the country's banking sector have been increasing rapidly.

Figure-1: Trends in Technology Adoption
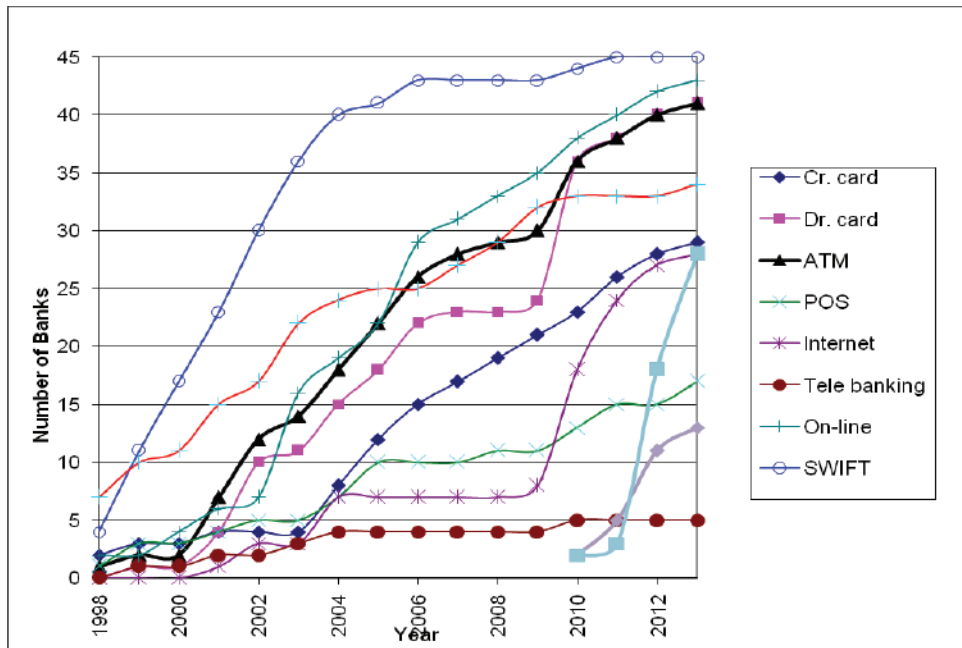
Source: BIBM Survey Information

4.5.2. Electronic Banking

Tables 18 (A) & (B) provide electronic banking features during 2011-2013. Out of 56 scheduled banks, 52 banks provide full or partial online banking services. Plastic cards (debit/credit cards) are becoming more popular and banks are offering these to attract new customers and retain their customer base. Table 18 demonstrates an increasing trend in the adoption of electronic banking features during 2011-2013. Although the number of banks introducing credit cards became stagnant, there was a significant increase in online banking operations in 2013. Moreover, during the last couple of years, the uses of ATM as smart payments and services have been increasing rapidly. The numbers of ATM being used in the banking sector as of 2013 were 5349 which were 1733 in 2010 (Financial Stability Report) The table also describes an increasing trend in the monetary volume of electronic banking transactions during 2011-2013. The volume of transactions using debit cards increased faster in 2013 than previous years. Besides, the increasing trend in the transaction volume using ATMs shows a significant growth in electronic banking. But the volume of transactions using credit cards experienced a slower increase in 2013 compared with previous years, for the reason that banks have been very careful about giving credit cards to people who do not have repayment capacity. Moreover, transactions through internet banking rose to Taka 90.5 billion in 2013.

Table 18: Number of Banks Providing Electronic Banking Services

Year	Online Banking	Internet Banking	Credit Card	ATM/Debit Card
2011	40	24	26	38
2012	42	27	28	40
2013	52	27	28	41

Source: BB Financial Stability Report.

Table: 18 (B) Volume of Electronic Banking Transactions

(Figures in Billion Taka)

Year	Using ATM	Using Debit Card	Using Credit Card	Internet Banking
2011	374.9	454.2	39.6	41.6
2012	565.8	585.0	57.0	48.7
2013	654.3	775.7	62.7	90.5

Source: BB Financial Stability Report.

4.5.4 Mobile Banking

In order to ensure the access of unbanked people by taking advantage of country-wide mobile network coverage, Mobile Financial Services (MFS) have been introduced in Bangladesh. Only banks are allowed to lead the mobile financial services. This model offers an alternative to conventional branch-based banking to the customers through appointed agents being facilitated by the Mobile Network Operator (MNO)/Solution Providers instead of bank branches or through bank employees. In so doing, BB allows a customer's account, recognized as 'Mobile Account' to be attached with the bank and be accessible through the customer's mobile device. The mobile account should be a non-checking account classified separately from a standard banking account. BB has fixed the transaction limit for the account holders of MFS at a maximum of Tk. 10,000 daily and a total of Tk. 25,000 on monthly basis. Table-19 shows the MFS status as of March, 2014.

As of March 2014, only 20 banks started offering the services. Consequently, the number of mobile accounts reached 1.5 crore and number of agents went up to 2, 40,000. In March of 2014, a total amount of Tk. 7,849 crore was transacted disclosing a high monthly growth in this sector.

Table-19: Mobile Banking Growth

	March 2012	April 2013	July 2013	November 2013	January 2014	March 2014
No. of Banks Permitted	10	27	27	27	28	28
Live Deployment	5	18	18	19	19	20
No. of Agents	9093	82638	107760	172265	200000	240000
No. of Customers (Crore)	0.04	0.53	0.72	1.15	1.32	1.5
No. of Transaction Per Month (Crore)	0.12	1.51	2.12	2.34	3.01	3.33
Volume of Transaction Per Month (Crore Tk.)	17.2	3634	5350	5533	6630	7849

Source: Bangladesh Bank

4.5.5 Bangladesh Automated Clearing House (BACH)

The Bangladesh Automated Clearing House (BACH) started automated cheque clearing from 7th October, 2010 by replacing the earliest manual clearing system with automation, which allows inter-bank cheques and similar type of instruments to be settled instantly. All the 7 clearing regions in major cities (Chittagong, Rajshahi, Khulna, Bogra, Rangpur, Barisal and Sylhet) have been connected with the Dhaka Clearing House from 25th October, 2011. Almost 90 percent of all the clearing instruments are now being processed through the automated clearing house.The BACH integrates two components:

1. The Automated Cheque Processing System; and

2. The Electronic Funds Transfer (EFT).

Under this automated clearing system, two types of transactions take place: a) High-Value Cheque Clearing (Cheques amounting to Tk. 5.00 lacs or more) and b) Regular Value Cheque Clearing. The figure in Table 20 illustrate the trend in high value and regular value transactions over the last 3 (three) years. The volume of high value cheque processing during 2011-2013 showed considerable growth, whereas regular value cheque processing fluctuated over the years.

Table: 20. Automated Cheque Clearing Operations

(Amount in Billion Tk)

Category	2011		2012		2013	
	Number (in thousands)	Amount	Number (in thousands)	Amount	Number (in thousands)	Amount
High Value (HV)	3,123	4,177.8	1,263	5,977.42	1,365	6,877.9
Regular Value (RV)	17,954	5,093.9	18,824	4,827.44	20,695	5,165.5

Source: BB Financial Stability Report.

4.5.6. Electronic Fund Transfer (EFT)

This facility ensures the transmission of payments between the banks electronically, which makes it a faster and efficient means of inter-bank clearing over the existing paper-based system, i.e. Bangladesh Automated Cheque Processing System (BACPS). This network introduced credit and debit transactions from 15th September, 2011. It is able to manage a wide-variety of credit transfers such as payroll, foreign and domestic remittances, bill payments, dividend payments, tax payments, as well as debit transfers such as mortgage payments, membership dues, loan payments, insurance premiums, utility bill payments, government tax payments, and government licenses and fees. On average, approximately 21,072 EFT transactions were processed in a day in 2013. Total monetary amount of EFT transactions under Bangladesh Electronic Fund Transfer Network (BEFTN) in 2013 was Tk. 396.1 billion, which was 44 percent higher than that in 2012 transactions (BB Financial Stability Report).

5. Concluding Remarks

The analyses lead to the conclusion that timely financial reform initiatives since 2002 drawing gainful lessons from global financial crisis and consequent steps

taken by major international financial institutions produced significant positive changes in the banking sector in Bangladesh. Being primarily a bank-based financial system, good banking performance augurs good economic performance. The Great Recession beginning in 2008 in the USA transmitted into global recession and many important countries are going through a healing process toward recovery with some trouble spots. The success of the Bangladesh banking sector lies in its ability to cope with the recent global financial stormy weather. Surprisingly, Bangladesh has been able to maintain average 6% growth over the last decade. However, the decennial record of banking performance has been mixed with significant successes and some failures. In brief, the decade ended on a positive note.

To sum up some of the major facts, private banks with some exceptions fared much better than public sector banks in terms of asset, deposit and credit shares. In fact, the former had positive trends amid some fluctuations while the latter had declining trend. This implies shrinking market concentration and increasing market competition in the overall banking sector. The indicators of profitability demonstrate that all bank groups except DFIs recorded an increase in the rate of profit and the foreign banks were found more profitable in comparison with the domestic private banks and the public sector banks. Furthermore, these reforms have changed the technology used and the products offered by the banking sector. The changes in market structure have intensified competition not only in the banking industry but also in the overall financial services sector. Diversification of operational activities of banking firms has changed the relative importance of the traditional sources of income of the banking sector, from reliance on interest earning to greater emphasis on income from fees. Lending rate is still exorbitantly high (above 15 percent). This is not conducive to investment and productive business activities. In addition, the target of financial inclusion has not been achieved as expected. Therefore, strengthening of enabling environment by instituting rational interest rate spread, introducing tailored products on both asset and liability fronts and ensuring proper management of NPLs along with accuracy in risk management devices may further enhance current financial stability of the banking system in Bangladesh.

In closing remarks, both public sector and local private sector banks should draw lessons from foreign-owned private banks operating in Bangladesh. All public and private banks must be held accountable to the same performance standards as they compete in the same deposit and credit markets.

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Appendix

Appendix-1: Sector-Wise Classifications of Advances by Scheduled Banks

(Taka in crore)

Year	Public Sector		Total	Private Sector	Total Advances (Pub. +Pri.)	Ratio (Pub. /Pri.)
	Government	Other than Government				
2003	973.46	4456.54	5430.00	84106.70	89536.70	0.06
2004	482.22	3327.58	3809.80	98627.01	102436.81	0.04
2005	384.93	7372.45	7757.38	112490.28	120247.66	0.07
2006	329.54	6629.45	6958.99	132500.92	139459.91	0.05
2007	332.86	5984.74	6317.60	153701.08	160018.68	0.04
2008	1892.81	7141.57	9034.38	187351.11	196385.49	0.05
2009	2140.81	7581.94	9722.75	223756.75	233479.50	0.04
2010	1421.19	10588.37	12009.56	283871.62	295881.18	0.04
2011	2337.82	9995.71	12333.53	338188.91	350522.44	0.04
2012	3968.06	7909.05	11877.11	398747.99	410625.10	0.03
2013	1613.62	6884.54	8498.16	435346.25	443844.41	0.02

Sources: Bangladesh Bank, Scheduled Banks Statistics various issues

Appendix-2: Total Branch, Deposit and Advance Distributed by Urban & Rural Areas

(billion Taka)

Year	Number of Branch			Deposit			Advance		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
2003	3694	2526	6220	190.8	883.3	1074.1	102.5	744.8	847.3
2004	3724	2579	6303	192.0	1023.8	1215.8	103.4	847.9	951.3
2005	3764	2638	6402	218.3	1197.6	1415.9	117.6	999.7	1117.3
2006	3834	2728	6562	241.5	1445.8	1687.3	128.4	1163.3	1291.7
2007	3894	2823	6717	263.0	1689.1	1952.1	130.1	1335.6	1465.7
2008	3981	2905	6886	306.2	2009.8	2316.0	148.5	1667.0	1815.5
2009	4136	3051	7187	369.9	2424.0	2793.9	169.6	1920.9	2090.5
2010	4393	3265	7658	436.9	2942.3	3379.2	206.9	2367.5	2574.4
2011	4551	3410	7961	536.0	3579.9	4115.9	254.5	2958.3	3212.8
2012	4760	3562	8322	853.1	4011.0	4864.1	405.6	3453.7	3859.3
2013 June	4827	3600	8427	1030.9	4690.2	5721.1	434.3	3813.8	4248.0

Source: Bangladesh Bank Annual Report.

Appendix-3: Interest Rates, Spread and Inflation Rates (All Banks)

Year	Deposit Rate	Lending Rate	Spread	Inflation	Real Spread
2002-2003	6.29	12.78	6.49	4.38	2.11
2003-2004	5.65	11.01	5.36	5.83	-0.47
2004-2005	5.62	10.93	5.31	6.48	-1.17
2005-2006	6.68	12.06	5.38	7.16	-1.78
2006-2007	6.85	12.78	5.93	7.20	-1.27
2007-2008	6.95	12.29	5.34	9.94	-4.6
2008-2009	7.01	11.87	4.86	6.66	-1.8
2009-2010	6.01	11.31	5.30	7.31	-2.01
2010-2011	7.27	12.42	5.15	8.88	-3.73
2011-2012	8.15	13.75	5.60	10.62	-5.02
2012-2013	8.54	13.67	5.13	7.70	-2.57
2013-2014	7.79	3.10	5.31	7.35	-2.04

Note: Rate of interest on scheduled banks (weighted average);
Source: Bangladesh Bank, Economic Trends Various issues.

Appendix-4: Banking Sector Year-wise ADR

(Amount in Billion BDT)

Year	Deposits (Excluding Inter- Bank)	Advance (Excluding Inter- Bank)	Advance-Deposit Ratio
2006	1,829.3	1,394.6	76.2%
2007	2,116.1	1,600.2	75.6%
2008	2,527.6	1,963.9	77.7%
2009	3,042.8	2,334.8	76.7%
2010	3,689.2	2,958.8	80.2%
2011	4,509.8	3,792.5	84.1%
2012	5396.0	4318.7	80.0%
2013	6,363.5	4,529.3	71.2%

Source: BB Financial Stability Report-13.

Appendix-5: Action Plan/Roadmap of Basel III Implementation

Action	Deadline
Issuance of Guidelines	June 2014
Capacity Building of Banks	June-Dec 2014
Commencement of Basel III Implementation process	July 2014
Initiation of Full Implementation of Basel III	January 2019

Phase-in Arrangements

The phase-in arrangements for Basel III implementation will be as follows:

	July 2014	2015	2016	2017	2018	2019
Minimum Common Equity Tier-1 (CET-1) Capital Ratio	4.00%	4.50%	4.50%	4.50%	4.50%	4.50%
Capital Conservation Buffer	-	-	0.625%	1.25%	1.875%	2.50%
Minimum CET-1 plus Capital Conservation Buffer	4.00%	4.5%	5.125%	5.75%	6.375%	7.00%
Minimum T-1 Capital Ratio	5.00%	5.50%	5.50%	6.00%	6.00%	6.00%
Minimum Total Capital Ratio	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Minimum Total Capital plus Capital Conservation Buffer	10.00%	0.00%	10.625%	11.25%	11.875%	12.50%
Phase-in of deductions from CET1	Not Applicable					
Phase-in of deductions from Tier 2 Revaluation Reserve (RR)						
RR for Fixed Assets	*20%*	*40%*	*60%*	*80%*	*100%*	*100%*
RR for Securities	*20%*	*40%*	*60%*	*80%*	*100%*	*100%*
RR for Equity Securities	-	*50%*	*100%*	*100%*	*100%*	*100%*
Leverage Ratio	3%	3%	3%	3%	3% Readjustment	Migration toPillar 1
Liquidity Coverage Ratio	June 2014 to June 2015 on test basis	≥100% (FromSep.)	≥100%	≥100%	≥100%	≥100%
Net Stable Funding Ratio		≥100% (FromSep.)	≥100%	≥100%	≥100%	≥100%
CountercyclicalCapital Buffer	-	-	Countercyclical capital buffer regime will be effective from Jan 2016			

Source: BRPD,BB

Financial Inclusion In Bangladesh:
Background, Issues, Regulatory Measures And Challenges

Toufic A. Choudhury *

Abstract: *Financial Inclusion has become an issue of worldwide concern, relevant equally in the economies of under developed, developing and developed nations. The paper discusses the background and relevant issues of financial inclusion and regulatory measures so far taken in Bangladesh and also challenges of adopting financial inclusion strategy in Bangladesh. The paper observes that financial inclusion is good for all the stakeholders: poor, banks, government and economy. Financial inclusion is not just a public good but a merit food. It is not just micro-finance, it is much more than micro-finance. It is not only access to finance, at the same time raising financial consciousness. In the context of Bangladesh, it's central bank, Bangladesh Bank has taken a pro-active strategy, comprising a number of innovative and effective measures, which have already started to produce positive results. However, the challenge is: the financial inclusion strategy of Bangladesh Bank is still mostly regulatory driven. There are not really spontaneous initiatives on the part of banks and financial institutions, without which sustainability of inclusive finance is not possible.*

Background and Definition

1.   It is well recognized that well-functioning financial systems are essential for economic development. A well-functioning financial system is by definition efficient, allocating funds to their most productive uses. It also covers other vital purposes such as offering savings, payment, and risk management products to as large a set of participants as possible, seeking out and financing good growth opportunities wherever they may be. The policy makers, practitioners and researchers have so far emphasized efficiency and stability aspects of financial systems and ignored the broader access to financial services. However, the current development theories increasingly project the role of access to financial services, the lack of which is often the critical element underlying income inequality as well as slower growth.

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2. Financial market imperfections that limit access to finance play an important role in perpetuating inequalities. If financial market frictions are not addressed, redistribution may have to be endlessly repeated, which could result in damaging disincentives to work and save. Not only that, sometimes financial exclusion can lead to social exclusion. In contrast, building inclusive financial systems focuses on equalizing opportunities. Hence addressing financial market imperfection that expands individual opportunities creates positive, not negative, incentive effects.

3. In its landmark research titled "Building Inclusive Financial Sector for Development" (2006), popularly known as the Blue Book, the United Nations (UN) had raised the basic question: "Why are so many bankable people unbanked?" "Who are bankable unbanked?" It is estimated that globally over two billion people are currently excluded from access to financial services. Financial Inclusion has become an issue of worldwide concern, relevant equally in economies of the underdeveloped, developing and developed nations. Building an Inclusive Financial Sector has gained growing global recognition bringing to the fore the need for development strategies that touch all lives, instead of a select few.

4. Why does Inclusive Financial Sector development matter? Access to a well–functioning financial system can economically and socially empower individuals, in particular poor people, allowing them to better integrate into the economy of their countries, actively contribute to their development and protect themselves against economic shocks. Creation and expansion of financial services targeted to poor and low-income populations can play a vital role in enhancing financial access. Inclusive financial sectors– those in which no segment of the population is excluded from accessing financial services – can contribute to attaining the goals contained in the United Nations Millennium Declaration, such as halving the proportion of people in the world who live in extreme poverty by 2015.

5. An Inclusive Financial Sector, the Blue Book says, would provide access to credit for all "bankanble" people and firms, to insurance for all insurable people and firms and to savings and payment services for everyone. Rangarajan Committee On Financial Inclusion (RBI, 2008) has argued that an open and efficient society is always characterized by the unrestrained access to public goods and services. As banking services are in the nature of public goods, financial inclusion should be viewed as availability of banking and payment services to the entire population without discrimination of any type. Finally, the Rangarajan Committee has defined financial inclusion as "delivery of banking services and credit at an affordable cost to the vast sections of disadvantaged and low income groups. The various financial services include savings, loans, insurance, payments, remittance facilities and financial counseling/advisory services by the formal financial system."

FINANCIAL INCLUSION

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                    ┌─────────────┐
                    │   Savings   │
                    └─────────────┘
                           │
┌──────────────┐      ╭─────────╮      ┌──────────────┐
│ Bank Accounts│──────│Financial│──────│  Insurance   │
└──────────────┘      │Inclusion│      └──────────────┘
┌──────────────┐      ╰─────────╯      ┌──────────────┐
│Financial advice│────            ────│  Payment and │
└──────────────┘                       │  Remittance  │
                           │           └──────────────┘
                  ┌──────────────────┐
                  │ Affordable Credit│
                  └──────────────────┘
```
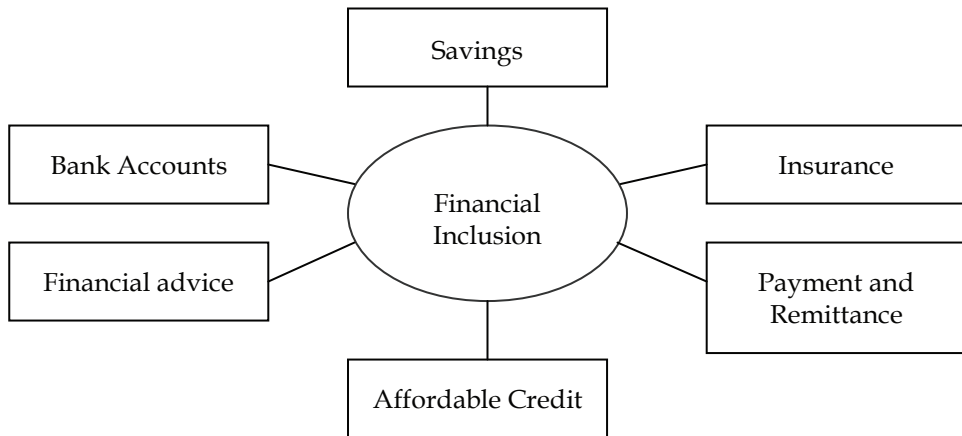
Source: RBI, 2008.

6.   Financial Inclusion is not only the process of ensuring access to financial services or making available timely and adequate credit when needed by vulnerable groups, such as weaker sections and low income groups, at an affordable cost, it must also be appropriate, fair and transparent. What we need to do is first improve access to various financial products and services for the entire population and ensure that such access is provided by mainstream institutional players. Enabling people to get credit from small institutions, money lenders and the like is not financial inclusion. Access has to be through mainstream institutional players and only then such access will be fair, transparent and cost effective (Kochhar, 2009).

7.   Only opening a bank account is not financial inclusion. Of course, the first thing is a check-in account, what we call a no-frills account. And the next step is immediate credit. Today, what the poor wants is accessibility to immediate credit. However, in most of the cases, the poor does not need credit for business or entrepreneurship, but it is for meeting a financial emergency, like health or urgent domestic needs. This immediate credit stage is followed by the introduction of various savings products, followed by remittances and payment services. This might be followed by insurance, especially health insurance, housing loans etc. Entrepreneurship credit comes at the last. This way, people have to be creditworthy and "financially included". Therefore, we have to go through all these stages and we have a long way to cover (Kochhar, 2009).

8.   Subbaro (2013) asserts, financial inclusion does not only mean providing financial services. It also includes "financial literacy", meaning financial awareness, knowledge about banks and banking channels, facilities provided by banks, advantages of using banking routes etc. It involved educating people financially, making them financially literate. Financial inclusion and financial literacy are

integral to each other, they are two elements of an integral strategy. The disadvantaged people need both access to and awareness of financial services. Financial literacy is demand side phenomena and financial inclusion, supply side response.

Inclusive finance Vs. Microfinance

9.   Many development practitioners and financial institutions believe that there is a paradigm shift from microfinance to inclusive finance – from supporting discrete microfinance institutions (MFIs) and initiatives to building inclusive financial sectors. Inclusive finance recognizes that a continuum of financial service providers work within their comparative advantages to serve poor and low-income people and micro and small enterprises. Building inclusive financial sector includes but is not limited to strengthening microfinance and MFIs. Existing terminology that developed over many years to describe microfinance initiatives no longer serves well when we shift to discussing inclusive financial sectors. Microfinance has been defined as the provision of diverse financial services (credit, savings, insurance, remittances, money transfers, leasing, and payment mechanism) to poor and low-income people. Retail financial service providers that serve this market segment are increasingly more difficult to define with one common term. They include NGOs, private commercial banks, state-owned banks, non-bank financial institutions (such as finance companies and insurance companies), credit unions and credit and savings cooperatives. Many of these institutions are quite large, many are quite old and many have large number of clients and highly diverse products and services. As a result, the term MFI is often not descriptive or adequate to refer to this diverse group of financial institutions. While each of them plays an important role in inclusive finance, many of them could not be considered MFIs in the technical sense.

Inclusive Finance and Poverty Alleviation

10.   Financial Inclusion is an important tool for attacking poverty. There are
        three dimensions of attack on poverty (WDR-2000-01):
        -        Creating opportunities for poor to improve their lives.
        -        Empowering the poor to demand more responsive state and social
                 institutions.
        -        Providing the poor security- to cope with risk.
Financial Inclusion is important on all three dimensions
        -        Opportunity, empowerment and security.

11.   Financial inclusion is good for all the stakeholders.
        -        Good for the poor: Opportunity to improve their incomes and their
                 quality of life.

- Good for the banks: Steady low cost savings, portfolio diversification etc.
- Good for the government: Powerful tool of poverty reduction, it also cuts down leakage.
- Good for the economy: savings of the poor into the formal financial sector.

It is **win-win** for the poor, banks, government and economy. It is not just a public good but a merit good.

Who are excluded and Why?

12.   Access to financial services - financial inclusion - implies an absence of obstacles to the use of these services, whether the obstacles are price or non-price barriers. It is important to distinguish between access to - the possibility to use - and actual use of financial services. Exclusion can be voluntary, where a person or business has access to services but no need to use them, or involuntary, where price barriers or discrimination, for example, bar access. Failure to make this distinction can complicate efforts to define and measure access.
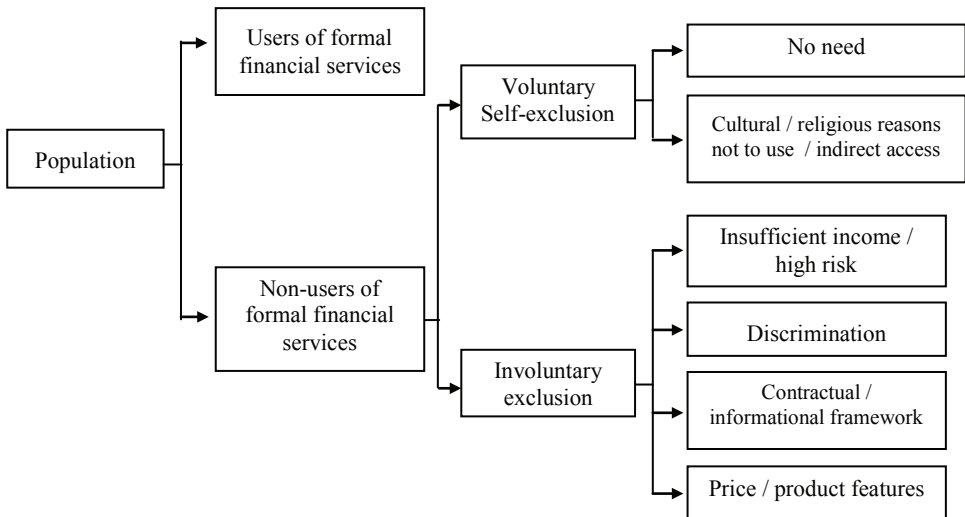
Source: Finance for All? The World Bank, 2008.

13.   For promoting financial inclusion, we have to address the issue of exclusion of people who desire the use of financial services, but are denied access to the same. There are a variety of reasons for financial exclusion. From the demand side, lack of awareness, low income/assets, social exclusion, and illiteracy act as barriers. From the supply side, distance from the branch, branch timings, cumbersome documentation procedures, unsuitable products, staff attitudes are common reasons for exclusion. All these result in higher transaction cost and lower profit-

ability. On the other hand, the ease of availability of informal credit sources makes these popular even if costlier.

Extent of Financial Inclusion

14.   Extent of financial inclusion can be assessed in a number of ways. An important measure of financial inclusion is to count the number of people who own a bank account. A person holding a bank account is considered to have elementary banking knowledge. Thus a count of the number of bank accounts gives an idea of the percentage of people who are aware of banking and what percentage still needs to be included. This is why the most commonly used indicator has been the number of bank accounts (per 1000 people). However financial inclusion does not end with the opening of bank accounts. What matters ultimately is the availability of banking services and access to finance by the mass people. Some other indicators, have also been developed to capture the financial inclusion such as number of bank branches (per million/per thousand people), number of ATMs (per million/per thousand people), bank credit as percentage of GDP, bank deposit as percentage of GDP etc. One recent review of national surveys reported that 89.6 per cent of the population of 15 countries in the European Union had a bank account, with country proportions ranging from 99.1 per cent in Denmark to 70.4 per cent in Italy. The comparable figure for the United States was 91.0 per cent. World Bank (2008) shows, in most developing countries less than half the population has an account with a financial institution, and in many countries less than one in five households does.

15.   **Bangladesh Scenario:** The approach to Financial Inclusion in developing countries such as Bangladesh is somewhat different from the developed countries. In case of developed countries, the focus is on the relatively small share of population not having access to banks or the formal payment system. Whereas in Bangladesh, we are looking at the majority who are excluded. Dr. Atiur Rahman, Governor, Bangladesh Bank, reiterated, "Financial Inclusion is a high Policy Priority in Bangladesh, for faster and more inclusive growth." According to the Governor, in view of no widely adopted uniform definition, financial inclusion is reckoned in Bangladesh as access to financial services from:

a)   Officially regulated and supervised entities (banks and financial institutions licensed by Bangladesh Bank, MFIs licensed by the Micro-credit Regulatory Authority, registered co-operatives), and

b)   Official entities themselves (post offices offer savings, money transfer and insurance services, national savings bureaus).

16.   In terms of the above guideline, despite substantial bank branch expansion and increase of membership of MFIs and other institutions, about 25 percent of

adult population is still financially excluded. In terms of banking credit related indicators too, the state of financial inclusion is not encouraging. For example, in Bangladesh, the access of people involved in agriculture who mostly live in rural areas to banking services is not sufficient with respect to their contribution to GDP. In FY13 the share of the agriculture sector in GDP was around 19 percent whereas the share of advances in total advances to this sector stood at only 6 percent. A substantial proportion of the households, especially in rural areas, is still outside the coverage of the formal banking system and is, therefore, unable to access mainstream financial products such as bank accounts and low cost loans. In terms of opening bank branches, it has been made mandatory that one urban branch must be accompanied by one branch in rural areas to encourage bank business there. In spite of the existence of 58 percent of total bank branches in rural area, the shares of rural bank branches in total deposits and advances were 18 percent and 10 percent, respectively, as of June 2013 which indicates a very low exposure of rural people to the formal banking system.

17. Institute of Microfinance (InM) conducted a survey on "Access to Finance" in 2011, which shows:

- About 77% of the households have access to any kind of financial services;
- Access to formal financial services is only 37%;
- Nationally, 54% of the households have access to any credit;
- Only 8% have access to formal credit;
- In terms of savings, only around 57% of households have access to any savings;
- Access to formal savings is shared by only around 28% of households.

18. BB has taken strong initiatives in the last few years to widen the coverage of banking services, especially by including the disadvantaged section of the society in the formal financial system. Along with moral suasion, a number of policy measures covering the opening of bank branches, deposit and credit products, some of which are very innovative for our banking system, have been taken. These include: changing of branch opening rules from 5:1 to 1:1 (for opening 1 urban branch, 1 rural branch is to be opened), availability of highest quality banking services to farmers by allowing them to open banks account with minimum initial deposit (Tk. 10 only); issuing branch licenses to all SME/Agriculture service centers; easy and effective access to banking services for physically incapable people, hard core poor, unemployed youth, freedom fighters etc.; relaxing conditions of loan repayment and providing fresh facilities to natural calamity affected farmers; mandatory participation in agriculture/rural credit for all banks including PCBs and FCBs; provision of agriculture credit to sharecroppers; formulation and implementation of Agriculture and SME Credit Policies and targets; putting emphasis on financing women entrepreneurs; arranging refinancing

schemes for banks; developing ICT solutions (mobile banking, smart card etc.) for inclusive banking; encouraging creative partnership between banks and MFIs; Agent Banking, policy guidelines for Green Banking and introduction of financial inclusion oriented CSR, School banking, arranging cross country banking road show etc.

19.   The policies and measures which have been undertaken so far in Bangladesh in the context of inclusive banking are of course essential and in the right directions and have already started creating positive impacts. For example, government owned commercial and specialized banks have so far opened 96 lakh 10 Taka farmers' accounts. It is obvious that opening of these accounts will help our government to migrate from paper based payments of state benefits (which is really very time-consuming and sometimes inhuman on the part of beneficiaries) to direct payment into accounts. Ultimately, these accounts are expected to play a key role in stimulating demand for other financial products. In the context of Bangladesh, it is expected that these farmers account can facilitate a transaction to higher level of financial transition, which in turn can lead to greater financial inclusion. Moreover, BB has undertaken one refinancing scheme of Tk. 200 crore for financing Tk. 10 account holders at easy terms with a view to make the rural economy vibrant through keeping Tk. 10 accounts active. Likewise, the volume of SME financing (as a tool of financial inclusion) by banks has increased manifolds. For example, in 2009, BB target for SME financing was only around Tk. 24,000 crore and it increased to around Tk. 75,000 crore in 2013, and achievement was 115%. Now, SME loans constitute around 30% of total loans and advances. A lot of entrepreneurs are getting substantial amount of SME loans and every bank has got SME dedicated and women dedicated SME desk. One Bangladesh Bank study shows that SME loans have a number of positive impacts on Bangladesh economy in terms of employment creation, improvement of living standards, women empowerment, and contribution to GDP etc. For coordinating and reinforcing the financial inclusion efforts, BB has converted the Agricultural Credit Department into Agricultural Credit and Financial Inclusion Department and created two new departments namely, SME and special Programs Department and Green Banking and CSR department. Finally, all these financial inclusion efforts have direct and indirect effects on the promotion of financial stability of the country.

Future Challenges

20.   There are some issues which should also be taken into consideration for effectively addressing the challenges for ensuring sustainable inclusive banking in the country. These are:

| | i) | The inclusive banking measures are bank-led and regulatory driven. These are not really spontaneous initiatives on the part of |

banks and financial institutions, without which sustainability of inclusive banking cannot be established.

ii)   The measures so far taken are still not sufficicut to address the demand side problems of the financially excluded sections of the population. Financial exclusion is not only a supply- side problem.

iii) Banking approaches to the financially excluded people are to be changed. Here, banks should go to the public, rather than customers coming to them.

iv)   Woman focus of the inclusive banking measures must be maintained.

v)   Initiatives in regard to financial literacy and establishment of credit counseling centers are very necessary, but these are absent in Bangladesh. Not only for excluded people, even the financial service providers should also undergo extensive and continuous training on financial inclusion. This subject matter (financial inclusion) should be incorporated as a key segment of the initial training received by frontline branch and other customer contact staff.

vi)   Like mandatory agriculture/rural finance programs, all banks operating in Bangladesh may be asked to participate in the financial inclusion program for which the responsibility of different unbanked/underbanked districts/areas should be allocated among the banks on the basis of some rational criteria.

vii) Finally, instead of giving piecemeal directives, the central bank should provide detailed guidelines of inclusive banking to all formal banks and financial institutions.

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Exchange Rates, Capital Movements And Monetary Policy: Bangladesh Perspective

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Abstract: *The paper has explained that relationship among capital movement, exchange rate management and independence of monetary policy (popularly know as impossible trinity) in the context of developing countries specially Bangladesh. It observes that in contrast to developed economies which opt for "corner solutions", developing economies (India and Bangladesh) have typically opted for "middle solutions" giving up on some flexibility on each of the variable to maximise overall macroeconomic advantage. In the post financial crisis of 2007-08, it is over the question of capital mobility that the biggest change can be seen. Bangladesh financial sector remained virtually unruffled by the global financial crisis mainly because of regulated limited openness of Bangladesh to short term capital flows. The global financial crisis has also changed the theology of central banking in a fundamental way. Now, a consensus has developed around the view that not only price stability (orthodox central banking) but also the financial stability has to be within the explicit policy calculus of central banks. Bangladesh Bank has also opted to deviate from the mainstream monetary policy approach (price stability) of developed countries.*

1. Macroeconomic concepts like Exchange Rates, Capital Movements and Monetary Policy are very crucial to understanding the crisis like the East Asian financial crisis of late 1990s, the Global financial crisis of 2008 and the most recent Euro debt crisis. The objectives that we want to achieve by practicing those macroeconomic concepts/tools all seem very desirable and it would have been excellent for an economy to have these all. However, the famous "Mundell's Trilemma" observes that a country can choose no more than two of the following three features of its policy regime: one, free capital mobility across borders; two, a fixed exchange rate, and three, an independent monetary policy. This phenomenon is also known as "Impossible Trinity".

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Impossible Trinity

Fixed Exchange Rate

Independent Monetary Policy   Free Capital Flows
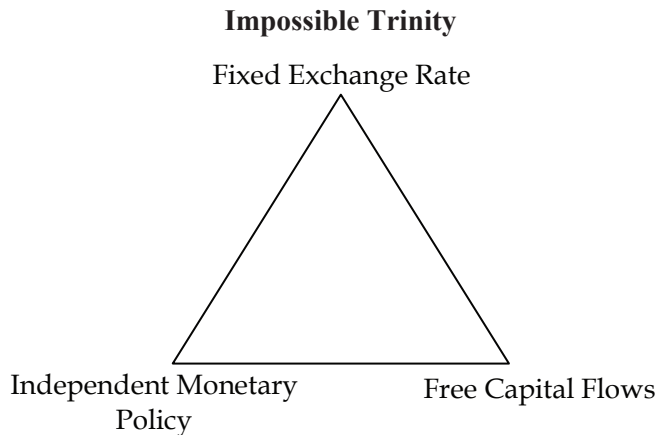
Figure - 1

2. The choices the world made under the impossible trinity varied over time. Under the gold standard, exchange rates were fixed and capital could move around, but central banks were forced to adjust interest rates to ensure they did not run out of reserves. This could lead to pressure on the real economy, and a lot of booms and busts. Under Bretton Woods, we had fixed exchange rates (with occasional adjustments) and independent monetary policy, but capital mobility was highly restricted; The Bretton Woods system broke down under the weight of fixed exchange rates, and the world moved to largely floating exchange rates. Capital was allowed to flow freely round the world. In the post-Bretton Woods era, countries have made different choices. The most common case, typical across advanced economies, is to give up on a fixed exchange rate so as to run an open economy with an independent monetary policy. On the other hand, economies that adopt a hard peg give up on independence of monetary policy. Examples include the currency boards set up by Hong Kong and, for a time, Argentina.

3. Notwithstanding its real life validation, it is not that Mundell's 'Impossible Trinity' is inviolable. Many of the assumptions underlying this model do not often hold; indeed the new open economy macroeconomy models that build on price rigidities and monopolistic competition demonstrate policy dynamics quite different from those built in the Mundell-Fleming tradition. Therefore, in contrast to advanced economies which opt for corner solutions, emerging economies have typically opted for middle solutions, giving up on some flexibility on each of the variables to maximize overall macroeconomic advantage.

4. For example, India has opted for a middle solution on the "impossible trinity" whose contours are the following: (i) exchange rate has been made largely market determined, but intervening in the market to smooth excess volatility and/or to prevent disruptions to macroeconomic stability; (ii) capital account is kept only

partly open; while foreigners enjoy mostly unfettered access to equity markets, access to debt markets is restricted; there are limits to the quantum of funds resident corporates and individuals can take out for investment abroad, but the limits are quite liberal; and (iii) because of the liberalization on the exchange rate and capital account fronts, some monetary policy independence is forfeited. What the middle solution also implies is that a country can guard on all the three fronts with the relative emphasis across the three pillars shifting according to macroeconomic situation.

5. In this context, we may also share the experience of Bangladesh. Bangladesh Bank Governor Dr. Atiur Rahman, in one of his papers, "Challenges to Central Banking in the context of the Financial Crisis", has explained how Bangladesh fared on the recent global financial crisis. Bangladesh financial sector remained virtually unruffled by the global crisis mainly because of regulated limited openness of Bangladesh to short term capital flows. A small net FPI outflow was far outweighed by sustained strong inflow of remittances from workers abroad. Competitiveness of our apparels and textiles sector kept overall FY 09 export growth in double digits. Import of capital goods for new investment activities weakened in the recessionary global environment and food grain imports remained low with good domestic harvests. Low outflows for imports from the surging inflows of workers' remittances and export proceeds kept the local financial markets awash with liquidity, in sharp contrast with most markets elsewhere facing liquidity crunch caused by large scale flight of FPI and non-resident deposits. Bangladesh Bank guided the financial sector in utilizing the liquidity glut in productive pursuits (lending in agriculture, SMEs, renewable energy and effluent treatment projects etc., sectors typically under-served by markets) that strengthened domestic demand by increasing employment and income. Export sectors affected by weak demand were extended fiscal support (modest subsidies, tax/fee waivers etc.) from the government, which also increased social safety-net expenditure for the weak and vulnerable population segments.

6. During the post crisis period, it is over the question of capital mobility that the biggest change can be seen. The global financial crisis (and also the Asian Financial Crisis of 1997) showed the dangers of unrestricted capital movements. Booms were unsustainably boosted into bubbles much greater than they otherwise would have been, while the inevitable crash was made far worse by capital flight. Capital mobility was destabilising economies and making them more extreme. Economists are beginning to reconsider their using and advocating some limited use of them. Paul Krugman and Joesph Stiglitz are leading the change and over 250 economists signed an open letter calling for capital controls. Studies of banking crashes have found that they are often preceded by a large influx of capital and followed by capital outflows. It is therefore, concluded that capital controls are useful in

preventing banking crashes. Even neo-liberal institutes such as the World Bank and the IMF acknowledge that there are occasions when capital controls are beneficial.

7. The current evidence from different studies supports the stands of most developing economies on having controls on capital flows in the presence of managed floating exchange rate management systems. The welfare gains are also evident in the above mentioned studies. The policy has also worked in protecting a number of developing countries (including Bangladesh and India) to save themselves from the negative waves of crises that translated mainly through capital volatility and sudden change in exchange rates.

8. The global financial crisis has changed the theology of central banking in a fundamental way. The orthodoxy of central banking before the 2008 crisis was: single objective - price stability; single instrument - short-term interest rate. Although most central banks deviated to different extents from this minimalist model, yet, the crisis came as a powerful rebuke to central banks for having neglected financial stability in their single-minded pursuit of price stability. A consensus has developed around the view that financial stability has to be within the explicit policy calculus of central banks, although opinion is divided on the precise nature of institutional arrangements for maintaining financial stability.

9. Some central banks of developing countries like Bangladesh Bank have opted to deviate from the mainstream monetary policy approach of developed economies. These central banks have been following monetary and financial policies towards supporting inclusive and sustainable growth. BB's monetary policy approach attempts to serve Bangladesh economy in upholding growth and stability and have been experiencing macro financial stability amid domestic shocks and external turbulences, including the last global financial crisis. Thus, the outcome so far has been positive and encouraging in regard to maintaining financial stability in the country. Monetary policy approaches of many other developing economy central banks have variants of similar inclusiveness and sustainability-supportive aspects. Based on the experiences of several developing countries, it can be stated that price stability, the primary objective of monetary policy, does not occur in isolation rather financial stability is an important requirement for ensuring price stability.

10. As central banks are grappling with balancing the demands of price stability and financial stability, there is now yet another powerful assault on central bank orthodoxy arising from the euro zone sovereign debt crisis. The argument, in its essence, is that if a central bank is committed to financial stability, it cannot ignore the feedback loop between financial stability and sovereign debt sustainability, and by extension therefore, it has to be mindful of sovereign debt sustainability

concerns. In this context, Subbarao (2012) argues, is the new trilemma - the simultaneous pursuit of price stability, financial stability and sovereign debt sustainability - a new impossible trinity? Possibly not. There is no theory which says that these objectives are inconsistent with one another. It can even be argued that the three objectives reinforce each other, and that together they sustain growth, thereby constituting not an impossible trinity, but actually a holy trinity of objectives.

Holy Trinity
Price Stability

Financial Stability   Sovereign Debt
                             sustainability
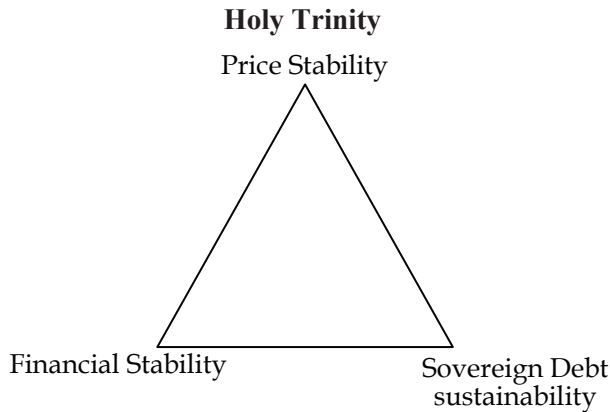
Figure - 2

That does not by any means imply that the holy trinity of objectives can always be achieved simultaneously, or once achieved, can be maintained as such indefinitely.

11. The monetary policy stance of Bangladesh Bank aims to preserve the country's external sector stability. As part of that overall capital flows are under close monitoring of the central bank and concerned policy makers. Capital account of Bangladesh is not fully convertible. As in a number of developing countries, outflow of capital has been generally restricted whereas inflows are permitted. Strategy of incentivizing foreign direct investment inflows is not very different in the country from the strategies of a number of developing countries. Bangladesh receives FDI from both developed and developing countries across the globe. The major investors come from 36 different countries of which 21countries are from developing and transition economies and Bangladesh received 70 per cent of total FDI inflow from only 11 countries (Unnayan Onneshan, 2012). It is nice to see that FDI inflows changed from import-substitutes to export oriented manufacturing. In terms of attracting FDI inflows, manufacturing and services sectors are playing important role. After entering into the WTO (World Trade Organization), Bangladesh opened the services sector and made a competitive policy framework which contributed flow of FDI in services sector. According to BB Monetay Policy Statement (2014), the capital and financial account shows that the estimated foreign direct investment in FY14 was $1550 million concentrated in three largest sectors - telecommunications, power and textiles. New foreign firm entry was limited

given recent domestic uncertainties.

12. A stable Taka-Dollar exchange rate and the slump in share prices lured foreign funds to the Bangladeshi stock markets in recent times. According to available information, foreign portfolio investments increased remarkably in recent months. The rise in foreign investments boosted the confidence of the local investors; however, any sudden rise should be monitored. [The Jul-Dec period of the 2013-14 fiscal saw inflow of USD 310 million foreign funds in the stock markets. It was USD 116 million during the same period in the previous fiscal. The 2012-13 fiscal saw USD287 million foreign portfolio investment in the markets, while during 2011-12 it was USD240 million- http://news.priyo.com/2014/02/01/stock-markets-piled-foreign-investments-99314.html]. Stable exchange rate for quite some time is believed to be the factor that attracted foreign funds. It is to be mentioned that there were almost no foreign funds in the market following the stock market difficulty of 2009-10. Difficulties in the stock markets in the world also contributed in attracting foreign portfolio investors.

13. In Bangladesh, the industrial enterprises in the private sector incorporated under the Companies Act 1994 and registered with Board of Investment (BOI) are eligible for obtaining credit from recognized lenders. However, in order to obtain loans from foreign sources a private company in Bangladesh needs approval from the BOI. As in most developing countries, policy makers of the country had been very conservative in allowing these loans. Practically, following the East Asian financial crisis in 1997, the importance of monitoring and regulating the external debt position of a country, and specifically the rate of build-up of private commercial borrowing, received due attention of the policy makers.

14. Private debts to Bangladesh remained insignificant in early twentieth and increased only in recent years mainly due to the change in the approach of the policy makers. In the country, the main rationale for the recent borrowing from foreign sources was the lower interest rate compared to domestic sources; and also because most local banks could not finance large projects due to their limited capital base. In terms of the loan use most companies used borrowed fund mainly to import capital machineries either to start new projects or to expand the existing ones. A recent survey by Bangladesh Bank (2014) observed that the loans were generally used productively. Alongside allowing domestic corporates to facilitate cheap fund it is expected to create downward pressures on the loan rates offered by the banks. Another important observation in connection with import finance (BIBM Trade Review 2014) is the huge increase in the buyers' credit (discounting through OBU/correspondent bank) under deferred payment credit popularly known as UPAS. In between April 2013 and April 2014, the volume increased from around USD 520 million to USD 3355 million (BB information). This is over

60 percent of the total import finance and around 30 percent of the total trade finance volume of the country. It can be observed (in 2014) that Bangladesh Bank has already addressed the issue by allocating the liabilities on quarterly basis to minimize the potential impact of sudden high outflows of foreign currency in near future.

15. Avoiding excessive exchange rate volatility remains a key objective of the monetary policy authority of Bangladesh. As stated in the most recent MPS, BB (2014) continues to support a market-based exchange rate while seeking to avoid excessive foreign exchange rate volatility. BB's interventions in the foreign exchange market have protected exporters by slowing the appreciation of the Taka in recent time. Moreover by opening up working capital borrowing at lower inter-est rates from foreign sources to exporters in FY13, and increasing the Export Development Fund size, as well as expanding the sectors eligible for the Fund, BB is actively promoting export competitiveness. The practice of intervention by the Bangladesh Bank in the foreign exchange market is well recognized though officially a floating arrangement was adopted in 2003. Current exchange rate arrangement of Bangladesh, termed as 'managed floating' by IMF, has been effec-tive in having required controls on external balances.

16. Practically, 'Mundell's Trilemma' has never been the case for most developing countries considering the status of monetary-fiscal coordination. Though the situa-tion improved, dominance of fiscal policy and accommodation of the monetary policy remained the case in most of these countries. In regard to the monetary policy in Bangladesh, the autonomy status improved but independence remained limited. The strategies as part of monetary policy of Bangladesh Bank to maintain 'external sector stability' remain effective, and the combination of managed float-ing and controlled capital movement are working well in the context of the coun-try.

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A Concept Paper on Common Currency in SAARC Countries: Problems and Prospects

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Abstract: *This paper explores SAARC countries' readiness to espouse a common currency in the region. Using the concept of standard economic procedures & practical experiences of adoption of Euro by the European Union (EU) and given the present status of economic integration, the paper finds that South Asian countries are not yet prepared to adopt either a common currency or a parallel currency in a foreseeable near future. The paper indicates that as per the 'Theory of Economic Integration' the SAARC countries are now under process of satisfying the prerequisites of second stage i.e. free trade area which is yet to be completed to reach successive phases of customs union, common market, economic and monetary union for achieving complete economic integration process in the South Asia. Finally, adoption of a common currency or even a parallel currency will depend not only on the political commitment but also on the capacity to resolve physical and non-physical barriers to trade and cooperation among the SAARC member countries.*

Key words: Common Currency, Economic Integration, International Trade, International Policy Coordination.

JEL Classification: E58, E63, F15, F42

The South Asian Association for Regional Cooperation (SAARC) was originated in 1985 with a view to promoting welfare and improving quality of life of the people of its member countries through enhancing active collaboration and mutual assistance for accelerating economic growth, social progress and cultural develop-

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ment. In the way of its last 28 years journey and from the experience of many powerful economic groupings of the world, the leaders of the SAARC nations meanwhile have realized that in order to develop SAARC as a stronger economic group, enhanced economic cooperation and harmonization of macroeconomic policies in the region are essential. Following this realization, the Heads of States or Governments of SAARC countries at their 10th SAARC Summit held in Colombo on 29 July 1998 agreed, in principle, to establish a "Network of SAARC Central Banks Governors' and Finance Secretaries' (SAARCFINANCE)" for opening dialogues on macroeconomic policies of the region and sharing mutual experiences and ideas. Later on, the Heads of States or Government of SAARC countries at their 13th SAARC Summit held in Dhaka during 12-13 November 2005 decided to engage their finance ministers to draw a roadmap for regional cooperation in South Asia for the next decade and to visualize the vision of South Asian Economic Union (SAEU) in a phased and planned manner. Accordingly, the First Meeting of SAARC Finance Secretaries which preceded the First Meeting of SAARC Finance Ministers held in Islamabad, Pakistan during 10-11 July 2006 recommended for forming an 'Inter-Governmental Expert Group (IGEG) on Financial Issues' to implement the directives of the 13th SAARC Summit. Subsequently, the Finance Ministers of the region and the officials associated with the SAARCFINANCE & SAARC-IGEG on Financial Issues have assembled a number of occasions to intensify regional economic cooperation. The process of this regional cooperation has been accelerated in the recent years with the region's integration into the system of globalization where the SAARC countries' overall performances in terms of achieving higher real GDP growth rates are also encouraged to go forward for further intensifying regional economic cooperation and materializing the ultimate aspiration of creating South Asian Economic Union (SAEU) and introducing a common currency in SAEU in a rapid way as per direction of the 13th SAARC Summit held in Dhaka.

2. Meanwhile, some member countries such as India has shown their curiosity to introduce parallel currency at least within three or more countries under the consideration of introducing common currency may take a large time to realize and the region as a whole may not even be ready to adopt parallel currency given the present state of economic integration and geopolitical reality. Under these circumstances, the basic purpose of this paper is to exploring SAARC countries' readiness to espouse a common currency in the region. Using the concept of standard economic procedures & practical experiences of adoption of euro by the European Union (EU) and given the present status of economic integration, SAARC countries' juncture to adopt common currency will be explored and possibility of espousing a common currency or parallel currency even with some limited number of SAARC member countries including Bangladesh will also be examined.

3. As the countries in any geographic region vary with respect to their economic,

political and social conditions; it is difficult to illustrate any single standard theory in introducing common currency within an economic region. So, there is no compatible economic theory on implementing common currency within a fixed geographical region. However, some economists, in their respective literatures, tried to explain the economic rationale behind the implementation of common currency depending on experiences of various nations. The 'Theory of the Optimum Currency Area (OCA)' appeared in the early 1960's as a result of the seminal work of Mundell (1961), along with the subsequent works of McKinnon (1963) and Kenen (1969). All the economists argued that the implementation of common currency depends on satisfying some common characteristics within the currency area which result in an improved welfare of the population of its residents. The common characteristics, mostly known as OCA properties, are: (i) mobility of labor and other factors of production; (ii) price and wage flexibility; (iii) financial market integration; (iv) economic openness; (v) diversification in production and consumption; (vi) similarity in inflation rates; (vii) fiscal integration; and (viii) political integration. The area/region that satisfies these criteria becomes an optimal currency area. Similarly, the 'Theory of Economic Integration' suggests that to introduce a common currency in any region, the following phases of economic integration are needed to be satisfied: (i) making preferential trading area (with reduced customs tariffs among certain countries); (ii) making free trade area (with no internal tariffs on some or all goods among the participating countries) (iii) making customs union (with the same external customs tariffs for third countries and a common trade policy); (iv) making common market (with common product regulations and free movement of goods, capital, labor and services); (v) making an economic and monetary union (a single market with a single currency and monetary policy); and (vi) completing economic integration (all the above plus harmonized fiscal and other economic policies). The European experience also reveals that the Euro did not spring forth full-blown on January 1, 2002 rather it took a very long, erratic and laborious process to gestate the common currency-Euro starting since the early 1950s by establishing the European Payment Union. In fact, the European experience does suggest that the adoption of a common currency is the last step of the process of regional economic integration, and hence takes a long time. Now, given this reality it has to be identified that how much progress the SAARC countries have achieved in terms of economic integration and what are the outcomes so far of this integration process.

4. It may be noted that with the adoption of SAARC Preferential Trading Arrangement (SAPTA) at the seventh SAARC Summit held in Dhaka during 10-14 April 1993[2] SAARC countries formally start its first phase to promote trade relations and remove trade barriers among member countries. The second phase of

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[2] Although SAPTA was adopted at the 7th SAARC Summit in 1993 but it came into force on 7th December 1995 after finalizing all of its modalities by some technical meetings.

economic integration started with the agreement on South Asian Free Trade Area (SAFTA) being implemented from 2006. With this agreement SAARC has entered into a new horizon to create a free trade area of 1.8 billion people for 7 countries[3]; namely, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The seven foreign ministers of the region then signed an agreement on SAFTA to reduce customs duties of all traded goods to zero by the year 2016 in a phased manner. This means that SAARC counties have entered into the second phase of economic integration which is yet to be completed to reach third stage, i.e., customs union. But it is unfortunate that SAFTA is facing numerous challenges like non-tariff barriers and immobility of factors of production due mainly to lack of political commitment and shortage of appropriate technical expertise in the relevant fields for most of the SAARC countries to implement the agreement. As a result, the interregional and inter industrial trade among the SAARC countries are still remaining at a nascent stage. A recent study of Asian Development Bank indicates that although the share of trade over GDP[4] of SAARC countries have increased over the last two decades but inter-regional trade among these countries is very low as compared to ASEAN and it is even lower than the other economic blocks of Central Asia (Table-1). Available data show that on an average only around 5% total international trade takes place among the SAARC countries which is over 26% in ASEAN and jointly over 12% in the countries of two Central Asian economic blocks[5].

Table 1: Comparative Intra-regional Trade Shares of South Asia, ASEAN and Central Asia

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	**Average (2001-2011)**
SAARC	4.8	5.2	6.2	5.8	6.0	5.1	5.2	4.3	4.2	4.5	4.3	**5.05**
Central Asia*	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	**6.00**
Central Asia**	8.1	7.3	6.4	8.6	7.8	6.8	6.3	4.2	5.3	6.0	5.6	**6.58**
ASEAN 10	24.0	24.4	26.6	26.7	27.2	27.1	26.9	26.7	25.9	26.3	25.9	**26.15**

Source: Draft SAARC-ADB Study on "Regional Economic Integration in SAARC, its current extent and recommendations for further deepening", 2013
- SAARC- Afghanistan, Bangladesh, Bhutan, India, Maldives, Pakistan, Nepal and Sri Lanka
- ASEAN 10 - Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.
- Central Asia* - Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan

[3] Afghanistan became the 8th country of SAARC in the 14th SAARC summit held on 3 April, 2007 at New Delhi, India after the introduction of SAFTA.

[4] Total trade as percentage of GDP also represents the status of openness of an economy.

[5] It is true that the share of SAARC countries inter-regional trade can be altered if informal trade is taken account but this should also be considered that informal trade gets momentum where openness of the economies are restricted by trade barriers.

• Central Asia** - Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan

There has thus far been little progress in South Asia on a sequenced adjustment path towards regional integration, as is evidenced by the still very low share of regional intra trade in total external trade of the regional countries. The small share of inter-regional trade in SAARC countries mainly originates from the lack of sufficient complementariness of exportable items. If we consider the major export items of all SAARC countries, it will be found that export items of all SAARC countries are almost similar to each other due to similar comparative advantage profiles. Moreover, the inter-regional trade potentials are restrained by numerous tariff and non-tariff barriers such as Sanitary and Phyto-Sanitary (SPS) measures, Technical Barriers to Trade (TBTs) and other related measures; tariff quota and anti-dumping measures; licensing requirement etc. Another significant barrier to expansion of inter-regional trade in the SAARC countries is of existence of a huge number of sensitive lists. It has been observed that although the working group on reduction of sensitive lists under SAFTA has completed its task of reducing the sensitive lists by 20% within January 1, 2012; a remarkable number of items under sensitive lists are still remaining in almost all SAARC countries (Table-2).

Table 2: Revised Sensitive Lists of the Member Countries

Member State	No. of products in the earlier sensitive lists (before reduction)	Number of products in the revised sensitive lists (Phase-II) (after reduction)
Afghanistan	1072	858
Bangladesh	1233 (LDCs); 1241 (NLDCs)	987 (LDCs); 993 (NLDCs)
Bhutan	150	156
India	480 (LDCs); 868 (NLDCs)	25 (LDCs); 614 (NLDCs)
Maldives	681	154
Nepal	1257 (LDCs); 1295 (NLDCs)	998 (LDCs); 1036 (NLDCs)
Pakistan	1169	936
Sri Lanka	1042	845 (LDCs); 906 (NLDCs)

Source: SAARC Secretariat, 2013.

Moreover, poor trade facilitation, insufficient regional investment cooperation and underdeveloped capital markets in most of the SAARC countries are also considered as large hindrance to boosting up inter-regional trade in SAARC countries. It is, therefore, with the present-state of South Asian economic integration in trade liberalization, investment cooperation, capital markets development, trade facilitation (custom, standards, transit and logistic), cross-border connectivity, energy sector cooperation and the current institutional structure to facilitate realization of the South Asian Economic Union to introduce common currency within the region may not be possible in a foreseeable near future. In fact, introducing a common regional currency needs to be preceded by decades of resolute work towards deep-

ening regional economic integration, from tariff harmonization (customs union) onward to fiscal and monetary union, entailing substantial pressure of readjustments in existing production structures in the member economies in face of resistance from sectors under adjustment pressures.

5. We also need to remember that Eurozone's current problems with their common currency arose from their monetary union taking place before sufficient fiscal integration, which is making little or no headway even now. What has proven difficult for affluent European Union will obviously be more complex for the much poorer South Asia; and a better off ASEAN region with much higher level of intraregional trade than South Asia is making no attempt at a common currency. In this context, considering introduction of a common currency in South Asia will be far too premature at this stage, though desirable as a long term objective in the interest of better regional and global stability. Now, let us turn our focus on the consideration of introducing a parallel currency within the SAARC region or even with limited number of SAARC member countries including Bangladesh.

7. Robert Mundell suggested that the Asian currency would have to be a common parallel currency, used for international trade within Asia and with the rest of the world. Out of various currency options, he opted US dollar to anchor for a parallel currency in Asia. Mundell's observation can equally be applicable for South Asian countries. Because, although the major South Asian counties have common history but given the present stage of economic integration, mutual suspicion and in some cases mistrust towards each other, it will perhaps be very difficult, gauche and prolonged process of reaching a consensus for creating common currency among the existing eight SAARC countries. Realizing these difficulties and an uncertain lengthy way of reaching consensus of creating common currency in SAARC, some leading politicians and businessmen of this region are drifting the idea of introducing a parallel currency to promote regional cooperation in trade and investment, which can eventually prepare the ground for a common currency in their opinion. It may be noted that introducing common currency requires surrender of monetary sovereignty and seigniorage revenues associated with currency creation and monetary expansion by the member countries; because, an individual country can not print money and finance the deficit as per its own budgetary requirements. Parallel currency on the other hand, requires no such surrender of sovereignty. Individual country can retain control of its own currency and monetary policy. Normally, a smaller country which has very limited exposure to international markets adopts a bigger and internationally credible country's currency as parallel currency by pegging its own currency to that currency to expand its economic activities through attracting foreign investments and to maintain exchange rate stability. But sometimes a group of countries or a region as a whole may also adopt any one of their major currency or a new currency other than their any regional currency as a

parallel currency for avoiding currency conversion costs and risks of devaluation and to expand regional trade and investment. It may be noted that among the SAARC countries Bhutan has already started to use Indian Rupee as parallel currency. But Bhutan's case may not be equally suitable for Bangladesh for many reasons. Bhutanese are using Indian Rupee as a parallel currency in their country because of their huge trade dependency with India. It is notable that 75.7% of total Bhutanese exports destination was in India and 72.3% of their total imports came from India in 2011. At the same time, when we consider trade between Nepal and India it is found that 67.7% of total Nepalese exports destination was in India and 63.4% of their total import came form India in 2011[6]. On the other hand, although trade between India and Bangladesh is being increased in the recent years due to India's withdrawal of tariff on most of the Bangladeshi products but it has not yet reached to a significant level. Available figures show that only 2.3% of total Bangladesh's exports destination was in India while 13.6% of total Bangladesh's imports came from India in the same year as mentioned above (Table-3 and Table-4). Even in the recently past two fiscal years, the share of Bangladesh's total exports and imports with India remained almost at the same level. Moreover, trade between Bangladesh and the rest of the SAARC countries are also remained very insignificant with an unfavorable trade balance. It is most important to note that Indian Rupee is not world-wide fully convertible currency like US dollar and hence it cannot be conveniently used for investment of foreign exchange reserve or settlement of international payments outside SAARC. In addition to that, over the last two fiscal years Indian Rupee has depreciated not only against the US dollar but also against the Bangladesh Taka, which means Rupee is not much more stable currency than Taka. It may be noted that at the end of FY 2013 Indian Rupee depreciated by 21.1% from end of the FY 2011 against Bangladesh Taka and 33.5% against the US dollar while Bangladesh Taka depreciated by only 4.9% against the US dollar over the same period.

Table 3: Intra-regional export in South Asia (as % of total export) (in 2011)

Country	Afghanistan	Bangladesh	Bhutan	**India**	Maldives	Nepal	Pakistan	Sri Lanka
Afghanistan	na	-	-	**18.7%**	-	-	48.1%	-
Bangladesh	0.0004%	na	0.02%	2.3%	0.0005%	0.07%	0.36%	0.08%
Bhutan	-	5.8%	na	75.7%	-	-	-	-
India	-	-	-	**na**	-	-	-	-
Maldives	-	-	-	-	na	-	-	11.7%
Nepal	-	2.9%	-	67.7%	-	na	-	-
Pakistan	10.5%	-	-	-	-	-	na	-
Sri Lanka	-	-	-	**5.2%**	-	-	-	na

(-)=insignificant; na= Not applicable.
Source: WTO database files, April 2013

[6]   If we consider unrecorded or illegal border trade these percentage shares of export and import may even be much higher than the recorded trade among Bhutan, Nepal and India.

Table 4:Intra-regional import in South Asia (as % of total import) (in 2011)

Country	Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Afghanistan	na	-	-	-	-	-	13.7%	-
Bangladesh	0.04%	na	0.06%	13.6%	0.004%	0.14%	1.99%	0.08%
Bhutan	-	-	na	72.3%	-	-	-	-
India	-	-	-	na	-	-	-	-
Maldives	-	-	-	10.1%	na	-	-	5.6%
Nepal	-	-	-	63.4%	-	na	-	-
Pakistan	-	-	-	-	-	-	na	-
Sri Lanka	-	-	-	22.1%	-	-	-	na

(-)=insignificant; na= Not applicable.
Source: WTO database files, April 2013

Under the above stated circumstances, in terms of trade integration, although the existing OCA literature supports Bhutan's decision to establish and maintain a pegged exchange rate regime with India but it does not support introducing Indian Rupee as a parallel currency in Bangladesh or in other SAARC counties except Nepal. However, major South Asian economies like India may find it feasible to further liberalize their currency convertibility, permitting use of their currencies for international payment settlements by others, along lines now being tried out by China. SAARC countries may also think to introduce a third currency as their parallel currency for increasing inter-regional trade and also for increasing trade with rest of the world as per Mundell's observation on Asia[7]. But this will also certainly depend on satisfying some specific set of OCA properties of trade integration which SAARC countries have started by signing the SAFTA agreement.

7. A well coordinated and comprehensive efforts will be required to realize the ultimate vision of SAARC to transform it into a South Asian Economic Union (SAEU). For this, the existing SAFTA agreement will have to be implemented in a timely manner. SAARC Regional Standard Organization (SARSO) will have to be established to form a South Asian Custom Union and a priority will have to be given on free mobility of labor and other factors of production within the region by eliminating all existing trade barriers through tariff harmonization. Infrastructure and intra-regional connectivity will have to be improved and private sector initiatives will have to be encouraged particularly through the development of regional capital markets which are still remaining at a nascent stage in all the SAARC countries except India. An institutional development will also be required to visualize the vision of SAEU and as a first step of developing such institution; South Asian

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[7]   It may be noted that in order to facilitate trade in South Asian countries including Iran and Myanmar have already created a system known as Asian Clearing Union (ACU) and a common artificial currency called ACU dollar already exists in ACU which can also be given physical shape after completing necessary steps of trade integration in the SAARC countries.

Development Bank (SADB) can be established with appropriate officials representing all SAARC countries.

8. Finally, considering the current status of economic cooperation and trade integration, it can be said that South Asian countries are not yet prepared to adopt either a common currency or a parallel currency in a foreseeable near future. And, the progress of the ongoing endeavor of creating a SAEU and finally adoption of a common currency or even a parallel currency will depend not only on the political commitment but also on the capacity to resolve physical and non-physical barriers to trade and all out cooperation in all spheres of activities by all the SAARC member countries.

9. What appears to be important at this stage is greater coordination of monetary & economic policies along with development objectives & strategies of the countries of the region. Some sort of formal mechanism for better coordination is the need of the future.

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Determinants of Rice Production Inefficiency in Groundwater Irrigation Markets in Bangladesh

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Abstract: *Total foodgrain production in Bangladesh is 32.9 million tons of which boro rice is 18.78 million tons. Boro rice is produced by using mostly groundwater (80%). In this paper, our aim is to see the* variation of yield*,* irrigation hours use, *and labour use under different* payment systems *and land tenancy situations. It also highlights the difficulties of supervision, commitment and transaction cost on the use of irrigation and labour uses. Ninety six villages were selected from five divisions of Bangladesh follow-ing multi-stage sampling and data were collected through FGD and personal interview methods from 960 households. Simple OLS method is used to estimate the factors influencing the yield in irrigated rice produc-tion. The tabular and model analyses show that the variations of yield, irrigation and labour uses are different depending on the* payment systems *and land tenancy categories. Models show the same indications regarding* supervision and commitment issues *of providing irrigation water to the users' plot both in crop share payment and share cropping system. Among all the payment systems, crop share and fixed charge payments have resource allocation problem of irrigation water and labour uses and it may be also true for the other inputs use. This problem can't be improved so much like in the land tenancy market by the users through providing only transaction cost because they have no strong instruments. It is seen from the tabular analysis that the fixed charge system is less viable since there is more scope to be refused irrigation water when there is scarcity of water, high price of diesel, bad relation between user and seller and limited cash flow to sellers in the pick time of rice growing since that time crop needs water more frequently. The two part tariff has fewer demerits than both of*

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crop share and fixed charge payment systems since the user use own diesel and labour for managing water by using tubewell. But the limitation is the scope of getting of access the tubewell in two part tariff system because other users are on queue for using tubewell.

Key words: Production inefficiency, groundwater irrigation, transaction cost, supervision cost.

Introduction:

Allocative inefficiency for crop share payment in irrigation

In land rental market, landlord provides land and tenant provides labour, capital and management inputs but land is the scarcest input to the tenant. The tenants always try to maintain a good relation with landlord at any cost so that they can get the use right of land for a long time. But in water market, buyers use all sorts of input except water. Only to provide water to buyer, a seller may not be in a position to motivate one to use other inputs sufficiently. Question may arise that one may also lose the use right of water for the next season like land use right. Due to the availability of cheap irrigation technologies in the market, the numbers of seller are increasing and the buyers may have alternative seller to get water. This opportunity was very limited in the previous time but it is now becoming easy to buyers. So buyers have less binding to listen to sellers' suggestions; rather the buyers keep pressure on sellers to provide water regularly and sufficiently, otherwise they may leave the tubewell in the next cropping season.

Another thing is the priority issue to deliver water to the seller's parcels first. It is found that most of the tubewell owners buy tubewell mainly to irrigate their own parcels and sell water to other buyers for maximizing profit. It is observed that in a command area of a shallow tubewell, 50-60 percent of land is owned by the seller and 40-50 percent sell was to others' land. The seller's priority is to deliver water in his own parcels first and later s/he provides water to the buyers' parcels. Timing of watering and sufficient amount of water in every delivery is very important for rice crop but the sellers are reluctant to provide water for buyers' parcels. On doing this, sellers usually lost their moral courage to monitor and supervise buyers' activities regarding other inputs use. This situation is hardly found in land rental market due to its nature. In some cases, because of the experience of having less commitment of seller to provide water regularly and sufficiently, the buyers fail to use other inputs like human labour and fertilizer at the later part of the production process, which leads ultimately to lower productivity of that parcel. So, inefficiency issue in irrigated crops remains as it was and we get lesser yield as a whole from the buyer's parcel. Still a question may arise, why inefficiency will be there as long as it is owner cultivated land? The answer of this issue is simple if we compare it with share tenancy in land rental market i.e. input sharing is there. So due to

haveing irrigation input from anyone else, water sharing land cultivation will be treated as tenant cultivated land. We can say water tenant cultivated land and obviously the inefficiency of crop production will be there.

The inefficiency situation may be explained better by the following conventional diagram of share contracts which illustrates Marshallian inefficiency (Hayami & Otsuka, 1993; Otsuka & Hayami, 1988). The X axis indicates quantity of labour and Y axis indicates the marginal productivity of labour. It is assumed that the wage rate of labour is fixed and labour use varies depending on how much a tenant gets as a share.
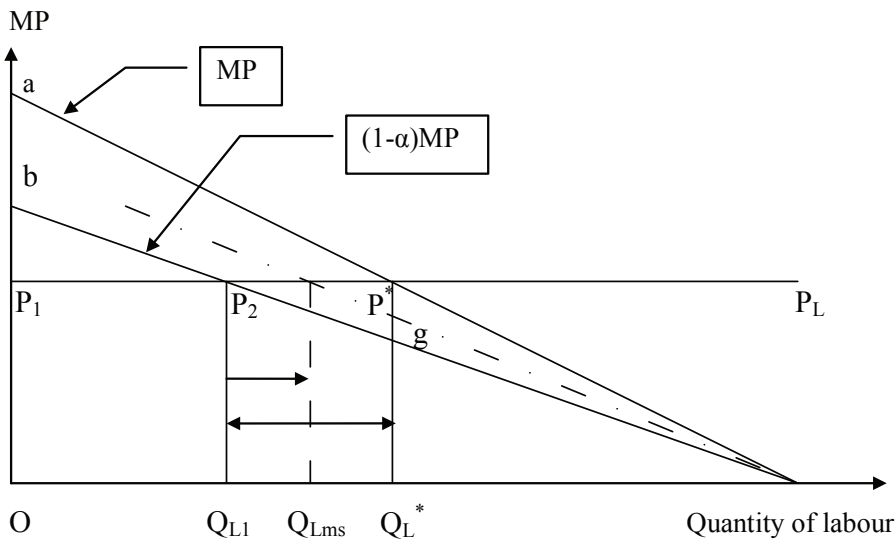
In normal situation, farmers who have their own tubewells use OQL^* amount of labour with the wage of P^*QL^*. In crop share irrigation, buyer gets share or part of MP which is $(1 - \alpha)$ MP at the end of crop harvest. Due to that, it is expected that like share cropping in land rental arrangement the buyer will use OQ_{L1} amount of labour and production inefficiency will be there under no supervision and enforcement situations. If monitoring and supervision are there from seller side, there is a possibility to increase labour use up to QL_{ms}. (Johnson, 1950; Cheung, 1969; Hayami & Otsuka, 1993). Since monitoring and supervision on buyers are not so strict and effective in water market, the labour use increase may not be the case here which has happened in the land rental market.

The productivity of land depends on input use but it also depends on commitment level between seller and buyer in irrigated rice farming. The commitment level varies due to the variations of payment system. In cash payment system, the return for water supply is ensured because payment for water is made at the beginning of the season. Meanwhile crop share payment entails uncertainty of getting payment

of water. This means that the 'risk of default of payment' is higher under crop share contract. Drought is a very normal phenomenon in boro rice production season. In drought situation, water is usually very scarce in some rice growing areas. The risk arises also due to the unexpected increase of diesel and electricity price as well. Under crop share contract if the sellers somehow notice during the season that they may not get return from supplying water due to the bad crop year (risk of default of payment), they may stop to supply water to the buyer's parcel. Under high risk of default, those factors ultimately made seller less committed to water buyer's parcel under crop share system. Our focus is the allocation of groundwater irrigation in producing HYV boro production under different payment systems. As discussed above, it is assumed that the HYV boro rice production will be increased through the use of more irrigation water under crop share payment system which is similar to land tenancy market under share cropping tenancy system. Several studies (Otsuka & Hayami, 1988; Hayami & Otsuka, 1993; Cheung, 1969) showed that production can be improved by incurring transactions cost by the land owner. There is an attempt to check it in irrigation water market as well.

Methodology:

A multi-staged sampling technique was employed to select a representative sample in this study. Five divisions were selected since they are the major rice growing divisions in Bangladesh. Forty eight upazillas were selected proportionately from the total rice areas of those five divisions. Unions and villages were selected randomly from the list of those. Then ten irrigated rice growing households were selected randomly from every village. Data were collected using structured and validated questionnaire administered on the farm families using Surveybe CAPI software during the 2013 boro rice season by trained enumerators under the supervision of the researchers. Data were collected on the socioeconomic characteristics of the farmers, production activities in terms of inputs, outputs and their prices. In this study, two hypotheses were tested. These are as follows:

Hypothesis 1. The more difficulty in monitoring and supervision of buyer's farming irrigation, the more inefficiency in production under crop share payment.

Hypothesis 2. Productivity and efficiency are lower due to less commitment and management under crop share payment.

Here we assume that the irrigation water market is somehow competitive and competition is increasing over the years due to the increasing number of tubewell owners. It is also our perception that the crop share and fixed charge payments are inefficient and less profitable for the users as many studies made similer conclusions. The source of inefficient irrigation market is due to the payment systems. In individual farmer's level, we have 4 payment systems, i.e. a. Own payment, b.

Crop share, c. fixed charge and d. Two part tariff. All these are fixed at individual farmer's level. Among all the payment systems, crop share comes up with more inefficiency, which may be due to the lower production per area compared to other systems.

To make it consistent, let us assume that we have farmers who are producing HYV boro rice in their land by using groundwater irrigation. For having water in their land they have to pay irrigation charge to the tubewell owner. Here we need to clear one thing that the tubewell owners are also the users of their own tubewell and they pay themselves for irrigation water. The production functions are identical for all those categories of farmers under different payment systems and characterized by the constant return to scale. Factor endowments, labour and irrigation water, are assumed to be different among different categories of farmers. For making it simple, we emphasise here two inputs—labour and irrigation. We measure labour in man-days and irrigation in hours. We also use other relevant inputs in the model for explaining the production function well. Our production function is written as

$$Q_i = F(L_i, I_i) \tag{1}$$

Where Qi = output per hectare

I = inputs provided by the farmer i under different payment systems.

L_i = Labour (man-day) per hectare, I_i = Irrigation (hour) per hectare, and

F exhibits production function with positive first and second derivatives ($F_1, F_2 > 0$; $F_{11}, F_{22} < 0$). Farmers maximise productivity by using labour and irrigation along with other factors of production, which are assumed to be constant in this model. The specific model is as follows:

$$Q_i = \alpha_0 + \beta_i X_i + \epsilon_i \tag{2}$$

Where Qi is output per hectare of the farmer i in a season

X_i are labour (man-day/ha), irrigation (hour/ha), seed (kg/ha), tillage (hour/ha), chemical fertilizer (kg/ha), other fertilizer (kg/ha), insecticide and herbicides (kg or lit/ha), crop share dummy (1=crop share, 0=otherwise), fixed charge dummy (1= fixed charge, 0=otherwise), two part tariff dummy (1= two part tariff, 0=otherwise)

Socioeconomic and socio-demographic factors

X_{1i} are main soil type dummy (sandy loam) (1= sandy loam, 0=otherwise), main soil type dummy (clay loam) (1= clay loam, 0=otherwise), main soil type dummy (clay) (1=clay, 0=otherwise), main land type dummy (medium high land) (1= clay, 0=otherwise), main land type dummy (high land) (1= high land, 0=otherwise),

farm size (hectare), family kinship (1=yes, 0=otherwise), household head education (years of schooling), irrigation source distance (meter)

and, ϵi is error term which has two parts v_i and u_i. Vi is exogenous error which occurs due to the unobservable factors and u_i is for the observable factors but have not been captured by the model here.

Inclusion of supervision from seller:

$$Q_i = \alpha + \beta X_i + \gamma Z_{1i} + \epsilon_i \qquad (3)$$

Where, X_i = As before

Z_{11} = Crop share payment*No. of supervision by the seller

Z_{12} = Fixed charge payment*No. of supervision by the seller

ϵ_i is the sum of two error terms

Inclusion of commitment from seller:

$$Q_i = \alpha + \beta X_i + \gamma Z_{1i} + \theta Z_{2i} + \epsilon_i \qquad (4)$$

Where, Xi = As before

Z_{1i} = As before

Z_{21} = Crop share payment*Likelihood percent of refusing irrigation water by the seller

Z_{22} = Fixed charge payment*Likelihood percent of refusing irrigation water by the seller

ϵ_i is error term

Inclusion of transaction cost in land tenancy markets with irrigation water markets:

$$Q_{il} = \alpha + \beta X_i + \gamma Z_{1i} + \theta Z_{2i} + \gamma W_{1i} + \epsilon_i \qquad (5)$$

Where, X_i = As before, Z_{1i} = As before, Z_{2i} = As before

W_{11} = Share price dummy*Times talk by the user-seller)

W_{12} = Fixed price dummy*Times talk by the user-seller)

ϵ_i is the sum of two error terms

Descriptions of the major variables and socio-demographic factors:

We have two forms of presentation and explanation of our survey data on irrigation water markets in Bangladesh. There are some results from the tabular analysis and some from econometric models as well.

The average age of the respondents is below 50 years and the education level is 5. It means they have 5 years schooling education. The average family size is 4.8 which is almost closer to the national average (4.7). The average farm size is the highest in Rangpur division and is the lowest in Chittagong division. Overall farm size in the country level is about 0.46 hectare. HYV boro mostly grows in 4 types of soil. The percent share of sandy loam soil is the highest (32.5%) and the clay loam is the lowest (14.8%). Loam and sandy loam are more in Chittagong division. Clay loam and clay soil are more in Khulna and Rajshahi divisions. It is seen that where the farmers' lands are medium low, they grow more HYV boro rice. Low land is good for irrigation but the risk is heavy rain and flood also. Medium high land is not good for providing irrigation but it depends on soil type also, whether it is suitable for boro rice or not. High land is not suitable for boro production at all since supply of irrigation is really difficult in the high land. Tubewell owner and user of irrigation water usually live in the same village but still their home distance is around 400 meters. Most of the largest plots are around 200 meter away from the irrigation water source (tubewell).

Figure 1. Division-wise payment types for groundwater irrigation
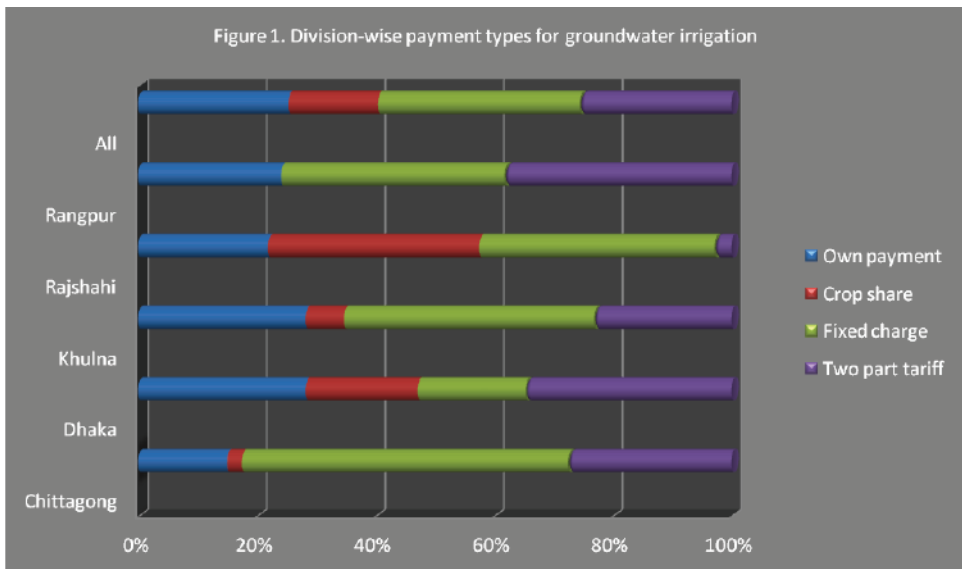
In this household survey data, there are actually four types of payment systems i.e. own payment, crop share, fixed charge and two part tariff. Own payment is not really a payment system but we call it because we have 242 tubewell owners who are not supposed to pay to any other for irrigation. It is not wise to exclude; otherwise their profit from own plot will be over-estimated. It can't be a particular payment since it is own pay and there is nothing more specified. In our data set, we have included it because we need to see the payment issue from both user and seller perspectives. It is seen that the fixed charge payment type is the most common practice by the farmers as payment in the groundwater irrigation market. Two part tariff is the next to fixed charge. The crop share payment is the one which

is the oldest but it is somehow becoming less popular among the irrigator farmers. It is revealed from table 1 that the crop share and fixed charge payment systems are dominant in Rajshahi division. Two part tariff is dominant in Dhaka division but the farmers of Rangpur division use two part tariff as their major payment system. The farmers of Chittagong and Khulna divisions use fixed charge as their major payment systems for irrigation. Our survey shows, crop share payment is absent in Rangpur Division but in practical situation there is also some practice of crop share payment system for irrigation (Fig. 1).

Table 1. Division-wise major inputs use under different payment system for producing HYV boro rice (Figure per hectare)

Division name	Irrigation (Hrs)*				Labour (Man-day)			
	Own payment	Crop share	Fixed charge	Two part tariff	Own payment	Crop share	Fixed charge	Two part tariff
Chittagong	365	99	276	325	101	128	157	149
Dhaka	373	372	289	325	107	122	111	103
Khulna	561	480	430	451	131	128	130	124
Rajshahi	313	323	171	217	104	98	101	93
Rangpur	393	0	293	373	106	0	107	113
All	409	354	294	363	111	109	115	112

*Significant at 1 percent level of significance, Source: IRRI-BAU field survey, 2013

Our main interest in this study is to see the use of irrigation and labour per hectare under different payment system. Own payment is included here to get the comparison of inputs use among the payment systems. Irrigation hours use per hectare in fixed charge payment system is the lowest but labour use per hectare is the lowest in crop share payment system. Low labour use reminds us the old phenomenon of Marshallian views on share cropping in land rental markets. Irrigation hours use under different payment systems are significantly different at 1 percent level of significance. Differences of irrigation hours use are also significant among the divisions. We did not have significant differences of labour use per hectare among the payment systems but significant differences are found among the division levels at 10 percent level of significance.

Another important issue is to see that the hours of irrigation use is the highest in own payment system which indicates that the tubewell owners have more control of irrigation use than any other who does not have tubewell. On the other hand, labour use is lower in own payment system but its use is the lowest in crop share system.

Table 2. Division-wise inputs and labour cost under different payment system for producing HYV boro rice (Figure per hectare)

Division name	Total input cost (Tk.)				Total labourcost (Tk.)			
	Own payment	Crop share	Fixed charge	Two part tariff	Own payment	Crop share	Fixed charge	Two part tariff
Chittagong	13241	21300	25672	18047	37032	75747	57944	56598
Dhaka	15230	15408	14737	15518	51846	50591	58375	53444
Khulna	16375	17926	16545	16017	48087	48002	43673	35864
Rajshahi	13203	13663	13803	15025	44611	38900	37215	37303
Rangpur	15594	-	14942	14070	41347	-	42802	39528
All	15123	14735	15741	15216	46875	44243	44987	45084

Source: *IRRI-BAU field survey, 2013*

Table 2 shows that input cost other than labour is lower in crop share system but the differences are not significant among the payment systems and it is the same among all divisions. The same patterns are found in the case of labour use per hectare under different payment systems and divisions. The cost of labour use is also lower in crop share payment since its use is the lowest among all the payment systems.

Table 3. Division-wise service (irrigation and tillage) and other cost under different payment system for producing HYV boro rice (Figure per hectare)

Division name	Service cost* (Tk.)				Other cost (Tk.)			
	Own payment	Crop share	Fixed charge	Two part tariff	Own payment	Crop share	Fixed charge	Two part tariff
Chittagong	26083	23671	22533	20256	3850	0	1245	1740
Dhaka	24882	29147	20324	27958	1944	725	558	2020
Khulna	27678	29368	28985	31184	4312	286	1026	2322
Rajshahi	25239	28674	21740	18759	1752	986	680	4480
Rangpur	18625	-	18338	24968	1519	-	686	2055
All	24259	28875	22570	26963	2408	821	790	2137

*Significant at 1 percent level of significance, Source: IRRI-BAU field survey, 2013

Service cost includes the irrigation and tillage costs. The service cost per hectare is somewhat higher in crop share system and significantly different from other payment systems and divisions (Table 3). Tillage and irrigation cost vary due to the location factors. Irrigation cost in crop share system is calculated considering the share of harvested crop paid by the user to the seller. It makes the service cost higher in crop share system. Higher irrigation cost is the main consideration when the societies and the researchers found crop share payment inefficient.

Table 4. Division-wise yield and by-product of HYV rice under different payment systems (Figure per hectare)

Division name	Yield (Kg)[*]				By-product (Tk.)			
	Own payment	Crop share	Fixed charge	Two part tariff	Own payment	Crop share	Fixed charge	Two part tariff
Chittagong	4496	4611	5204	5657	2573	16467	4025	1019
Dhaka	6325	5832	6207	5990	4546	6334	4292	6550
Khulna	6706	6737	6326	6396	9819	7228	9337	7372
Rajshahi	6474	6283	6554	6652	5524	7597	6489	2071
Rangpur	6701	-	6502	6372	2244	-	2316	2096
All	6480	6147	6337	6199	5407	7163	5653	4812

*Significant at 10 percent level of significance, Source: IRRI-BAU field survey, 2013

It can be seen from Table 4 that the land productivity (yield) is the lowest in crop share system and this yield is significantly lower in crop share system compared to any other payment system. The important point here is that the yield is the highest in owner payment system. Due to that we need to investigate more about the economics of owning a tubewell in consideration of productivity, irrigation hours use, etc. Regular supply of water to the rice field is very important to produce HYV rice and this might be the reason behind more yield in own payment system.

Table 5. Division-wise cost and return of HYV rice under different payment systems (Fig. per hectare)

Division name	Total cost[*] (Tk.)				Total return (Tk.)			
	Own payment	Crop share	Fixed charge	Two part tariff	Own payment	Crop share	Fixed charge	Two part tariff
Chittagong	73654	96017	94415	85578	71148	91390	82074	87362
Dhaka	82737	89255	79993	85227	93600	92289	92043	96532

Khulna	84124	86348	78974	82510	108478	107775	106467	102607
Rajshahi	74821	76373	67154	68921	96568	97034	102822	72338
Rangpur	63497	-	64076	70868	87663	-	85406	80911
All	77049	82112	73246	79386	95775	96224	96261	91291

*Significant at 1 percent level of significance, Source: IRRI-BAU field survey, 2013

Table 5 shows that the total cost is higher in crop share system than any other systems and the cost is significantly different from other systems. On the other hand, returns are almost similar with own and fixed charge system but slightly different with two part tariff payment system. Test says the differences are not significant. So, it means that in crop share system the farmers are incurring more cost but not getting more returns We need to know more in depth explanations to accept a conclusion like that.

Investigation of inefficiency issue in different payment systems

Table 6. Likelihood percent of refusing irrigation water and users' plot visit by the seller in different payment systems (Fig. per season)

Division name	Likelihood percent of refusing irrigation water*			Users' plot visit by the seller (No.)		
	Crop share	Fixed charge	Two part tariff	Crop share	Fixed charge	Two part tariff
Chittagong	0	11.9	2.3	12	35	33
Dhaka	4.2	6.7	5.0	57	46	36
Khulna	4.7	5.9	3.2	66	48	44
Rajshahi	7.4	5.9	2.8	43	46	49
Rangpur	-	8.7	2.7	-	49	46
All	6.0	7.1	3.7	50	46	41

*Significant at 1 percent level of significance, Source: IRRI-BAU field survey, 2013

Data on two different variables likelihood percent of refusing irrigation water and user's plot visit by the seller, are shows in Table 6 to explain the inefficiency of crop share and other payment systems On an average, likelihood percent of refusing irrigation water is higher in fixed charge system but if we change the magnitudes of refusing, we can see the root causes are here in the likelihood of refusing irrigation water for its allocative inefficiency. Similarly, on an average condition,

the seller's visit to user's plot is higher but not significantly different from other systems. Another thing is that the seller's visits are higher in crop share system but the likelihood percent of refusing is not so lower like that. It is also an issue for having inefficiency in crop share payment system.

Table 7. Times of talk between buyer and seller regarding irrigation per season in different payment systems (Fig. per season)

Division name	Talking times between buyer and seller (No. per season: max=90)		
	Crop share	Fixed charge	Two part tariff
Chittagong	1	13	10
Dhaka	20	33	30
Khulna	23	25	33
Rajshahi	33	26	16
Rangpur	-	33	33
All	27	28	30

Source: IRRI-BAU field survey, 2013

Usual number of talk between user and seller is lower in crop share system and it is the highest in two part tariff system (Table 7). This interaction has strong value in irrigation water markets particularly to have irrigation water timely and sufficiently in the rice field during the HYV rice production season.

Sensitivity analysis:
Supervision issue in payment system in irrigation water market

In irrigation water market supervision of water to the user's plot is an important issue. The seller needs to visit user's plot time to time to check the water requirement of a plot. It is assumed that the more visit by the seller to user's plot may have chance to use more water which is the ultimate input for getting higher yield. In normal case, the seller visits user's plot 45 times in a crop season. On that level of visit, one farmer usually uses 301 hours irrigation and 110 man-days labour along with other inputs on per hectare basis. The average yield of the farmers is 6187 kg per hectare (Table 8)

Table 8. Situation of major driving variables with average visit by the seller to the user's plot (45) in different payment systems (Fig. per season)

Payment types	Target variables				
	Talk (No.)	Likelihood percent of refusing (%)	Irrigation (Hrs/ha)	Labour (Man-day/ha)	Yield (Kg/ha)
Crop share	22.0	7.1	328	102	6212
Fixed charge	21.9	7.4	275	113	6155
Two part tariff	23.6	4.4	319	112	6214
All	22.5	6.3	301	110	6187

Source: IRRI-BAU field survey, 2013

The irrigation and labour use depend on the number of visit by the seller to user's plot. It is seen from table 9 that the times of talking between user and seller is lower in fixed charge payment system compared to other payment systems. The farmers under fixed charge system use lower irrigation hours per hectare. Number of visit by the seller to user's plot is lower in two part tariff system since users are supposed to take more care of their own plots' irrigation. It was assumed that if commitment to provide water to users' plot somehow breaks, the hours of irrigation and labour use will be lower and it will affect the yield of HYV boro rice. If the likelihood of refusing irrigation percent would increase from 6 to 12%, the hours of irrigation and labour use per hectare would decrease 31.1 and 4.5 percent, respectively, which would ultimately affect yield. The more likelihood percent of refusing affects the use of irrigation hours more in crop share payment system than any other payment systems. Magnitude of the refusing percent is even more if it is reduced from 6 to 18%. In this situation, the hours of irrigation use per hectare would be 62.6 percent lower compared to the average level of use in crop share system. The important point here is to observe that the labour use per hectare (0.2%) would not decline like irrigation hours. It may reduce the yield (2.3%) as well like the previous situation. It makes significant difference between land markets and irrigation water markets.

Commitment issue in payment system in irrigation water market:

Table 9. Situation of major driving variables with average likelihood of refusing irrigation (6%) in different payment systems (Figure per season)

Payment types	Target variables				
	Talk (No.)	Visit (No.)	Irrigation (Hrs/ha)	Labour (Man-day/ha)	Yield (Kg/ha)
Crop share	24.2	54.2	401	111	6185
Fixed charge	23.6	45.9	324	118	6327
Two part tariff	29.2	43.2	372	113	6147
All	25.8	46.5	357	115	6232

Source: IRRI-BAU field survey, 2013

Transaction cost: Times of talk between user and seller in irrigation water market

To compare irrigation water market along with the land markets, let us check talking times between users and sellers and this impact on irrigation hours and labour use. First of all, we can look at the normal scenario of irrigation and labour use in table 9 where user-buyer talk 27 times during the whole irrigation season. On that context, they use 317 hours irrigation and 114 man-days of labour per hectare which gives on an average of yield, 6272 kg per hectare (Table 10).

Table 10. Situation of driving variables with average number of talk times (27) in different payment systems (Figure per season)

Payment types	Target variables				
	Likelihood of refusing (No.)	Visit (No.)	Irrigation (Hrs/ha)	Labour (Man-day/ha)	Yield (Kg/ha)
Crop share	5.2	45.4	354	110	6246
Fixed charge	6.5	41.9	284	117	6327
Two part tariff	3.5	34.7	341	114	6210
All	5.3	40.3	317	114	6272

Source: IRRI-BAU field survey, 2013

If the user-seller talks more regarding the irrigation water use in their plot, it shows that this transaction cost (talk between user and seller) from user side would increase the number of supervision of user's plot by the seller. It also reduces the likelihood percent of refusing irrigation to the user's (0.4%) plot. The conversation also helps to increase (1.6%) the use of irrigation hours per hectare. It has also been tested that those who have less number of talk between two groups (27 to 14%), they use less hours of irrigation and labour per hectare compared to the average situation. No significant differences were found among the payment system for irrigation.

This irrigation water market study is quite similar with land tenancy markets study done by Otsuka in the sense that in the land tenancy market study the author mentioned the transaction cost of land owner for the tenant in share cropping system. He proposed it for improving input use like seed, labour, fertilizer, etc. He emphasized this transaction cost for making more cash flow available to the tenant so that s/he can use it for input purchase. Supervision of tenant's activities like harvested amount and its distribution to the land owner was also the issue of land tenancy markets. Here we have considered that transaction cost for the cases of irrigation

hours use and also labour for explaining the irrigation water markets in relation to the different payment systems for irrigation in the HYV rice production. It has strong policy implications in a sense that without incurring any direct cost for getting more water, a farmer can push seller to provide more water in their plot which will ultimately produce higher yield. As a payment system, crop share was assumed to be the most inefficient one but the survey results say that the fixed charge system is also somehow inefficient in the sense of resource allocation. Two part tariff is better compared to the two other available two payment systems but it is not also out of those shortcomings. The farmers who are practising two part tariff have to face the problem of cash capital since they need regular fuel and service cost for using tubewell and providing water to the plot.

Times of talk issue in the case of land tenancy market:

Table 11. Situation of driving variables with average number of talk times (27) in different payment systems regarding land tenure status (Figure per season)

Payment types	Share cropping tenancy					Fixed renting tenancy				
	Likelihood of refusing (%)	Visit (No.)	Irrigation (Hrs/ha)	Labour (Man-day/ha)	Yield (Kg/ha)	Likelihood of refusing (%)	Visit (No.)	Irrigation (Hrs/ha)	Labour (Man-day/ha)	Yield (Kg/ha)
Crop share	8.8	51.5	302	104	5543	4.3	39.5	257	90	6693
Fixed charge	6.5	32.8	227	110	5997	6.0	36.9	273	124	6418
Two part tariff	2.7	25.3	358	111	6862	2.9	40.9	282	119	5718
All	5.4	32.5	285	110	6254	4.6	38.7	273	116	6231

Source: IRRI-BAU field survey, 2013

In the case of land tenancy markets, the major variable uses have the same directions and patterns as before. Irrigation hours use is little bit higher in share cropping. Its use is in fixed charge payment is lower than crop share payment. The most important point to see here is that the likelihood percent of refusing irrigation in share cropping tenancy is 8.8 in crop share payment which is much higher than fixed renting tenancy system and it indicates the very high rate of refusal there. The overall likelihood percent of refusing irrigation and labour use is lower in share cropping tenancy markets. Within the payment systems, the labour use is lower in crop share system which again reminds us the problem of share cropping system. We need to mention here one important thing that is the data is not sufficient enough to compare all this issues with irrigation water markets for comparing it with land tenancy markets. It is seen from the analysis that the times talk between user and seller in land tenancy markets has effect on resource use by the

tenants. If the user and seller have less scope to talk each other, there will be slightly lower use of inputs and these will produce lower yield of HYV boro rice production. The important message from this analysis is that irrigation hours use and labour use are not similar among the payments and we need to take that into consideration. We can push time of talk between user and seller but the improvement also depends on the payments types. It is not only a problem for crop share but it is also a problem for fixed charge payment system which was somewhat out of the researchers' consideration before.

Results from the specific models estimation:

We need to check the findings with the empirical model and how the specific target variables have influences there (Table 12). We have specified our model equation earlier. The results are as follows.

Model I: Major inputs included

Let us see the overall influence of the independent variables and dummies on the dependent variable, yield. Here we have keen interest to see the use of irrigation hours and labour use. This model I estimates the yield, 6292 kg per hectare in own payment system where soil type is loam and land type is low land. The coefficients of irrigation hours and labour are 0.37 and 0.30 respectively which mean an additional hour of irrigation may increase yield by 0.37 kg and an additional man-day of labour use may increase the yield by 0.30 kg. The coefficient of irrigation is significant at 5 percent level of significance. The coefficients of share pay and two part tariff payment dummies are negative 207.66 and 160.72, respectively, meaning that those who are in crop share and fixed charge payment systems may get 207.66 and 160.72 kg lower yield per hectare than the yield (62912 kg) of own payment system. On the other hand, the coefficient of fixed charge payment system (12.96 kg) means that the farmers using fixed charge payment have 12.96 kg more yield per hectare than own payment system. Other significant coefficients are farm size, kinship between user and seller and respondent's education. One hectare increase in respondent's farm size may increase yield by 246.24 kg and one year schooling education may increase yield by 30.20 kg.

Model II: Supervision included

In irrigation water market, supervision from tubewell owner to the user's plot is very important. In land tenancy markets, it was shown that the land owner's supervision has positive yield response of the share cropping tenancy system. It can also be seen from here that supervision by the seller has increased the labour coefficient from 0.29 in Model I to 0.88 though it is not statistically significant. Interaction coefficient of supervision with share cropping payment system shows negative 1.63. The interaction coefficient of fixed charge payment is 4.76 and statistically

significant (at 5 percent level of significance) and the meaning is that the supervision of seller to user's plot irrigation may increase yield by 4.76 kg per hectare. Negative sign of coefficient of supervision interaction factor indicates a lesses importance of supervision in case of crop share payment system. Again, farm size, kinship and respondent's education have statistically significant influence on yield of HYV boro production.

Model III: Commitment of seller included

Like land tenancy market, we have assumed here that the transaction cost between user and seller may increase yield in share crop payment system. As assumed and discussed in the hypothesis formulation part of this study, the transaction cost from user may not increase the yield in share crop payment system. We get the same indication here in Model III's output. Here it is seen that like Model II, the coefficient of labour increases (0.88 to 0.97) with the increase in times talk between user and seller but the value of irrigation coefficient again decreases (0.21 to 0.19). Here coefficients of times talk interaction with share and fixed payment systems are negative. Meaning is that the times talk between user and seller may not increase yield. It is seen that interaction factor of times talk with two part tariff dummy is positive but not statistically significant. Here sandy loam soil dummy, farm size, kinship dummy and respondent's education coefficients are positive and statistically significant.

Model IV: Transaction cost included in land tenancy markets

As discussed before, we have included transaction cost along with land tenancy issue here in this irrigation water market Model IV. The results of this model show that times talk interactions factors increase (0.22 to 0.23) the coefficient of irrigation hours in two part tariff payment system. It has reduced the coefficient of labour use from 1.03 to 0.95. Here yield increases from 5749 to 5762 kg per hectare. The coefficient of sandy loam dummy, farm size, kinship of user and seller and respondent's education have significant and positive influences on yield of HYV boro rice production.

Table 12. Summary of the variables and coefficients in different models

Name of variables	Values of the coefficients in different models			
	I	II	III	IV
Irrigation (hour)	0.34**	0.20	0.17	0.17
Labour (Man-day)	-0.75	-0.14	-0.08	-0.24
Seed (kg)	-5.08**	-4.78*	-4.79*	-5.20*
Tillage (hour)	3.41	8.75	10.87	12.09
Fertilizer (kg)	0.85***	0.77**	0.77**	0.78**
Other fertilizer (kg)	0.02	0.03	0.03	0.03
Insecticide & herbicides (kg/lit)	4.27	5.37	6.68	6.57
Share payment dummy	-215.21	70.72	129.04	212.10
Fixed charge dummy	-9.55	-84.37	-34.57	11.78
Two part tariff dummy	-162.81			
Share payment dummy* No. of visit		4.52**	4.49**	4.90**
Fixed charge dummy* No. of visit		-2.49	-2.71	-1.99
Share payment dummy*Likelihood percent of refusing irrigation			-7.31	-6.58
Fixed charge dummy* Likelihood percent of refusing irrigation			-8.25	-5.31
Share cropping dummy*No. of talk between user and seller				-2.40
Fixed renting dummy* No. of talk between user and seller				-4.87
Sandy loam soil dummy	-283.89**	-275.75**	-267.48**	-251.66*
Clay loam soil dummy	-68.70	76.76	97.42	94.76
Clay soil dummy	34.49	158.11	153.42	168.99
Medium high land dummy	-148.04	60.78	58.54	58.05
High land dummy	31.77	226.10	239.68	252.06
Farm size (ha)	231.71*	522.36**	536.13**	561.43**
Household head education (years schooling)	30.20***	32.99**	33.57**	33.06**
Kinship dummy	191.32*	230.82*	233.44*	236.68**
Irrigation distance (meter)	-0.13	-0.18	-0.17	-0.18
Constant term	5935.73	5427.50	5390.53	5383.78
No. of observation	958	716	716	716
Probability of F value	0.0000	0.0001	0.0002	0.0002
R^2	0.0570	0.0713	0.0736	0.0771
Adjusted R^2	0.0379	0.0445	0.0442	0.0450

*, **, *** indicate the significant at 10%, 5% and 1% significance levels

Elasticity of the major inputs:

Figure 2. Elasticities of major inputs in different models
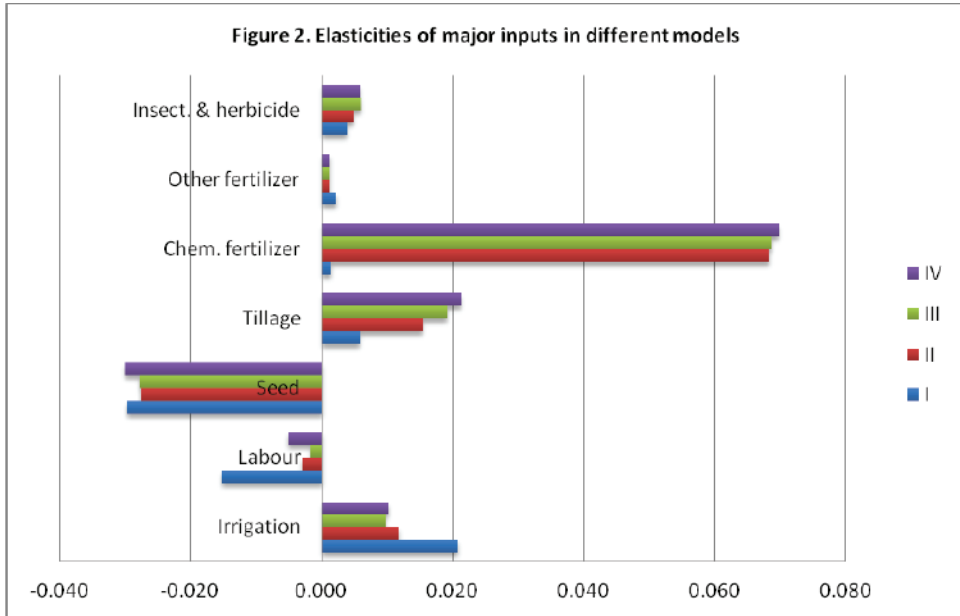
The above elasticity of major inputs shows that there is a possibility to increase yield by increasing chemical fertilizer, tillage and irrigation hours.

Conclusions:

This paper presents information on the setant by variation in yield, irrigation hours use and labour use, under different payment systems and land tenancy situations. It also indicates the difficulties of supervision, commitment and transaction cost on the use of irrigation and labour uses. The tabular presentation and model analyses show that the variations of yield, irrigation and labour uses are different depending on the payment systems and land tenancy categories. Some cases of variation have been statisfication significant. Models show the same indications regarding supervision and commitment issues of providing irrigation water to the users' plot both in crop share payment and share cropping system. Among all the payment systems, crop share and fixed charge payments have resource allocation problems of irrigation water and labour uses and it may be also true for the other inputs use. This problem can't be improved so much like in the land tenancy market by the users through providing only transaction cost because they have no strong instruments. In the land tenancy market, landlords are the owner of very scarce resource, land, and the tenants are very obedient to the landlords otherwise they might lose it for future use. Landlords are also socially very dominant. In irrigation water market, these issues are almost absent and those make it different from land tenancy market. It is seen from the tabular analysis that the fixed charge system is less

viable since there is more scope to refuse irrigation water at times of scarcity of water, high price of diesel, bad relation between user and seller and limited cash flow to sellers in the pick time of rice growing since at that time crop needs water more frequently. The two part tariff has fewer demerits than both crop share and fixed charge payment systems since the user uses own diesel and labour for managing water by using tubewell. But this is limited scope of getting access to the tubewell in two part tariff system because other users are on queue for using tubewell.

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Development Disparity and North West Region in Bangladesh: Context Sustainable Development

Dr. Md. Morshed Hossain *

Abstract: *Development disparity in the course of economic development is a common observation in all countries throughout the world, developing on developed. Traditionally development efforts of Bangladesh government have aimed at achieving "equitable economic growth." The concept is an overriding factor in formulating national policy strategies of poverty alleviation. Therefore, the present study has analyzed development disparity in the north-west zone of Bangladesh and focused on various issues. documented and examined the relationship between economic growth, development disparity, income inequality and poverty in Bangladesh and order provide some policy suggestions to foster growth, reduce development disparity, income inequality and poverty in Bangladesh in order to achieve sustainable development of the countrys Disparity between North-West zone and other parts of Bangladesh has increased over time as a result of uneven development, poor connectivity with the urban centers, insufficiency or absence of public infrastructure.*

To achieve the specific targets for reducing regional disparities will require well thought out strategies and policies to ensure that the growth process is inclusive and that the human development and other poverty reduction policies meet the needs of the lagging regions. Policy initiative to address regional disparity should also include the setting up of a separate fund in the framework of the annual development program for supporting the development of the Rangpur division. In addition, emphasis should be given to projects that address regional inequalities in the selection of projects.

1. Introduction

Bangladesh is divided into 7 administrative divisions, and these divisions are further divided into 64 districts. In terms of socioeconomic conditions and physical geography, there are large differences between regions. In order to formulate

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better policies to promote sustainable and equitable development, it is imperative to examine inequality and poverty in a spatial context.

North-West Bangladesh is the northern-most area of the country, known as greater Rangpur-Dinajpur in Rangpur Division. It covers 37 Upazilas (sub-districts) of 8 districts, namely Dinajpur, Thakurgaon, Panchagarh, Nilphamari, Kurigram, Gaibandha, Lalmonirhat and Rangpur. The greater Rangpur-Dinajpur region includes 307 Unions – the lowest tier of local government and extends into the riverine belt to include the islands and sandbars in the River Brahmaputra. The area is generally very low-lying, and crisscrossed by river systems. The total area is 5,498 sq. with a population of 6.2 million. The northwest Bangladesh is histori-cally more neglected and poor. The soil tends to be sandy and water tables deeper than in other regions. Rangpur division is vulnerable to frequent natural disasters. People face catastrophe like cyclones during summer, floods and river-bank erosion in the rainy season, drought in summer, spring and cold wave in winter. Lacking any significant industrial development agriculture is the mainstay of the region and the main source of employment. The spread of irrigation has reduced the extent of the lean season but remains problematic.

Inequality in the distribution of income has increased. Rising economic inequality (which may be manifested in different ways, e.g., through inequality in the distri-bution of income, wealth, assets, etc.) is a major challenge that the world faces today. Both developed and developing countries are facing this challenge although the nature and magnitude of the problem varies from country to country.

Traditionally development efforts of Bangladesh government have aimed at achieving "equitable economic growth." The concept is an overriding factor in formulating national policy strategies of poverty alleviation. In this context, the objectives of poverty alleviation are mostly designed with social development factors, particularly improvement in health and education indicators. One of the most important policy documents of Bangladesh, Sixth Five Year Plan (2011-2015), status in it 7th chapter "*Managing Regional Disparities for Shared Growth and Sustained Poverty Reduction*" that the Government is very much concerned about regional disparities and is committed to take all necessary steps to reduce disparities. The Sixth Five Year Plan provides a strong platform to develop a strat-egy for lowering regional disparities over the longer term and to provide a policy framework for initiating proper actions.

Though the poverty trend has been a declining in the recent past, a major emerging concern has been the growing regional disparity, between North -West and other parts of Bangladesh. Poverty level in North- West zone tended to be significantly higher compared to other zones in Bangladesh.

With this background, the present study has analyzed the disparity in the north-west zone in Bangladesh and focuses various issues such as. Analyze the nature, extent and trends in growth, poverty and income inequality in Bangladesh documents and examines the relationship between economic growth, development disparity, income inequality and poverty, and provides some policy suggestions to foster growth, reduce development disparity and income inequality and poverty in the country.

The paper is divided into five sections, Section 1 introduc is the topic Section 2 reviews the related literature. Section 3 describes the methodology. Aspects of regional disponting and the poverty situation are discussed in section 4. Section 5 concludis the paper and makes recommendations for policy.

2. Literature Review

This section makes brief observations on some of the studies undertaken since the HIES 2005, 2010 and Sen (2005), CPD papers, GED and the WB (2008).

Zohir (2011) states that the issue of regional differences was overshadowed by geographical targeting of the poor and the more recent focus on Monga- affected people in the north- west. Thus, pockets of high ecological vulnerability (including river erosion) and higher incidence of poverty were identified- largely following exercises based on Household Income Expenditure Survey (HIES) data, and fine-tuned further with 'small area' poverty mapping under the initiative of the World Food Programme (WFP). Much later, commitments for monga eradication were voiced, more concertedly, by the Palli Karma Shahayak Foundation (PKSF). On both counts, the prevalence of extreme poverty in the northwest Bangladesh has long been recognized. Prevalence of extreme poverty in the northwest was also accounted for in the WFP poverty and vulnerability maps, which proved a basis for resource allocations.

Sen (2005) attempted to explain the variations of growth. His analysis included such factors as human capital (literacy rates), gender inequality and initial level of expenditure and asset inequality. Multivariate analysis in Sen (2005) points to the importance of such factors as human capital, agriculture technology, urban dynamism and inequality. Much of Sen's analysis was constrained by data limitation-in particular district- level GDP estimates by BBS have always been suspect. Sen recognized that more remains to be understood about the "missing factors"; and these relate to the role of infrastructure, access to finance, and the quality of local/regional governance.

The report from the Planning Commission (GED 2008) makes several observations, of which the following are noteworthy:

- The lagging regions are more dependent on agriculture and less industrial-ized;
- These regions received relatively less allocation of Social Safety Net Programs (SSNPs) as well as of Annual Development Program (ADP) funds in the past;
- Some regions lag behind others in respect of some critical infrastructure facilities, such as, transport & communication, electricity and gas.

CPD (2008) observes that there are centre- periphery aspects of regional disparity (disparity between Dhaka, the centre and other districts, the peripheries) rather than the east- west divide. This required an emphasis on development of areas where poor people are concentrated rather than looking at the relevant issues at divisional level. This was also particularly because divisions are not homogeneous and there is heterogeneity in terms of poverty and level of development even within each of the districts.

CPD (2008a) belives that public expenditure allocation in Bangladesh has some in-built regional inequality features, which, if not addressed properly, may have adverse consequences for the homogenous development of the country in the long run.

Deb et all (2008) conclude that regional inequality is a growing concern in Bangla-desh. Bangladesh during pre- independence period experienced serious regional inequality. They find two results: (i) higher the level of initial income, higher the level of current per capita income, higher the GDP growth, and higher the per capita income in the district; and (ii) the proportion of landless household had a significant negative effect on per capita income level. If the proportion of landless is viewed as an outcome, no new knowledge is derived from the exercise.

Afser Rita (2010) states that weak governance as a result of clientelist practice is often considered as the single most important factor behind the growing inequality and persistent poverty in Bangladesh. Using rights-based approach (RBA), this article examines regional disparity, central-local relations and the scope for peoples' participation under the existing rules and practices. It also sheds light on the cultural aspects of governance constituted of trust, social solidarity and institu-tional connectivity, using an empirical data set generated from a census of six villages in Bangladesh backed by a triangulation of the qualitative and quantitative research tools.

Sen and Ali (2005) tracks spatial inequality in social progress in Bangladesh as evidence from the district- level data. It uses a multivariate framework to explore the differential pace of social progress at the spatial level. The paper concludes that the extent of spatial inequality in social development has decreased over the second half of the nineties although the overall level of inequality remains consid-

erable. Policy implications are drawn for attacking spatial chronic poverty.

Mujeri (2010) argues that significant disparity exists in the literacy rate between rural and urban areas, between females and males, and among different administrative divisions of the country. Similarly, geographical disparity exists in access to, and participation in, primary education.

Chowdhury and Osmani (2010) show that the comparison of per capita public spending on health expenditure across districts reveals a mixed picture of horizontal equity. The overall distribution happens to be biased against the poorer districts in that the richer districts have traditionally enjoined a higher per capita spending than the poor ones.

The World Bank report (WB 2008), with the sub-title, "Creating Opportunities and Bridging the East- West Divide", deserves a more critical examination due to its apparent rigor and extensive use of HIES data converging to a strong assertion on "regional disparity". Several key findings of the WB report are:

- Changing pattern of regional inequality: Regional inequality in income/consumption in Bangladesh had been significant till the early 1990s. It is said to have been induced mainly by large differences between the greater Dhaka region and the rest of the country. It is suggested that most regions in the East moved closer to the greater Dhaka region in terms of incomes and poverty during the period between 2000 and 2005, while the West continued to lag behind.
- Presence and absence of growth poles: The eastern region benefited from integration with growth poles, namely Dhaka and Chittagong; in contrast, the West and Southwest remained isolated without a growth pole.
- Other aspects: In addition, a combination of factors contributed to stagnant incomes in lagging regions- relative lack of remittance income, inadequate public infrastructure like electricity and roads to markets, lack of growth poles within these regions, and deficiencies in assets and endowments among households.
- Wage growth as the key determinant of income growth: Ninety percent of the growth in real income per capita is attributable to wage growth and rest to an increase in the share of working age population in total population. Wages grew robustly in the eastern part of the country but stagnated in the West. While both East and West created employment to much the rise in working age population, the East created many more jobs that are more stable (salaried), better paid and in a robustly growing non- farm sector.
- Intra-divisional factors explain most changes in poverty: Sectoral decomposition of changes in poverty headcount suggests that intra-divisional factors account for almost 90 percent of the poverty change and not the

inter-divisional factors (population shift and interaction effects).

Titumir and Rahman (2011) states that there is no denial that geography, culture and politics have been historically intertwined to result in differences across region. Therefore, a different result is also found in case of the incidence of poverty according to the division.

Gafaru Abdulai (2014) argues that prospects for overcoming spatial inequalities in the clientelist-driven political environments of developing countries depend substantially on the ways in which elites from lagging regions are incorporated into ruling coalitions, and how such forms of incorporation shape their influence over resource allocation decisions and policy agenda more broadly. The paper also departs from much of the existing literature on spatial inequality by emphasizing the need to understand 'powerlessness' on the part of lagging regions as stemming not necessarily from their political exclusion from political decision making structures, but also from their incorporation into such structures on terms that potentially underpin their poverty. Based on this argument, the paper proposes a new framework for exploring the deeper and more structural underpinnings of spatial inequality in developing countries.

Globalization is claimed to have greatly reduced inequality between countries. At the same time, there are plenty of empirical studies emphasizing that inequality within countries is increasing. Besides, the relationship between income inequality and growth is still a debated issue, which can be summarized by the Shakespearian-like dilemma "is inequality good or not good for growth". There are still no clear theoretical explanations and/or overall accepted empirical evidence about this relationship that allow us to predict what the consequences of increasing or declining income inequality may be.

Williamson (1965) found some supportive evidence for a non-linear relationship between regional inequalities and national development. His conclusions derive from two main empirical artifacts: first, regional disparities are greater in less developed countries and smaller in the more developed ones; second, over time regional disparities increase in the less developed countries and decrease in the more developed. Accordingly, regional income inequalities can be considered as a by-product of the development process of a nation and any attempts at lowering them may eventually hamper this process.

3. Methodology

The study was mainly based on the data of Household Income and Expenditure Survey (HIES) of 2000, 2005 and 2010 conducted by the Bangladesh Bureau of Statistics (BBS). Different statistical reports, relevant research papers, books and

many national and international journals were also consulted for conducting this research. Important secondary sources of data are the Bangladesh Bank, Bureau of Manpower, Employment and Training (BMET), International Migration Report of IOM, and reports of World Bank, IMF and ADB. The study also gathered data on government's ADP allocation over a substantial period of time and distribution of this allocation among the divisions. Finally, bi-variate analysis was conducted to determine association of different variables with poverty and inequality.

4. Aspects of Regional Disparity and Factors Affecting Regional Disparity

4.1 Poverty Situation

Bangladesh has been successful in achieving significant reduction in poverty since 1990. But the commendable performance in terms of poverty reduction at the national level has not been equally shared among its different components at the sub national level. This is evident that the pace of poverty reduction differed among different divisions.

Table: 1. Incidence of Poverty (Head Count Rate, using upper poverty line) by Divisions, 1995- 96 to 2010

	2010	2005	2000	1995-96
National	31.5	40.0	48.9	53.1
Barisal	39.4	52.0	53.1	59.9
Chittagong	26.2	34.0	45.7	44.9
Dhaka	30.5	32.0	46.7	52.0
Khulna	32.1	45.7	45.1	51.7
Rajshahi	29.8	51.2	56.7	62.2
Rangpur	46.2	-	-	-
Sylhet	28.1	33.8	42.4	-

Source: BBS, HIES Reports (1995- 96, 2000, 2005 and 2010)

From Table-1, the estimate of HCR of poverty by divisions using the upper poverty line in 2010 reveals that Rangpur division has the highest incidence of poverty (HCR) at 46.2 percent, followed by Barisal division 39.4 percent and Khulna division 32.1 percent. On the other hand, Chittagong division has the lowest HCR of incidence of poverty at 26.2 percent followed by Sylhet division at 28.1 percent and Rajshahi division at 29.8 percent. A comparison of the incridence of poverty by Division is shown in Graph 1.

Graph- 1: Incidence of Poverty (%) by Division
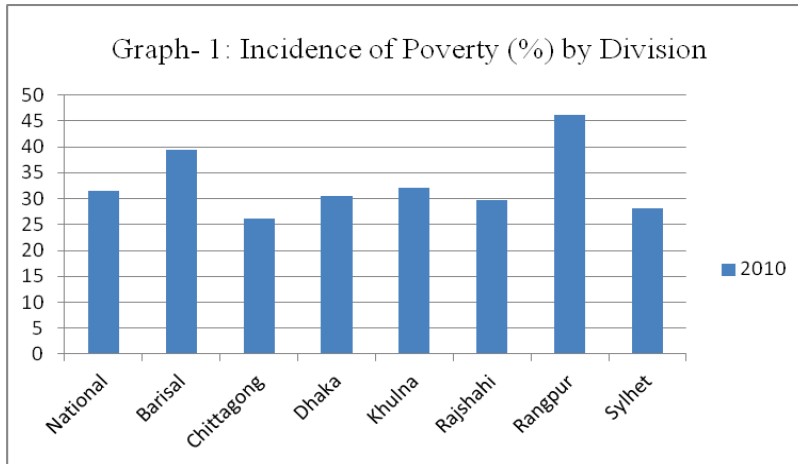
Source: BBS, HIES Reports (2010)

Between 2000 and 2005, the poverty head count rates fell less rapidly for the divisions of Barisal, Khulna and Rajshahi and in some categories, these rates even increased. This is in sharp contrast to the case of other three divisions, namely, Dhaka, Chittagong and Sylhet, which have experienced faster poverty reduction. Among all the divisions the poverty rate is highest (46.2 percent) in Rangpur division. The trend in poverty reduction rates between 2005 and 2010 suggests that regional disparity observed in previous household surveys with respect to head count poverty has narrowed significantly.

A conventional way to measure poverty is to establish a poverty line, defined as the threshold level of income needed to satisfy basic minimum food and non-food requirements and determine the number of households (People) below that line as a percent of the total households (Population). This Head-count Index (HDI) is a measure of the incidence of poverty. This measure is easily understood by the general public and hence is popular with policy makers and development practi-tioners. The limitation of the measure is that it is insensitive to the change in the level and distribution of income among the poor. The other measures of poverty commonly used to take into account the distribution issue are a) the Poverty Gap Index and b) the Squired Poverty Gap Index. The Poverty Gap Index measures the average (of poor and non-poor households) of the percent of income gap of the poor households from the poverty line, and is used as a measure of intensity of poverty. It measures the percent of total income needed to be transferred from the non- poor to poor households to lift the poor above the poverty line. However, if the society is averse to inequality in the distribution of income among the poor, the poverty measure must be sensitive to income transfers from the moderate to the extreme poor. It means that higher priority must be given to the improvement in the economic conditions of the extreme poor compared to the moderate poor. The

Squared Poverty Gap Index satisfies this condition, and is used as a measure of the severity of poverty.

Poverty situation at the national and regional level is reported in Table- 2. Poverty Gap and Squared Poverty Gap by seven administrative divisions are presented in this Table.

Table-2 : Poverty Gap and Squared Poverty Gap by Divisions

Poverty Line and Division	Poverty Gap in percent (using upper poverty line)	Squared Poverty Gap in percent (using upper poverty line)
National	6.5	2.0
Barisal	9.8	3.4
Chittagong	5.1	1.5
Dhaka	6.2	1.8
Khulna	6.4	2.0
Rajshahi	6.2	1.9
Rangpur	11.0	3.5
Sylhet	4.7	1.3

Source: BBS, HIES (2010)

The Poverty Gap (PG) estimates the depth of poverty of the population. The HCR of poverty gives only the percentage value of poverty incidence, but it does not measure the distance of the poor households from the poverty line. Using the upper poverty line, PG at the national level was recorded at 6.5 percent in 2010. The same was the highest for Rangpur division at 11.0 percent in 2010.

The Squared Poverty Gap (SGP) measures the severity of poverty. Using the upper poverty line, The lowest SPG at the national level was recorded at 1.3 percent in 2010. The same was the highest for Rangpur division 3.5 percent.

4.2 Social Safety Net Receiving Households

Social Safety Net Programmes (SSNPs) are a set of public measures, which a society provides for its members to protect them from various types of economic and social hardships, resulting from a substantial decline in income due to various types of contingencies such as loss of cultivable land, crop failure, land and home-stead loss due to river erosion, unemployment, sickness, invalidity, old age or death of earning household members. Social Safety Net Programme (SSNP) is generally targeted to the poor. The division wise distribution of households receiving benefits from Social Safety Net Programs shows that the highest percentage of households receiving benefits from SSPNs are located in Khulna Division

(37.30%), followed by Barisal division (34.43%) and Rangpur division (33.65%) (Table- 3).

Table -3: Distribution of Households Receiving Social Safety Net Program Benefits by in percent by Divisions, 2010

Division	National	Rural	Urban
National	24.57	30.12	9.42
Barisal	34.43	37.20	20.66
Chittagong	19.99	24.50	7.44
Dhaka	18.87	27.80	5.99
Khulna	37.30	43.27	16.66
Rajshahi	20.66	22.85	10.17
Rangpur	33.65	35.11	23.68
Sylhet	23.51	26.06	10.50

Source: BBS, HIES (2010).

4.3 Income and Expenditure of Households

The highest average monthly household nominal income was recorded at Tk. 14092 for Chittagong Division followed by Dhaka Division at Tk. 13226 and Sylhet Division at 11629 and all of these exceeded the national average of Tk. 11479 in 2010. The four Divisions, which recorded monthly household income below the national average, were Barisal Division at Tk. 9158, Khulna Division at Tk. 9569, Rajshahi Division at Tk. 9342, and Rangpur Division 8359 (Table- 4).

Table- 4: Monthly Household Nominal Incomes and Consumption Expenditures by Divisions- 2010

Division	Income (Taka)	Consumption Expenditure (Taka)
National	11497	11003
Barisal	9158	9826
Chittagong	14092	14360
Dhaka	13226	11643
Khulna	9569	9304
Rajshahi	9342	9254
Rangpur	8359	8298
Sylhet	11629	12003

Graph-2: Monthly Household Nominal Incomes and Consumption Expenditures by Divisions- 2010
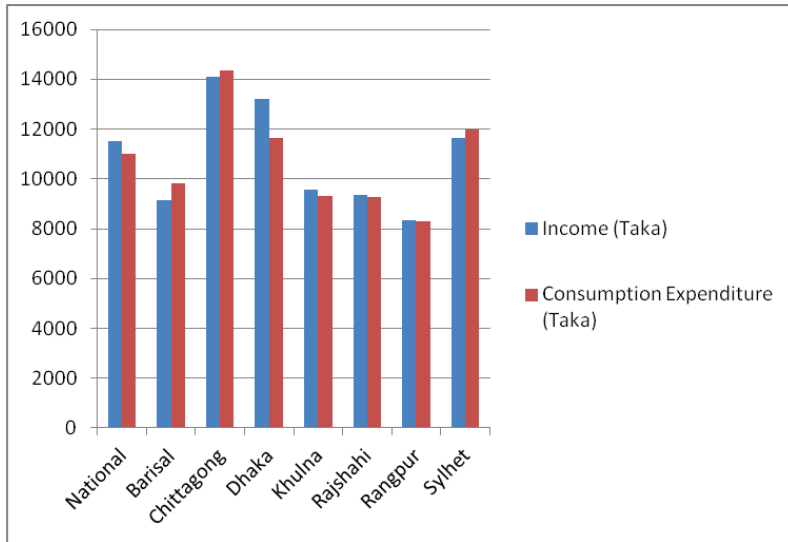
Source: BBS. HIES (2010)

The highest average monthly consumption expenditure was recorded in Chittagong Division at Tk. 14360 followed by Sylhet Division at Tk. 12003 and Dhaka division at Tk. 11643 and their income exceeded the national average of monthly household consumption expenditure at tk. 11003 in 2010. On the other hand, the average monthly household expenditure of Barisal Division, Khulna Division, Rajshahi division and Rangpur Division fell well below the national average and were estimated at Tk. 9826, Tk. 9304 Tk. 9254 and 8298 respectively.

4.4 Public Expenditure and Regional Inequality

The public expenditure in capabilities has always been less than the required level. The public expenditure in education, health and housing has a bearing on poverty. Though Tk. 86,891 crore (53.12 percent of total budget) is proposed as poverty reducing expenditure in the fiscal year 2011-12, as a percentage it was 3.55 percent less than in the revised budget of the previous fiscal year 2010-11. The government expenditure in social safety net programmes was to the tune of about 13.79 percent of the total budget and 2.51 percent of GDP. This is, however, not adequate, given the magnitude of the problems.

Infrastructure is an important determinant of the level of development and intensity of disparity. Physical connectivity, gas and electricity are of crucial importance to stimulating the process of industrialization. The Jamuna Multipurpose Bridge played an important role behind some poverty reduction in the northern

Source: BBS. HIES (2010)

Bangladesh, but its worth will perhaps take more time to materialize fully. Agriculture-dominated regions tended to develop at a slower pace compared to regions where growth was engineered by industrial and service sectors.

Public investment has a critical role in development. Estimates show that per capita public expenditure was higher in Dhaka, Chittagong and Sylhet compared to the four other divisions (Rajshahi, Barisal, Khulna and Rangpur).

It is commonly acknowledged that public expenditure can play a significant role in reducing poverty. If spent unequally public expenditure can exacerbate the exist- ing imbalance in growth and poverty reduction. Therefore, it is a reasonable concern among development practitionars to investigate the issue of regional distribution of public spending. It has been alleged that inequality in the distribu- tion of political power has often led to some extent to a disproportionate public spending, which in turn may hinder prospects of poverty reduction.

Table- 5: Per Capita Government Expenditure 2009-10 (up to March)

District	Development Expenditure (Taka in thousands)	Revenue Expenditure (Taka in thousands)
Barisal	1.102	3.991
Chittagong	1.421	3.912
Dhaka	1.377	12.370
Khulna	1.481	5.459
Rajshahi	1.942	2.894
Rangpur	0.865	3.991
Sylhet	1.325	5.049

Source: Ministry of Finance, Bangladesh

A considerable regional disparity exists in ADP allocation in the Rural Develop- ment and Institutions (RDI) sector in Bangladesh. Table- 5 lists the ranking of different districts according to amount of ADP received in this sector in a descend- ing order. Based on the district- wise disaggregation among the greater districts, Patuakhali enjoyed the largest amount of ADP Road Per Capita (Adproadpc) (Tk. 2259.47) from year 1995/96 through 2007/08 (Table 6).

**Table- 6: Ranking of Districts in Terms of Rural Development
and Institutions ADP**

(1995-96 to 2007-08)

District	Adproadpc (Taka per capita)
Patuakhali	2259.47
Jamalpur	1518.81
Noakhali	1056.97
Tangail	951.43
Barisal	658.61
Rangpur (15 th)	445.46

Source: CPD Occasional Paper Series- 71, 2008

The ADP allocations exhibit widespread fluctuations with regard to distribution among the greater districts. Jamalpur is the highest total per capita road ADP allocation recipient over the reference period, while Rangpur is the 15th position (Table 7).

Table- 7: Ranking of Districts in Terms of Road ADP (1995/96- 2007/08)

District	Adproadpc (Taka per capita)
Jamalpur	3020.50
Khulna	2218.74
Dhaka	1473.42
Faridpur	498.27
Rangpur (15 th)	492.67

Source: CPD Occasional Paper Series- 71, 2008

4. 5 Education

Education develops human skill for providing quality services to the community. Education is also termed as human capital and it makes people fit for professional jobs. Education is recognized as one of the basic human needs. It has direct bearing to overall welfare of individuals as well as households and society.

Although a significant change in terms of primary education is found across income groups, considerable disparity linked with economic background is observed in secondary education enrollment. Poor people are mostly absent at the tertiary education level. In Bangladesh children in the rural areas are lagging behind significantly in terms of getting quality education.

Table- 8: Literacy Rate (7 years and over) by Gender and Administrative Division (Percent)

Division	National	Male	Female
National	57.91	61.12	54.80
Barisal	57.90	60.62	55.29
Chittagong	60.54	63.40	57.90
Dhaka	57.73	60.01	55.54
Khulna	59.28	63.84	54.61
Rajshahi	57.37	60.45	52.04
Rangpur	54.68	59.88	49.36
Sylhet	55.22	58.98	51.67

Source: BBS, HIES (2010)

The divisional level literacy rates have been provided in Table-8. At the aggregate level, the highest literacy rate 60.54 percent is observed in Chittagong division and the lowest of 54.68 percent in Rangpur division.

At the tertiary level education, the highest number of 17 public and 54 private university is observed in Dhaka division and the lowest number only 2 public and no private university in Rangpur division (Table- 9).

Table- 9: University by Administrative Division

Division	Public University	Private University
Barisal	02	01
Chittagong	05	10
Dhaka	17	54
Khulna	04	02
Rajshahi	03	05
Rangpur	02	00
Sylhet	02	04

Source: UGC Website

4.6 Access to Electricity, Telephone, Mobile phone and Computer

Distribution of households with access to electricity, telephone, mobile phone, and computer is presented in Table-10. In 2010, 55.26% households reported to have access to electricity at the national level, 63.4% access to mobile phone, 2.07% access to telephone and 3.01% had access to computer. But in Rangpur Division

only 30.07% access to electricity, 41.59% had access to mobile phone, 1.25% to telephone, and 0.70% to computer.

Table-10: Percentage of Households Having Electricity and Other Facilities by Administrative Divisions

Division	Electricity	Mobile phone	Telephone	Computer
National	55.26	63.74	2.07	3.01
Barisal	40.12	59.56	1.14	1.41
Chittagong	60.34	70.84	3.02	3.62
Dhaka	67.34	71.71	2.38	4.70
Khulna	54.13	61.09	1.65	1.84
Rajshahi	51.88	59.85	1.33	1.33
Rangpur	30.07	41.59	1.25	0.70
Sylhet	47.22	60.63	2.76	4.51

Source: BBS, HIES (2010)

4.7 Wage gap

There is wage gap between Rangpur and Dhaka division. Male Wage rate in Dhaka division in August 2012 was Taka 250- 300 per day while in Rangpur division it was Taka 211.20 per day (Table- 11).

Table - 11-: Wage Gap

Wage Rate	Rangpur Division August 2012 (Per day/ Taka)	Dhaka Division August 2012 (Per day/ Taka)
Wage Rate (Male)	211.20	250-300
Wage Rate (Female)	150.00	200-250
Wage Rate(Child)	107.00	100-150

Source: NBI, RDRS, Bangladesh 2012

4.8 Access to Energy/ Gas Connectivity

Availability of energy plays a critically important role in helping develop regional economies. Due to the primacy of Dhaka and Chittagong, the availability of electricity has been more pronounced in the eastern districts than in western and southern districts. Similarly, there are substantial differences in terms of availability of natural gas. Large areas of northern and southern parts of the country still do not have natural gas coverage (Table 12).

Table-12:   Grouping of Division by Gas Connectivity

Division	Gas Connectivity
Dhaka	1968
Sylhet	1977
Rajshahi	1999
Khulna	-
Chittagong	1976
Barisal	-
Rangpur	-

Source: Zohir (2011)

4.9 Access to International Migration and Foreign Remittances

Inflow of foreign remittances is the single most important informal safety net program in Bangladesh. It has been a major factor in helping Bangladesh to reduce poverty since the 1990s. According to the Ministry of Expatriates Welfare and Overseas Employment, 5.575 million Bangladeshi workers were working abroad as of June 2009, and every year around 0.5 million people are migrating with overseas employment. Remittance is now contributing 11.15% to the GDP, which is 6 times higher than the ODA and 13 times higher than the FDI. Such growth of workers' remittances contributed to the well-being of remittance receiving households. Since households having expatriate workers are highly concentrated in certain areas of the country relative to others, the excluded or marginally included regions have gained little from inward foreign remittances of the country. Chittagong and Dhaka divisions dominate the share of expatriate remittances (Table 13).

Table- 13: Percentage of Remittance Share by Division

Division	Percentage of Total Remittances
Dhaka	35.47
Sylhet	7.08
Rajshahi	7.16
Khulna	5.64
Chittagong	39.82
Barisal	4.07
Rangpur	0.76

Source: BBS, HIES (2010)

4.10 Financial Infrastructure

Financial institutions (e.g. banks, MFIs) can play an important role in reducing poverty and regional inequality. High density of branches is indicative of vibrant economic activities. In general, the spread of banking activities tends to be much more concentrated in Dhaka and Sylhet divisions as compared with Rajshahi, Khulna and Rangpur.

Table- 14 shows per capita deposits and advances as on June 2010. The table shows that there are large differences among the divisions in terms of both per capita advances and deposits. Advances and deposits in all the other divisions are very low relative to Dhaka ad Chittagong indicating the low level of depth of financial intermediation in the lagging districts. Sylhet division exhibits high per capita deposits but low per capita advances. This is explained by the fact that Sylhet receives huge amount of remittances from abroad and possibly requires less loans from banks in relation to available economic opportunities.

Table- 14: Per Capita Deposits and Advances by Division, 2009 and 2010

	30th June 2010		30th June 2009	
	Per Capita Deposits	**Per Capita advance**	**Per Capita deposits**	**Per Capita Advance**
National	23483	17854	19622	14681
Barisal	5807	2831	5037	2464
Chittagong	23036	18240	19274	14714
Dhaka	48286	38170	39891	31502
Khulna	8239	6618	7112	5621
Rajshahi	6863	4985	4800	3531
Rangpur	3803	3641	-	-
Sylhet	17187	4461	15605	3703

Source: Scheduled Bank Statistics, Bangladesh Bank, Various Issues

5. Suggested Policy Recommendation and Conclusion

According to the Sixth Five Year Plan, achievement of the specific targets for reducing regional disparities will require well thought out strategies and policies to ensure that the growth process is inclusive and that the human development and other poverty reduction policies are sensitive to the needs of the lagging regions. Policy initiative to address regional disparity should be taken to establish a separate fund in the framework of the annual development program for supporting the development of the Rangpur division. In addition, emphasis should be given to projects that address regional inequalities in the selection of projects.

To stimulate investment facilities and employment opportunities in the Rangpur division special incentives will not be enough. Along with these support in the form of adequate infrastructure, access to utilities, services and other forms of support will be required to be provided to the Rangpur division. A comprehensive plan for exploitation of natural resources such as coal resources of the Rangpur division is needed.

To minimize the yield gap more investment has to be made in the lagging region for improved technology. Further investment in agriculture research, dissemination of agricultural technology such as use of power pump and power tillers and locally available high yielding varieties of crops should be encouraged.

Access to quality education and creation of employment opportunities are needed to reduce regional inequality. Women empowerment and creation girl's education are important factors to be considered in this connection. Human resources development strategies such as development of tertiary level educational institutions and private universities need to be encouraged in the Rangpur division.

Initiatives to send more people from Rangpur division for overseas employment should have positive impact to reduce regional inequality. Special skill development programmes and credit support programmes should be developed towards this. Remittances should be encouraged to be used to stimulate productive ventures.

Higher rate of public expenditure and extended coverage of social safety net programmes in the Rangpur division should be the norm. Ownership of productive assets by low income and land-less households will need to be supported and opportunities will need to be created for them to take part in income generating activities. Micro-credit facilities should be expanded to the share croppers in the Rangpur division. Construction of gas transmission line to the Rangpur division should be expedited.

Industrialization should be promoted in the Rangpur division to create jobs. Since private investment has less of an incentive to locate itself in these regions, this process needs to be implemented with the help of government support at least in the initial stages. Industrial policy should be made flexible to support investment in Rangpur division. Construction of industrial park and industrial zones should be established. Small and medium enterprise should be encouraged with low cost financing facilities. Rate of interest for bank finances should be lower in the Rangpur division which will increase investment. Special fiscal incentive such as tax holidays should be offered on a selective basis for high priority private investment in the Rangpur divisions industries.

The farmers in the Rangpur division should get priority in terms of agricultural subsidy. Government should take responsibility for increasing the provision of agricultural loan at a lower interest rate in the Rangpur division.

Efforts will need to be made to expand BR- 33 and Pariza rice in Rangpur division. Emphasis shall har to be given to supporting the expansion of storage facilities for the poor and marginal farmers for preserving their fish and agricultural produce in order to get suitable price for their product in the market.

Logistic support and technical advice will need to be provided to potential migrant workers through establishment of foreign employment exchanges in the lagging districts in cooperation with private sector.

Priority will need to be given to the lagging Rangpur division for sething up in the location of school and health facilities. Additionally, policies will need to be taken to ensure the availability of teachers and medical personnel in the remote area.

Special emphasis will have to be placed on girl's education in Rangpur division. This will help increase female labour participation as well as improve family welfare.

In designing social protection schemes, including employment guarantee schemes, the location issue should considened very carefully, putting priority to the availability of these schemes in the Rangpur division.

The eradication of poverty and inequality and meeting the basic needs are the primary goals of the government. The present government of Bangladesh is very much hopeful of achieving the target of Sustainable Development Goals (SDGs) as well as the targets of Vision-2021 related to poverty and inequality. This target may be fulfillied in every region of the country- this is the expectation of all.

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Promotion of Investment Cooperation in South Asia: What is the Appropriate Framework?

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Abstract: *Regional investment cooperation in South Asian countries is a recent phenomenon for discussion both at academia as well as policy maker level. With growing linkages between countries at regional and sub-regional level along with increasing scope for outward investment by the private sector, the issue of investment needs to be discussed as means for regional and sub-regional trade cooperation. Regional investment cooperation has been a success worldwide in expanding infrastructure development, social improvement and increase in trade and investment leading to higher economic growth. A number of agreements such as SAFTA and BIMSTEC are now in operation, and BCIM is also in the process of discussion. All these integration initiatives offer opportunities and scope for investment cooperation. This paper highlights investment cooperation not only as means of encouraging trade but also for investment targeting both domestic and extra regional market. The paper puts forward suggestions regarding Bangladesh strategies for better investment cooperation in the future not only in South Asia but also with South-East and East Asia.*

1. Introduction

Regional investment cooperation in South Asian countries are a recent phenomenon for discussion both at academia as well as policy maker level. With growing linkages between countries at regional and sub-regional level along with increasing scope for outward investment by the private sector, the issue of investment needs to be discussed as means for regional and sub-regional cooperation in trade. Investment in South Asia, both inward and outward, is highly imbalanced and concentrated at few locations, particularly India. Unless other countries are able to

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develop the competitive strength, it would not be easy for them to attract more investment by simply allowing outward investment from respective South Asian countries. Despite limited regional integration, South Asian economies are increasingly integrated with other economies under various initiatives. In these economics, the issue of investment is increasingly getting importance along with trade and other issues. The objective of this paper is to illustrate the scope of investment cooperation not only as means for trade expansion but also for investment targeting both domestic and extra regional market. The paper has five sections. The status of investment cooperation under the framework of SAARC and the scope of investment cooperation in the BIMSTEC region and BCIM countries (Bangladesh, China, India and Myanmar) are discussed in section 2, 3 and 4, respectively. Section 5 contains our suggestions regarding deepening investment cooperation in the region, and, Section 6 concludes. Data have been used from various secondary sources/database available on the internet.

2. Investment Cooperation under the Framework of SAARC
2.1 Flow of Investment in South Asia

Inward FDI flow in South Asia is largely destined to India; more importantly, it has been concentrated over time in India (Table 1). Out of South Asia's total FDI inflow of US$28.6 billion in 2012, India alone received about US$25.5 billion, which was about 89 per cent of the total. The second highest recipient of FDI is Bangladesh, which received only US$990 million and its share was only 3.5 per cent (vis-à-vis 12.4 per cent in 2000). Pakistan, once a major FDI recipient has lost its importance due to political violence, unrest and lack of infrastructural facilities and has received less and less FDI (from US$2.2 billion in 2005 to US$847 million in 2012). Future investment cooperation needs to take into account the unbalanced nature of investment flow in South Asia due to lack of competitiveness of most of the locations as investment destinations.

Table 1: South Asia FDI Inflow (in million USD)

Country	FDI Flow (million USD)					Share of FDI(%)				
	2000	2005	2010	2011	2012	2000	2005	2010	2011	2012
Afghanistan	0	271	211	83	94	0.0	2.4	0.8	0.2	0.3
Bangladesh	579	845	913	1136	990	12.4	7.5	3.6	2.8	3.5
Bhutan	..	6	26	10	16					
India	3588	7622	21125	36190	25543	76.8	67.5	84.2	90.3	89.2
Maldives	22	73	216	256	284	0.5	0.6	0.9	0.6	1.0
Nepal	0	2	87	95	92	0.0	0.0	0.3	0.2	0.3
Pakistan	309	2201	2022	1327	847	6.6	19.5	8.1	3.3	3.0
Sri Lanka	173	272	478	981	776	3.7	2.4	1.9	2.4	2.7
Total	4671	11292	25078	40078	28642	100.0	100.0	100.0	100.0	100.0

Source: UNCTAD

Despite liberalizing the FDI regime, most of the South Asian countries have yet to develop a sizable stock of FDI (Table 2). FDI stock in Bhutan at the end of 2012 was only US$23 million followed by Nepal (US$440 million), Afghanistan (1569 million) and Maldives (US$1655 million). Part of this low level of FDI flow can be attributed to the small size of the economy. Maldives being the smallest country in the region ranks highest regarding FDI inflow as percentage of GDP followed by Afghanistan, Pakistan and India. However, Bangladesh, Bhutan and Sri Lanka are below the South Asian average in terms of FDI-GDP ratio (2000-11). Nepal had the least FDI share in GDP (0.15 in 2000-2011 average) (World Bank). Thus, lack of domestic business environment as well as limited business scope for investment and regional integration caused low level of FDI flow in some destinations. In addition, obstacles at the borders and behind-the-border barriers and weaknesses also impede investment flow among these countries (Kumar and Singh, 2009).

Table 2: FDI Stock in South Asia (US$ million)

Country	2000	2005	2010	2011	2012
Afghanistan	17	584	1392	1475	1569
Bangladesh	2162	3537	6343	6166	7156
Bhutan	4	22	23	7	23
India	16339	43202	205580	206435	226345
Maldives	128	331	1114	1371	1655
Nepal	72	127	253	348	440
Pakistan	6919	10209	19828	20916	25395
Sri Lanka	1596	2447	5008	5990	6765
Total (South Asia)	27237	60458	239540	242706	269347
World	7511311	11673845	20380267	20873498	22812680
Share of world (%)	0.36	0.52	1.18	1.16	1.18

Source: UNCTAD

2.2 Intra–regional FDI flow and Stock

Intra-regional FDI comprises a small share in total FDI flow in South Asia (less than 5 per cent of total flow of FDI) but it has been rising in the last few years. Table 3 indicates the state of intra-regional FDI flow within the region during 2005-2010 where it is clear that India is playing the dominant role as investor within the region. In 2009-2010, Nepal registered around 44 per cent of FDI from India which was the maximum FDI outflows from India within the region and the majority of the investments were in the services sector. According to the Table, except India, other countries have witnessed a dramatic increase in its South Asian share where Bangladesh's share was 15.4 per cent and Sri Lanka's was 29.1 per

cent in 2010. India's growing outward investment is mainly targeted to developed countries because of increasing interest to invest in strategic sectors by using growing competitiveness of their MNCs (Kanungo and Kumar, n.d). Only a small share of India's outward FDI is targeted to the South Asia region due to limited scope for attractive investment opportunities.

Table 3: Intra- Regional inward FDI in SAARC Countries (% of total inward FDI)

Investment from:	Investment to:							
	India		Bangladesh		Nepal		Sri Lanka	
	2007-08	2009-10	2006	2010	2008-09	2009-10	2009	2010
India			0.52	14.96	43.72	43.89	19.33	28.74
Sri Lanka	0.54	0.31	0	0.44	0	0		
Nepal	0	0.11	0	0			0	0.03
Maldives	0.02	0.09	0	0	0	0	0.07	0.37
Bangladesh	0	0	0	0	0.53	1.1	0	0
Pakistan	0	0	0.18	0	0.04	0	0	0
Bhutan	0.56	0	0	0	0	0	0	0
Share of South Asia	1.12	0.5	0.7	15.41	44.29	44.98	19.4	29.13

Source: Kanungo and Kumar (2012)

2.3 Sources of FDI in South Asia

Most of the FDI in South Asia is originated from outside the region mainly for India, Pakistan, Sri Lanka and Bangladesh (Table 4). Intra-regional sources, on the other hand, are important for Nepal, Bhutan and Afghanistan. Despite the major share of FDI that originated from developed countries, the volume and share of FDI from developing countries has been increasing in recent years. Between the early and late 2000s, the number of developing countries as FDI sources for South Asia increased from 38 to 45 while the number of developed countries' investment grew by only one from 23 to 24 (World Bank). Middle East and North Africa (MENA) and the East Asia and Pan Pacific Regions (EAP) are the largest sources of FDI for South Asia. In India, most of the FDI inflows originated from EU, United States, Japan and South Korea. On the other hand, EU, United States, China and India are the largest sources of FDI in Bangladesh. FDI inflow to Pakistan is dominated by the Middle East countries. Most diverse spectrum of countries' contribution in FDI is seen in Maldives such as Thailand, China, India, United States and the EU. China have made large investment in extraction business in Afghanistan China has also invested in Nepal's renewable energy sector and Sri Lanka's transport sector (UNCTAD, 2013). Regional investment cooperation is thus gaining importance both in intra-regional and extra-regional sources.

Table 4: Sources of FDI Stock: Within and Outside the Region

	Bangladesh	Bhutan	India	Nepal	Pakistan
Volume (million US$)					
FDI from World	8063	132	218134	506	17726
From South Asia	571	44	33	171	2
Outside South Asia	7,492	88	218,101	336	17,724
Share (%)					
FDI from World	100.0	100.0	100.0	100.0	100.0
From South Asia	7.1	32.7	0.02	33.7	0.01
Outside South Asia	92.9	66.3	99.98	66.3	99.99

Source: UNCTAD

2.4 Sectoral Composition of FDI

An overwhelming share of FDI in South Asia is market-seeking FDI. Examining the industry profile and the available information related to project descriptions show that manufacturing investment in India and Pakistan is mainly in domestic market-seeking industries when Sri Lankan investment is concentrated more in efficiency-seeking such as export-oriented textile and clothing sector. Services sectors such as telecommunication, energy and finance received considerable share of FDI in recent years (Raihan, 2013). In 2011, FDI inflows in the services sector accounted for 54 percent of total FDI inflows in the region while manufac-turing, agriculture and mining accounted for 42.7, 0.04 and 3.7 per cent, respec-tively (Figure 1). This reveals the potentiality of the services sector in the region and the necessity to articulate guidelines for accelerating trade and investment in services within and outside the region.

Figure 1: Sectoral breakdown of South Asia FDI inflow in 2011
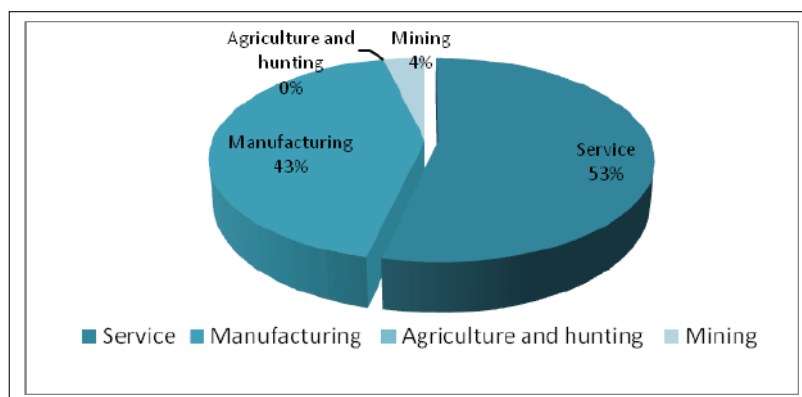
Source: UNCTAD

Afghanistan attracted inward FDI flows into resource-seeking projects where most FDI has gone into extraction and transport and logistics industries over the past few years. Huge amount of FDI has been invested by the Chinese Corporation in the natural resource sector. Bhutan and Nepal have very little opportunities for foreign investment. Bhutan's hydropower sector has become an attraction for foreign investors.

India dominates with much of the inflow towards the services sector, including banking and insurance, research and development and outsourcing. In 2011, service sector (business, financial, miscellaneous service and R&D) received 18.8 per cent of total FDI followed by telecommunication (8.2 per cent), construction (6.7 per cent), automobiles (3.1 per cent), drugs and pharmaceuticals (11.4 per cent). Telecommunication sector, particularly telephone service, is another leading inward FDI sector in India. Also computer software and hardware businesses are attracting many foreign investors.

Like India, Bangladesh's FDI inflow is also concentrated in the services sector, followed by textile and petroleum sectors. During 2005-10, telecommunication sector had attracted the largest amount of FDI but it dropped sharply in 2011 by almost 96 per cent which has weakened the inward FDI inflow in the services sector. FDI inflow in the textile sector has increased gradually over the past few years due to the comparative advantage in low labour costs; in 2011, it reached 30 percent of total FDI. FDI inflows in power sector has also showed rapid growth in the past few years due to favorable government policies and facilities and incentives provided to foreign investors such as tax exemptions and easier access to finance. In Pakistan, oil and gas exploration sector is now the major FDI magnet and the share of FDI inflows has been increasing every year.

The trends of FDI inflows are changing in Sri Lanka moving towards services and now become a dominant FDI magnet. The post-conflict foreign investments have been encouraged in the services sector, including business services, retail, health, banking and consulting. The telecommunication and power sectors were marked as the leading FDI inflow sectors in 2009 and the growth has shifted to manufacturing, services and agriculture in 2010. In the services sector, hotel and restaurant sector received the largest amount of FDI inflows which accounted for 20 per cent of total FDI during 2010-11.[1] In 2011, Sri Lanka received the highest-ever FDI inflows which indicated investors' confidence in Sri Lanka. In the past few years, Maldives showed tremendous growth in hotels and real estate sector. Significant amount of FDI come from international hotels and resort chains.[2]

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[1] Key FDI projects in this sector are the Shangri-La hotel chain's investment, Sheraton Group's investment etc.

[2] For example, Four Seasons (US) and Centara (Thailand) etc

Sectoral pattern of FDI indicates that most of the FDI that comes from extra regional and intra-regional sources are not vertical in nature. South Asian countries have yet to attract efficiency-seeking FDI which could develop regional value chain. Bangladesh, Pakistan, Sri Lanka and India are important players in global apparel sector. Nevertheless, investment in this sector was not sufficient within the region. Any joint venture initiative between these two countries would add value, enhance productivity, and reduce the cost of production.

A major constraint in intra-regional investment in South Asian countries is the limited knowledge on the potential sectors of investment of different SAARC countries. Intra-regional investment requires knowledge on potential sectors, markets and financial aspects (Moazzem 2005; Agarwal 2008)[3]. Moreover the regulatory regime within each country imposes conditions on investment under specified sectors. It is important for potential investors to gather knowledge on regulatory aspects applicable to potential sectors in each country. Table 5 identifies some priority industries for investment in South Asian countries which indicates potentials for building vertical FDI network in the region in different sectors.

Table 5: Priority Sectors for Investment in South Asian Countries

Pakistan	Value added export industries: manufacturing categories such as garments, bed linens, surgical instruments, and sporting goods High-Tech and IT industries: chip manufacturing, software development and precision equipment manufacturing Others: tourism, housing, engineering, chemicals and construction
Bangladesh	Textiles, electronics, IT, natural gas-based industries, frozen foods, leather, ceramics, light engineering and agro-based production
Nepal	Medicinal and aromatic plants, agro-based (mushroom, spices, vegetables, fruits), dairy, tea, sericulture, hydropower, leather, poultry and textiles
Sri Lanka	Electronics, light engineering, textiles, rubber, mineral and processing, tourism, IT, gems and jewellery, healthcare and pharmaceuticals, ceramics and services
Bhutan	Hydropower, agro-processing, tourism and medicinal plants
Maldives	Marine-based industries, tourism, infrastructure, and air and sea transport
India[4]	Power, Renewable energy, Infrastructure, Aerospace & Defense, Automotive, Banking, Biotechnology, Information Technology, Insurance, Real Estate, Retail, Telecommunications, Textile and apparel Industry and Healthcare

Source: Aggarwal 2008; Different documents available in the websites;

[3] The sectors identified as investment potentials in Pakistan, Sri Lanka, Maldives, Bangladesh, Bhutan and Nepal have been compiled from FDI Promotion Agencies of each country

[4] India's investment potentials have been identified based on the information from following website:
conhttp://investmentopportunitiesinindia.wordpress.com/;
http://online.wsj.com/news/articles/SB10001424052702304675504579390521675089520;
http://www.direc2010.gov.in/pdf/India's-RE-Sector-Potential-and-Investment-opportunites-SSM.pdf;
http://articles.economictimes.indiatimes.com/2012-08-30/news/33499631_1_infrastructure-sector-investment-target-india-us-relationship;
http://www.oifc.in/infrastructure-india-potential-sector-investment;
http://www.usitc.gov/publications/332/PUB3401.PDF;
https://www.wbginvestmentclimate.org/advisory-services/health/upload/Opportunities-and-Trends-in-Investing-Guide_for_Investors_in_Private_Health_Care_in_Emerging_Markets.pdf

2.5 FDI outflow from South Asia: Trends, Patterns

Outward flow of FDI from South Asian countries is still very small mainly because of official restriction over investment and free movement of capital. Outward flow from South Asia has increased from US$529 million in 2000 to US$8790 million in 2012 and it was in the peak in 2010. Despite that rise in FDI outflow, its share is among the lowest – 0.63 per cent of total world outflow in 2012 compared to 0.04 per cent in 2000. Share of FDI outflow of Southeast Asia, on the other hand, was much higher (4.36 per cent in 2012) (Figure 2); Eastern Asia comprises China, Japan and Korea and has the largest source of outward FDI within Asia.

Figure 2: Trends of FDI outflows of South Asia
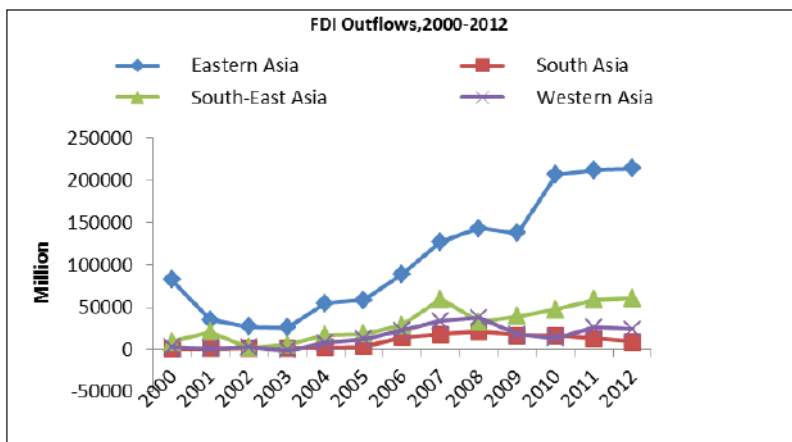
Source: UNCTAD

India has been the major investor abroad over the years – during 2012 its outward investment was US$8,583 million which was about 98 per cent of total FDI outflow from the region. The outflow from other countries such as Bangladesh (US$53 million), Pakistan (US$73 million) and Sri Lanka (US$ 80 million) were highly insignificant. Afghanistan, Nepal, Maldives and Bhutan have almost no FDI outflow.

India's success as a major emerging global investor has been possible because of substantial removal of foreign exchange restrictions on capital transfer overseas and liberalization of outward FDI policy which worked as a "push factor" in making India a global investor.Though India was one of the smallest sources of FDI outflow, since 1990s India has picked up and developed itself as one of the top five sources of FDI economies in Asia Kanungoand Rahul, n.d.). India has taken some steps such as allowing investment in foreign entities up to 200 per cent of their net worth. Provided there are better opportunities to mutual funds in order to invest overseas, initiatives have been taken to facilitate project exporters and

service exporters from India which helped local investors to invest globally (Kanungo and Rahul, n.d.). Indian investment experience in South Asia has been mostly horizontal in flora. India has been looking for export seeking and market seeking options to invest in South Asia and this is the reason of expansion of Indian investment in South Asia especially in Bangladesh and Sri Lanka (Kanungo and Rahul, n.d.).

Overall investment of India remained low in South Asia as India's emerging MNCs are competing successfully in developed markets which are characterized by intensive technology and capital goods and services. In this connection, these MNCs are mostly market and export seeking and most of the South Asian countries have failed to provide sufficient incentives to Indian investors. Recently, India's outward FDI has been motivated by market size as well as access to frontier and strategically needed technologies that will improve their global competitiveness. Due to rising demand for oil, gas, and minerals to support industrialization and urbanization, India has recently shown rapid growth in outward FDI flows into extractive industries.

2.6 Investment Cooperation Initiative in South Asia: SAARC

A major policy focus of SAARC initiatives was promotion of trade-led intra-regional FDI. As a result, a major part of SAARC initiatives for economic cooperation in the 1990s and early 2000s was largely confined towards promotion of regional trade cooperation at first by establishing SAARC Preferential Trading Arrangement (SAPTA) in 1995, and then by establishing South Asian Free Trade Area (SAFTA) in 2006. There was no broad discussion on promotion of investment during this period outside the purview of trade cooperation within the region. Discussion on regional cooperation for investment was confined for the preparation of draft act for promotion and protection of intra-regional investment. This was implemented perhaps with the assumption that with the enactment of SAFTA, intra-regional investment will automatically increase.

The most concrete initiative so far made under the aegis of SAARC is to draft an agreement on promotion and protection of investment of regional countries. The major objective of the agreement is to ensure equal treatment for investments of SAARC countries without restriction, quota and marketing. Products of such investments will not be listed under the sensitive list in order to promote cross-border trade and investment. However, the draft agreement has been pending for approval since 2007. During the Seventeenth SAARC Summit held in Maldives, a fast-tracking of the regional investment treaty was called for along with the creation of regional production chains in order to deepen linkages in the SAARC region.

SAARC initiatives for the promotion of investment need to take into account a number of characteristic features of the region, particularly with regard to domestic production base, production network, and intra-regional and extra-regional investment. First, FDI in South Asia is mainly targeted toward local markets particularly domestic market-oriented manufacturing and services-related industries. Thus, intra-regional trade would have little implications for promotion of regional flow of FDI. Second, South Asia is a part of global production network linked with countries outside the region. Thus, promotion of an exclusive regional production network would not be attractive to the foreign investors including those of regional investors. Third, since foreign investors outside South Asia dominate FDI in most of the South Asian countries, promotion of extra-regional investment should be equally considered or at least should not be adversely affected through other measures. Fourth, with the rise of global flow of financial capital, South Asian countries need to consider further relaxation of the capital account to enhance regional flow of capital. In the SAARC Summit held in Addu, Maldives in 2011, regional flow of financial capital was stressed along with promotion and protection of investment. Thus there are scopes for taking initiatives beyond the traditional framework of regional investment cooperation in South Asia. Future institutional framework for investment should cater to multidimensional aspects of investment cooperation both within and outside South Asia.

In 'effective' terms, there is no independent separate body in the institutional structure of SAARC to deal with investment related issues. The inter-ministerial committee for trade discusses and takes decision on investment-related issues apart from their core activities related to trade. As the Committee has to spend its substantial time to discuss about related issues, investment issues were discussed very sporadically and particularly on a need basis. Such an approach on investment cooperation makes the issue dependent on the progress made in trade integration within the region. Given the gravity of the issue of investment cooperation both within and outside the trade-investment nexus, a separate body in the SAARC needs to be formed to deal with the relevant issues.

3. Investment Cooperation under the BIMSTEC

A key ambition of BIMSTEC is to establish a free trade area, the BIMSTEC-FTA. The Framework Agreement on BIMSTEC-FTA covers trade in services and investment in addition to trade in goods. This gives BIMSTEC cooperation a distinct flavour. The framework requires member countries to conduct negotiations on a positive list approach. The schedule of tariff reduction envisages both fast track and normal track tariff liberalisation, differentiated for non-LDCS and LDCS, with rules of origin and maximum ceiling of products in the negative list.

Over the past years, 3 Summits, 14 BIMSTEC Ministerial Meetings, 16 Senior Officials' Meetings and a number of sectoral Ministerial Meetings have been held

to advance the interests of economy-wide and sectoral cooperation among the member countries in light of BIMSTEC's declared objectives. Other Specialized Task force Meetings, Joint Working Group Meetings and Expert Group Meetings have also been held on a regular basis to design concrete actions towards implementation of the agreed agenda and decisions. The challenge will now be to implement the decisions taken at various levels with due urgency and efficacy. The Secretariat will hopefully lead this exercise.

From the Bangladesh country perspective, since BIMSTEC provides a gateway to the east, opportunities have been crated to deepen cooperation with ASEAN countries. By taking advantage of BIMSTEC Bangladesh can receive special attention. BIMSTEC cooperation could be leveraged to get into the growing ASEAN market.

4. Scope of Investment Cooperation in BCIM region

Investment potential for Bangladesh in BCIM ought to be identified by estimating potentials for intra-regional and extra-regional investment. However such estimates are not so easy because of limited available data on trade and investment particularly data of Bangladesh's bilateral trade and investment with West Bengal, Meghalaya and Manipur of India, Yunnan Province of China and even with Myanmar (recent data is unavailable). Therefore, the analysis has been carried out by using trade and investment related data of BCIM countries as a whole. Needless to say, such estimates would provide exaggerated potentials for investment in the BCIM; hence the estimates should be considered only 'indicative'.

4.1 Opportunities for Development of Regional Production Network

There are scopes for vertical integration between the sectors which are complementary with each other. Developing and least developed countries have long been excluded from global value chains (GVC) due to low-tech and labour intensive feature of their industries. South Asian countries, having similarities in the potential products as have been mentioned before have not been able to establish strong regional value chain (RVC). Based on the specialization of respective economies (e.g. lower factor prices), MNEs could have invested in different locations on potential complementary products.

Most of the South Asian countries, including India, have not much progressed in integrating into value chain compared to ASEAN countries, particularly Philippines, Vietnam, Malaysia and Thailand. This is reflected in the share of total foreign value added (FVA)[5] in gross exports of South Asian countries[6]. Inability

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[5] Foreign value added refers to the total value added created in other countries which are used in production and exported by the reporting country (Banga, 2013)

[6] India's share was 24 percent in 2008 compared to 42 percent in Philippines, 40 percent in Vietnam and 38 percent both in Malaysia and Thailand (Banga, 2013).

to measure trade and value-added[7] by a trading country through entering RVC or GVC has led to insufficient attention to this type of integration. Thus it would be important to focus on measuring gains from trading within RVC and GVC. It would also be necessary to reshape the industrial and FDI policies of each member country within the region to encourage FDI that would also facilitate RVC linkage among the member countries. The measures within the policies and investment promotion agreements among them should be such that attract extra- regional FDI thereby accelerating linkage with GVCs.

Regional Trade Orientation: Among BCIM countries, Bangladesh has greater trade orientation[8] towards the region compared to other countries. A total of 15 out of 21 categories of total export products of Bangladesh have index value higher than 1 which indicate more trade orientation of those products in the region.[9] On the other hand, a total of 10 out of 21 sections of Myanmar's traded products are more oriented towards the region. India and China are less trade oriented towards the region as other countries of the region have less absorptive capacity of the huge supply of their different kinds of products.

Bangladesh's trade orientation to India, China and Myanmar is not the same. According to Table 6, Bangladesh has better trade orientation to India compared to other countries – a total of 14 out of 21 sections are found to have value over 1. Bangladesh's trade orientation to China and Myanmar is comparatively better only in limited number of sections – only in sections 9 and 4 respectively. However, such a limited level of trade orientation with Myanmar and China will significantly improve and will include other product categories when the corridor will be operational. Thus strong trade orientation mainly with India, but partly with Myanmar and China indicate possibility for development of regional value chain in South Asia.

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[7] Measured through subtracting the value of output from the value of input.

[8] Regional trade orientation index (RTOI) is designed to measure relative importance of intra-regional exports by identifying nature of similarities of trade of industrial and agricultural products in the region. Changes in the index value over time shows the dynamics of trade reorientation in the regional markets. RTOI varies from 0 to infinity with a value of unity indicating the similar pattern of trade between members and non-members while increasing values indicate a greater share of regional markets in exports of the relevant country. In this analysis, the RTOI has been estimated only for 2010 and 2012 (trade data of Bangladesh and Malaysia are not available for the year 2012). RTOI varies from 0 to infinity with a value of unity indicating the similar pattern of trade between members and non-members while increasing values indicate a greater share of regional markets in exports of the relevant country.

[9] These include the following: section i: live animals; animal products; section ii: vegetable products; section iii: animal or vegetable fats; section iv: prepared foodstuffs; beverages, tobacco; section v: mineral products; section vi: products of the chemical or allied industries; section vii: plastics; rubber; section viii: raw hides and skins, leather, furskins; section ix: wood and articles of wood; wood charcoal; section x: pulp of wood or of other fibrous cellulosic material; section xiii: articles of stone, plaster, cement, asbestos, mica; section xv: base metals and articles of base metal; section xvi: machinery and mechanical appliances; section xviii: optical, photographic, cinematographic, measuring; section xx: miscellaneous manufactured articles.

Table 6: Trade Orientation Index of Bangladesh for the other countries in the corridor

Product label	India		China		Myanmar
	2010	2012	2010	2012	2010
SECTION I: LIVE ANIMALS; ANIMAL PRODUCTS	4.0	3.2	3.0	5.1	0.0
SECTION II: VEGETABLE PRODUCTS	13.6	40.1	7.1	1.7	0.0
SECTION III: ANIMAL OR VEGETABLE FATS	37.3	164.4	4.8	2.4	0.0
SECTION IV: PREPARED FOODSTUFFS; BEVERAGES, TOBACCO	4.0	8.7	0.0	0.0	0.0
SECTION V: MINERAL PRODUCTS	23.6	14.1	9.0	7.8	0.0
SECTION VI: PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES	2.8	14.7	0.0	0.8	138.3
SECTION VII: PLASTICS; RUBBER	4.9	7.4	37.7	37.1	0.0
SECTION VIII: RAW HIDES AND SKINS, LEATHER, FURSKINS	2.7	0.6	9.2	7.1	0.1
SECTION IX: WOOD AND ARTICLES OF WOOD; WOOD CHARCOAL;	8.9	2.2	0.2	0.9	0.0
SECTION X: PULP OF WOOD OR OF OTHER FIBROUS CELLULOSIC MATERIAL;	4.2	6.8	0.1	1.0	1.9
SECTION XI: TEXTILES AND TEXTILE ARTICLES	0.5	0.5	0.6	0.7	0.0
SECTION XII: FOOTWEAR, HEADGEAR, UMBRELLAS, SUN UMBRELLAS	0.3	0.2	0.4	0.5	0.0
SECTION XIII: ARTICLES OF STONE, PLASTER, CEMENT, ASBESTOS, MICA	8.2	1.0	0.2	0.0	0.0
SECTION XIV: NATURAL OR CULTURED PEARLS, PRECIOUS OR SEMI-PRECIOUS STONES	0.0	87.4	0.4	0.0	0.0
SECTION XV: BASE METALS AND ARTICLES OF BASE METAL	24.6	38.5	0.2	0.1	83.6
SECTION XVI: MACHINERY AND MECHANICAL APPLIANCES;	5.4	5.6	1.8	2.3	1.5
SECTION XVII: VEHICLES, AIRCRAFT, VESSELS	0.0	0.2	0.0	0.0	0.0
SECTION XVIII: OPTICAL, PHOTOGRAPHIC, CINEMATOGRAPHIC, MEASURING,	0.2	0.6	30.9	26.2	0.2
SECTION XIX: ARMS AND AMMUNITION;	--	0.0	--	0.0	--
SECTION XX: MISCELLANEOUS MANUFACTURED ARTICLES	3.8	1.2	3.6	3.5	0.4
SECTION XXI: WORKS OF ART, COLLECTORS' PIECES AND ANTIQUES	0.3	2.6	0.0	0.0	0.0

Source: Trade Map Database, ITC

Intra-Industry Trade: The extent of intra-industry trade has been calculated by using Grubel-Llyod Index (GLI). Tables 7 and Table 8 show top ten sectors of

intra-industry trade between Bangladesh and India and Bangladesh and China, respectively, with GLI value higher than other sectors. In case of Bangladesh-India intra-industry trade, a number of sectors have values close to 1 which indicate Chapter 8 (Edible fruit, nuts), Chapter 3 (Fish, crustaceans), Chapter 41 (Raw hides and skins) and Chapter 99 (others). For some sectors, the value has significantly increased within a short period of time – between 2008 and 2012 value of GLI increased significantly for Chapter 8 (Edible fruit, nuts), Chapter 3 (Fish, crustaceans), Chapter 64(Footwear, gaiters) and Chapter 78 (Lead and articles). Therefore Bangladesh could further strengthen production network with India for a number of products. It is not clear whether similar level of GLI value would be found in the case of Bangladesh's trade with the Indian states under the BCIM EC such as West Bengal, Meghalya, Manipur and Assam.

On the other hand, Bangladesh's intra-industry trade with China is highly concentrated textile products, which include Chapter 53 (Vegetable textile fibres nes), Chapter 63 (Other made textile articles), Chapter 61 (Articles of apparel, accessories, knit or crochet), and Chapter 52 (Articles of apparel, accessories, not knit or crochet). With having the manufacturing base of textiles in Yunnan, intra-industry trade of textile related products may increase with the province in the future.

Table 7: Gruble-Llyod (GLI) Index of Intra Industry Trade between Bangladesh and India (At HS 2 digit level: Top 10 Chapters)

HS Code	Product's Name	2008	2009	2010	2011	2012
8	Edible fruit, nuts, peel of citrus fruit, melons	0.173	0.158	0.647	0.779	0.966
99	Commodities not elsewhere specified	0.263	0.642	0.005	0.973	0.907
3	Fish, crustaceans, molluscs, aquatic invertebrates nes	0.194	0.748	0.363	0.150	0.814
41	Raw hides and skins (other than furskins) and leather	0.762	0.413	0.421	0.933	0.813
64	Footwear, gaiters and the like, parts thereof	0.041	0.059	0.853	0.116	0.770
62	Articles of apparel, accessories, not knit or crochet	0.354	0.787	0.850	0.883	0.742
56	Wadding, felt, nonwovens, yarns, twine, cordage, etc	0.843	0.936	0.432	0.504	0.735
28	Inorganic chemicals, precious metal compound, isotopes	0.964	0.693	0.141	0.442	0.725
78	Lead and articles thereof	0.187	0.000	0.938	0.000	0.659
94	Furniture, lighting, signs, prefabricated buildings	0.366	0.841	0.367	0.638	0.644

Source: Trade Map Database, ITC

Table 8: Gruble-Llyod (GLI) Index of Intra Industry Trade between Bangladesh and China (At HS 2 digit level: Top 10 Chapters)

HS Code	Product's Name	2008	2009	2010	2011	2012
53	Vegetable textile fibres nes, paper yarn, woven fabric	0.73	0.69	0.84	0.98	1.00
63	Other made textile articles, sets, worn clothing etc	0.84	0.86	0.57	0.72	0.88
61	Articles of apparel, accessories, knit or crochet	0.99	0.73	0.75	0.91	0.70
62	Articles of apparel, accessories, not knit or crochet	0.80	0.96	0.80	0.61	0.68
26	Ores, slag and ash	0.37	0.00	0.01	0.14	0.45
67	Bird skin, feathers, artificial flowers, human hair	0.73	0.69	0.59	0.55	0.34
44	Wood and articles of wood, wood charcoal	0.00	0.00	0.00	0.03	0.31
90	Optical, photo, technical, medical, etc apparatus	0.08	0.24	0.28	0.35	0.30
15	Animal, vegetable fats and oils, cleavage products, etc	0.03	0.78	0.85	0.88	0.25
57	Carpets and other textile floor coverings	0.56	0.39	0.56	0.47	0.25

Source: Trade Map Database, ITC

5. Way Forward Towards Deepening Investment Cooperation

5.1 Issues related to FDI in Trade and Industrial Policy

FDI regime in most of the South Asian countries is related with policies of trade and industry, including SMEs. This provides strategic policy direction to the economy in production, export, import and investment. Nepal under the *Industrial Policy 2009* provides special priorities in case of RMG, carpets and woolen goods, pashmina and silk products, handicraft goods, tea, wooden craft products, processed leather, coffee, vegetables and spices. As part of facilitating those industries various kinds of fiscal, monetary and non-fiscal supports are announced in the policy. India's Foreign Trade Policy 2009-2014 have specialized support arrangement for agriculture and village industry, handlooms, handicrafts, gems and jewelry, leather and footwear, marine , electronics and IT and sports goods and toys. Investment in these industries has been facilitated through duty-free import facility, special development fund and other fiscal incentives. Bangladesh's Export Policy 2012-15 on the other hand, promotes a total of 12 sectors as 'booster

sector', which includes fruits and vegetables, SMEs, RMG, frozen fish, handicrafts, tea, jute and leather. Similarly, Industrial Policy 2010 announces 32 sectors as 'thrust sectors' with a view to promote industrialization through those industries.[10] The preferential sectors in case of Sri Lanka include fabric, pharmaceuticals, milk powder, cement, agriculture, manufacturing and SMEs where various kinds of fiscal support (especially tax exemption facility). Pakistan's Strategic Trade Policy Framework 2009-12, on the other hand, announces several preferential sectors including SMEs, textiles and clothing, leather, pharmaceuticals, agro-processing and dairy, light engineering and machinery where fiscal (minimization of taxation), monetary (re-financing facility), non-fiscal (international exposure, warehouse facility, subsidy for compliance certification etc.) and others (skill up gradation programme) etc. The preferential sectors of South Asian countries have lots of similarities which could be taken into account while undertaking regional policy for investment cooperation.

5.2 Overcoming Tariff and Non-tariff Barriers

Regional trade takes place under different tariff structures maintained at bilateral and regional trade agreements. SAFTA is the key regional trade agreement which facilitates trade by providing preferential tariffs for products originated from the region except those products which are in the sensitive lists of each of the member countries. Despite review of the sensitive lists several times, the number of products under the list is still long. Without pruning the lists by a significant number both by developing and least developed countries, it is difficult to develop regional value chain in different sectors. However, LDC members including Afghanistan, Bangladesh, Nepal and Bhutan enjoy duty-free market access to most of their products to India, the main market in the region under the SAFTA accord. Bilateral trade between India and Sri Lanka has been taking place under the Indo-Lanka FTA with preferential tariff. As part of establishing economic union, harmonization of tariff structure will be required with significant reduction of the sensitive lists.

Rules of origin (RoO) currently in operation under different trade agreements between South Asian countries is an important factor towards the development of regional value chain. The RoO followed in SAFTA, Indo-Sri Lanka FTA, ASEAN-India FTA needs to be closely examined with a view to understanding the necessity to harmonize the rules to create effective regional cumulation.

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[10] These industries include agro-based and agro-processing industry, human resource export, ship building, renewable energy (solar power, windmill), tourism, basic chemicals/dye and chemicals, ICT and ICT based service, readymade garments industry, active pharmaceuticals ingredient industry and radio pharmaceuticals industry, herbal medicinal plant, radio-active (diffusion) application industry (e.g. developing quality of decaying polymer/preservation of food/ disinfecting medicinal equipment), development of polymer industry, jute and jute products, leather and leather products, hospital and clinic, light engineering industry, plastic industry, furniture, handicrafts, energy efficient appliances/manufacturing of electronic goods/development of electronic materials, frozen fish industry, tea industry, home textiles, ceramics, tissue grafting and biotechnology, jewelry, toy, container service, warehouse, innovative and import substitute industry, cosmetics and toiletries, and light engineering industry.

Non-Tariff Barriers (NTBs) including SPS and TBTs widely prevail in bilateral trade in BCIM region. These NTMs include certification requirements, labeling, marking and packaging requirements, traceability requirements, tolerance limits for residues and contaminants or restricted use of certain substances. According to Raihan (2014), most cited NTMs for Bangladesh and India are para tariffs, port restrictions, pre-shipment inspection requirement, SPS and TBT restrictions and fluctuating standards and procedural issues. On the other hand, most cited NTMs in Myanmar are health and sanitary, national security issues, public moral and security issues and safety and security issues (ASEAN Website, accessed on August, 2014). China's major NTMs are SPS measures, customs procedures, valuations and rules of origin, indirect taxes, import prohibition and licensing, state trading, contingency measures, import-related financing. A large part of these restrictive measures are applicable to member countries' export of agricultural products, raw materials and intermediate products, which indicate possible obstacles for growth of bilateral trade in the region once the BCIM EC is in operation. Without having harmonized standard on SPS, TBT and other requirements, regional production network would not work effectively and efficiently.

5.3 Institutional Mechanism for Regional Investment Cooperation

SAARC countries and BCIM can take lessons from ASEAN with regard to setting up necessary institutional mechanism for the promotion of investment. The success of ASEAN could be a good learning experience in this regard.

In order to integrate trade, investment and production-related activities within the region, ASEAN has put emphasis on three core integration schemes including ASEAN Investment Area (AIA), ASEAN Free Trade Area (AFTA) and the ASEAN Industrial Cooperation (AICO) scheme. Such integration of investment related schemes under strong trade integration between countries has facilitated greater regional integration and make the regional production networks more competitive.

ASEAN Industrial Cooperation (AICO) scheme is currently in operation particularly focusing on investment schemes promoted through tariff and non-tariff benefits (e.g. preferential tariff of 0-5 per cent for products manufactured by participating companies).[11] Under the AICO, ASEAN companies undertake joint-venture initiatives in the manufacturing sectors. Such arrangements facilitate physical movement of products between participating companies as well as encourage resource sharing/pooling and/or industrial complementation.[12]

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[11] AICO scheme allows joint-venture of participating companies which operate at different stages of the production value-chain including raw materials, intermediate products and final products. Produced products of the participating companies will enjoy different levels of market access in the respective companies' market depending on at what stage the products are produced- from 0-5 per cent in case of raw materials and intermediate products to unlimited access in case of final products. For details see, http://www.asean.org/communities/asean-economic-community/item/asean-industrial-cooperation-scheme)

[12] A number of private sector initiatives have been carried out among regional investors including ASEAN Industrial Joint Venture (AIJV) and the Brand-to-Brand Complementation (BBC) Schemes and ASEAN Industrial Cooperation (AICO) scheme etc.

At inter-government levels, the Industrial Cooperation Scheme could be undertaken for the promotion of investment through tariff and non-tariff benefits. Under the Industrial Cooperation Scheme, companies in the region could undertake joint-venture initiatives in the manufacturing sectors. Such arrangements facilitate physical movement of products between participating companies as well as encourage resource sharing/pooling and/or industrial complementation. These schemes would allow joint-venture of participating companies, which operate at different stages of the production value-chain including raw materials, intermediate products and final products. Produced products of the participating companies will enjoy different levels of market access in the respective companies' market depending on at what stage the products are produced.

Countries under cooperation should reduce and where possible eliminate restrictions for regional and foreign investors in case of entry in national priority sectors. The national treatment and MFN treatment facilities need to be provided to investors from member countries particularly with regard to application of rules and provision of fiscal incentives.

The member states shall modify their domestic regulations that will be inconsistent with the existing regional agreements of investment and to the rights and obligations of the member countries. This provision shall be applicable to investors from outside the region.
Countries may establish dispute settlement mechanism for dealing with the issue among member countries; in this case the settlement procedure shall include judicial, arbitral and administrative body of the state where the investment has taken place.

Each member state shall ensure transparency and consistency of investment related regulations among the member countries. BCIM countries should follow a regional position with regard to their individual positions in multilateral agreements related to investment.

Simplification of investment procedure needs to be ensured by undertaking the following measures- a) simplification of procedures in investment approval process; b) simplification of cross-border customs regulations and dissemination of the rules; c) dissemination of information on investment related rules and regulations among the member countries; d) development of harmonized manual of guidelines for investment in specific sectors within the regional countries; e) strengthening institutional regulatory frameworks within the regional countries; f) effective regional financial networking, particularly banking network for easy transactions; g) addressing the trade-related barriers, including non-tariff barriers, sensitivity lists, SPS and TBT measures, underdeveloped physical connectivity

and differential rules of origin etc.

5.4 Creating Provisions for Outward Investment from Bangladesh

There are potential sectors in South Asia and East Asia where Bangladeshi entrepreneurs would be interested to invest. Bangladesh could invest in Yunnan's Hydropower projects and could re-export the generated electricity through 'regional energy grid' via Myanmar and India for the special economic zones. Bangladeshi investors may like to invest in small-scale renewable energy projects in Myanmar. The energy generated in those projects could by supplied to the special economic zones. Cross-border energy trade between Bangladesh and Myanmar would make significant contribution to enhance regional trade and investment; in this context, development of regional energy grid and harmonization of energy pricing at regional level would be important.

6. Conclusion

In recent years, most South Asian nations are practising more liberal and outward looking economic policies rather than inward looking and import substituting economic policies. With an average of 6.0 percent economic growth rate over the years and US$ 954 GDP per capita, South Asia has some unique features which make it distinct from other regions of the world. Countries of South Asia have huge potential in investment cooperation that can be realised by proper policy support and appropriate facility for investment friendly environment. Having said so, here we must understand that it is the responsibility of the South Asian governments to devise policies and strategies in such a manner that would support the efforts and investments being made.

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Aggregate Consumption Function of Bangladesh

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Abstract: *The study aims at estimating the marginal propensity to consume (mpc) from time series data on aggregate consumption, gross disposable national income, liquid assets, population size, deposit rate of interest, and remittances. While the Keynes hypothesis on income and consumption has been studied in detail, the Friedman permanent income hypothesis and Hall's random walk model have also been briefly touched on. The study uses data available from the published materials of Bangladesh Bureau of Statistics, Bangladesh Bank and Ministry of Finance for the period 1995/96 to 2012/13. Under the Keynesian model the value of MPC was found to be 0.45 and under the Friedman model it was found to be 0.44. The value of APC exhibited decline with the rise in income under both Keynesian and Friedman model. The Coefficient of Lagged value of consumption under the Hall's random walk model was found to be 1.09. The estimated value of consumption by all the three methods were very close. The effect of liquid assets, deposit interest rate, remittances while adjusted for income was negative but insignificant. The effect of population size while adjusted for income was positive but insignificant. All the fitted models explained over 99 percent variation in real consumption expenditure and had desirable statistical properties.*

1. Introduction

The concept of consumption function has had its genesis in J.M. Keynes' "The General Theory of Employment, Interest and Money" (1936). In the traditional view of consumer behavior the typical consumer bears on the allocation of a given income to various ends. In the simple dichotomy income is exhaustively divided between consumption on the one hand and saving on the other. The proportion may vary with the income level. The consumption function describes the relationship of consumption to income. In its simplest form one can present the consumption function as

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$$Ct = F(Yt).$$

In the simplest representation of the Keyenian model this is the only behavioural relation involved. It is supported by the identity

$$Yt = Ct + It$$

Which indicates that apart from consumption there is only one other component of effective demand which is called investment. *It* is regarded as autonomous, which simply means that *It* is not related to *Ct or Yt.* The important characteristic of the slope of consumption function is that the marginal propensity to consume (*mpc*) will be positive but less than unity. This results in a low-consumption and high-saving conomy.

Review of Literature:

Alamgir (1972, 1974) using Bangladesh data for the period 1959/60 to 1969/70 found that aggregate disposable income, population and liquid assets have positive effects on aggregate private consumption. The value of marginal propensity to consume was found to be 0.84. Matin(1987) using Bangladesh data for the period 1972/73 to 1985/86 found that income, liquid assets, population size and lagged value of consumption have significant positive effect on consumption. The value of mpc was found to be 0.96. Islam (2012) using data for the period 1995/96 to 2005/06 found the value of mpc to be 0.46. The effect of Population size on consumption while adjusted for income was negative but insignificant. The effect of lagged value of consumption adjusted for income was positive but insignificant.

Methods and Materials.

The Keyenian Consumption function involves only income and consumption, and further improvement was attempted to obtain a better explanation of consumption expenditure. There are of course a number of variables whose effects can be included in the aggregate consumption function. In the present study, in addition to income (measured by real gross disposable national income), we have included liquid assets, Population size, Deposit interest rate and remittances from abroad as important explanatory variables. In any particular model, the problem of choice of variables is always there.

The current statistics of the Bangladesh Bureau of Statistics (BBS, 2013), Bangladesh Bank (2014) and Ministry of Finance (2014) are the main source of data. A brief definition of the variables and their operationalization are given below.

Aggregate Private Consumption(*Yt*).

The series on Aggregate Private consumption at current prices of base 1995/96

was converted to real values by deflating them with the Consumer Price Index (CPI) of base 1995/96=100. The figures are in Million Bangladesh Tk.

Gross National Disposable Income(Yt).

The series on Gross National Disposable income at current prices of base 1995/96 was converted to real values by deflating them with the GDP Deflator at base 1995/96=100. The figures are in Million Bangladesh Tk.

Liquid Assets (Lt).

The two principal components of wealth whose effects on consumption can be important are liquid assets and capital gains. Liquid assets seem to be an important determinant of various types of expenditures, though they may also serve as proxy for wealth or reservoir for imminent purchase. The weight of the evidence so far available from empirical studies, however, is in favour of including the liquid assets variable in a consumption function. For example , a decrease in consumer saving will result from the growth of accumulated assets. The estimates of liquid assets used in the present study are those of the Bangladesh Bank (2014). The liquid assets include currency outside Banks, scheduled banks' demand deposits, post office saving deposit, and deposits of non-scheduled and cooperative Banks with the Bangladesh bank. We have also included the lagged value of the liquid assets ($Lt-1$) as one of the explanatory variables to see the variation in aggregate private consumption.

Population (Pt).

Population growth can have significant impact on aggregate private consumption by affecting the growth in income in per capita terms and also by affecting aver-age family size (which has implications for economies of scale in family consump-tion). Introduction of the Population variable in the consumption function may be particularly justified where the growth of population is very high. For the period under consideration the rate of population growth has been found to be 1.52 per cent per annum. Estimates of Population size were available from Bangladesh Bureau of Statistics. The population figures used were in Million.

Remittances ($REMITt$).

Remittances are considered as injection of resources into economy. It can influ-ence key macroeconomic variables like consumption. It can improve the standard of living of the recipients and improve the distribution of income. It is thus worth-while to include remittance (REMITt) to see its effect on consumption. The figures used are in Bangladesh Tk in million.

Model Specification and Estimation.

Keynes Consumption Model

Keynes (1936) postulated that consumption is a function of income and that marginal propensity to consume is positive but less than 1. His model can be expressed mathematically as:

$$Ct = \beta0 + \beta1Yt + \varepsilon t$$

Where,
Ct = Aggregate Real Private Consumption in million BDTk in time period t
Yt = Aggregate Real Disposable Income in million BDTk in time period t

$\beta0$, $\beta1$ are parameters of the model.

εt is the random error term

The MPC ($\beta1$) is positive but less than 1. As a result, Average Propensity to Consume (APC) would fall with successive increase in income. The consumption functions have been estimated by the Ordinary Least Squares (OLS) method, where the aggregate private consumption is assumed to be a linear function of the explanatory variables. The Fitted Consumption Function under Keynes hypotheses are presented in Models 1-8 in Table 1.

Apart from real disposable national income, we have included other variables such as Income squared, lagged value consumption, Liquid assets, Population size, Deposit Interest rate and Remittances from abroad.

Friedman's Permanent Income Hypothesis

Friedman (1957) argued that consumption was a function of permanent income.

$$Ct = \beta1YPt + \varepsilon t$$

Where,
Ct = Aggregate Real Consumption in time t.
Ypt = Permanent Income.
$\beta1$ = Parameter of the model
εt = Random error term.

He argued that APC would not fall and consumption would be smooth. We have also fitted consumption function under the Friedman's Permanent income hypothesis. The permanent income has been estimated by taking 3-year moving average

of the disposable national income as a proxy for permanent income. The Ordinary Least Squares method has been applied to estimate the parameters. The fitted model under Friedman's permanent income hypothesis is shown in model 9 in Table 1.

Hall's Random Walk Hypothesis.

Hall (1978) presented a simple life cycle-permanent income model of consumption decision according to which consumption expenditures are predicted to follow a random walk with trend, that is:

$$Ct = \beta 1 \ Ct\text{-}1 + \varepsilon t, \quad \beta 1 > 1.$$

where,

Ct = Aggregate Real Consumption in time period t.

$Ct -1$ = Aggregate Real Consumption in time period t-1.

$\beta 1$ = Parameter of the model

εt = Random error term

A consumption function has also been estimated under Hall's random walk model hypothesis and is presented as model 10 in Table 1. The Ordinary Least Squares method has been applied to estimate the parameters.

Findings:

Keynesian Consumption Fuunction.

The findings on the various consumption functions estimated under the Keynesian hypothesis are presented as models 1- 8 in Table 1. Interpretation of the models follows.
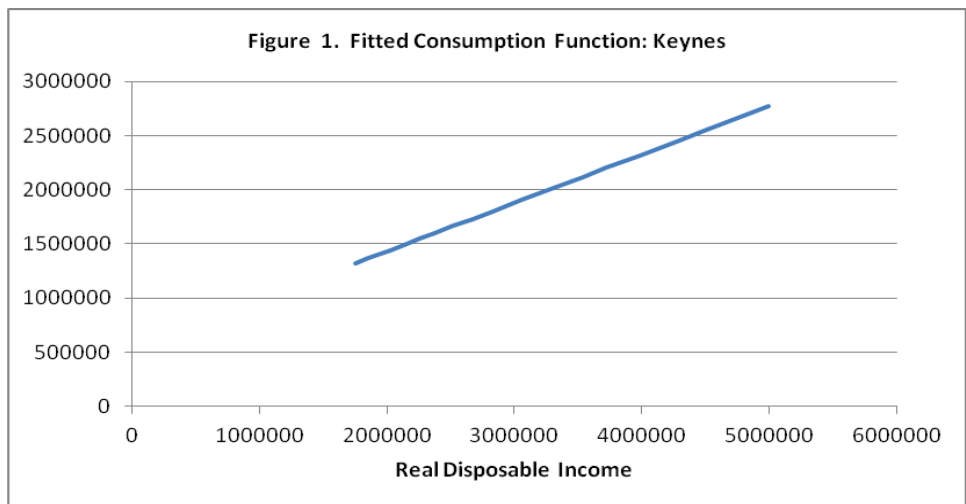
Model 1.

This model represents the simplest form of aggregate private consumption function where the effect of aggregate disposable income only (Ydt) on consumption has been investigated. The value of marginal propensity to consume is found to be 0.44 and is statistically highly significant (P < .001). The value of coefficient of determination is also very high (R^2 = .997). This implies that if disposable income rises by Tk 1 million then Tk 0.44 million will be spent on consumption, other things remaining the same. The estimate of the mpc appears to be low. The model has the desirable statistical properties as depicted by the values of coefficient of determination (R^2), Standard error of regression, F-statistic, D-W statistic and model P values. The fitted consumption function under model 1 is shown in Figure

1. We also tried a model by including the square term of the income in this model to see effect of non-linearity. The coefficient of the square term was negative but too low to report and was statistically insignificant.

Table 1. Consumption Functions-Regression Results.1996-2013

Keynes' Consumption Function	R^2	SER	F	P	D-W	d.f
Model 1 $C_t = 545631.20 + 0.44Ydt$ (29.55) (76.31)	0.997	23903.64	5824.18	.000	1.279	1,16
Model 2 $C_t = 197549.16 + 0.20Ydt + 0.61C_{t-1}$ (2.50) (3.59) (4.23)	0.999	16110.19	5857.98	.000	a/	2,14
Model 3 $c_t = 5110.43 + 0.39y_{dt}$ (30.28) (50.87)	0.994	180.39	2587.48	.000	1.00	1,16
Model 4 $lnC_t = 3.96 + 0.70lnY_{dt}$ (21.55) (56.80)	0.995	0.0167	3226.73	.000	0.622	1,16
Model 5 $C_t = 575446.39 + 0.42Y_{dt} - 0.01L_t$ (10.07) (13.45) (.63)	0.997	24363.68	2803.35	.000	1.24	2,15
Model 6 $C_t = 84707.60 + 74.94y_{dt} + 1366.06 P_t$ (0.28) (14.93) (0.46)	0.997	24169.97	2833.72	.000	1.31	2,15
Model 7 $C_t = 617857.95 + .45Y_{dt - 11852.17DIRt}$ (12.11) (70.78) (1.60)	0..998	22820.20	3196.45	.000	1.469	2,15
Model 8 $C_t = 589772.00 + .41Y_{dt} - 0.09 REMIT_t$ (9.11) (12.64) (0.78)	0.997	24198.86	2841.78	0.000	1.23	2,15
Friedman's Consumption Function						
Model 9 $Ct = 546077.88 + 0.44Ypt$ (29.27) (73.93)	.997	20620.03	5464.98	0.000	1.217	1,16
Hall,s Consumption Function						
Model 10 $Ct = -77689.86 + 1.09Ct-1$ (3.10) (80.76)	.999	21580.84	6521.74	0.000	a/	1,15

a/ D-W statistic is not applicable for equation in which lagged value of dependent variable appears as a regressor.

Figure 1. Fitted Consumption Function: Keynes

Model 2.

In this model we have considered the effect of past-habit of consumption(lagged by one year Ct-1) and disposable income (Ydt) on consumption. The value of mpc has decreased to 0.20 from .44 in model 1. The coefficient of Ct-1 is 0.59. Both the coefficients are statistically highly significant. It turns out that past consumption habit is a good predictor of current consumption. The model had desirable statistical properties.

Model 3.

In this model we explore to find the effect of liquid assets(Lt) in addition to disposable income(Ydt) on consumption. The value of mpc slightly decreased to 0.42 from 0.44 in model 1. The coefficient of the variable liquid assets(Lt) had the expected negative sign but it wast statistically insignificant. The model had the desirable statistical properties.

Model 4.

In this model the effect of per capita disposable income(ydt) and population size(Pt) was regressed on aggregate private consumption(Ct). The coefficient of per capita income was found to be 74.94 and statistically highly significant. The coefficient of population size(Pt) though had the expected positive sign, was statistically insignificant. The model had the desirable statistical properties.

Model 5.

This is an attempt to see whether the effect of disposable income on consumption in per capita terms increases the mpc in comparison to the total value in model 1. We obtain a lower value of mpc of 0.39 in per capita terms, compared to a value of 0.44 in model 1. The value of the mpc in per capita terms was statistically highly significant and the fitted model had the desirable statistical properties.

Model 6.

Under the logarithmic(natural) transformation of the model the value of coefficient of lnYdt was found to be 0.70 on lnCt and it was statistically highly significant. The model had the desirable statistical properties.

Model 7.

In this model we analyse the effect of deposit interest rate(DIRt) of Deposit Money Banks and disposable income (Ydt) on consumption (Ct). The value of mpc remains at the same level of 0.44 as in model 1.The coefficient of Deposit interest rate(DIRt) had the expected negative sign but was statistically insignificant.

Model 8.

In this model we introduce remittances from abroad (REMITt) in addition to aggregate disposable income(Ydt) to see their effect on consumption behavior (Ct). We have a slightly lower value of mpc of 0.41 when compared to its value of 0.44 in model[1]. The effect of remittance(REMITt) on consumption was negative but statistically insignificant. The model had desirable statistical properties.

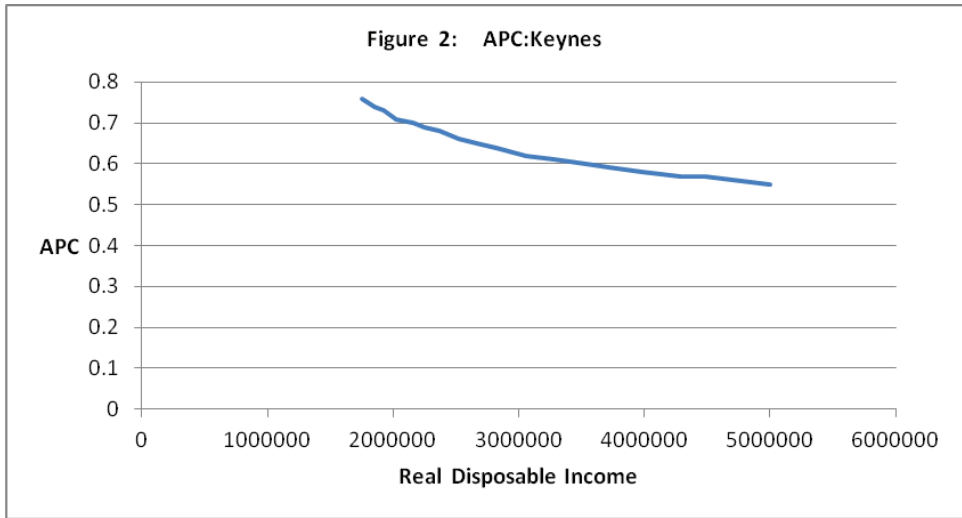**Friedman Consumption Function:**

Model 9

The result of estimated Friedman Consumption function under permanent income hypothesis is given in model 9 of Table 1. In the absence of data on permanent income, 3-yearly moving average of aggregate disposable income has been used as a proxy for permanent income. Here we estimate the effect of permanent disposable income(Ypdt) on aggregate consumption (Ct). The value of mpc is found to be the same (mpc=0.44) as given in the model 1 under the Keynesian consumption function. The value of mpc was statistically significant and the various statistical properties were analogous to model 1.

Hall's Random Walk Consumption Function.

Model 10.

The result of estimated Hall Random Walk Consumption function under the life cycle permanent income hypothesis is given in model 10 of Table 1. Here we study the effect of lagged value of consumption (Ct-1) on current consumption (Ct). The value of coefficient of the lagged value of consumption (Ct-1) on current consumption (Ct) was found to be 1.09 and it was statistically highly significant. The model had the desirable statistical properties.

Average Propensity to Consume.

The value of average propensity to consume(APC) obtained from the estimated consumption function under keyenes model and Friedman model are similar, as it is the case with mpc. We find that along with the rise in aggregate disposable income, the value of APC decreases as indicated by Keyenes (Figure 2). At the real disposable income level of Tk 175000 million in1995/96 the value of APC was 0.76 which gradually decreased to 0.55 in 2012/13 at an income level of Tk 5000000 million.

Figure 2:   APC:Keynes

Estimated value of Consumption.

The estimated value of the Consumption under the three approachs, namely Keynes consumption function, Friedman consumption function and Hall consumption function were more or less similar (Figure 3). We can see that they overlap one another.

Figure 3: Fitted consumption: Keynes, Friedman and Hall
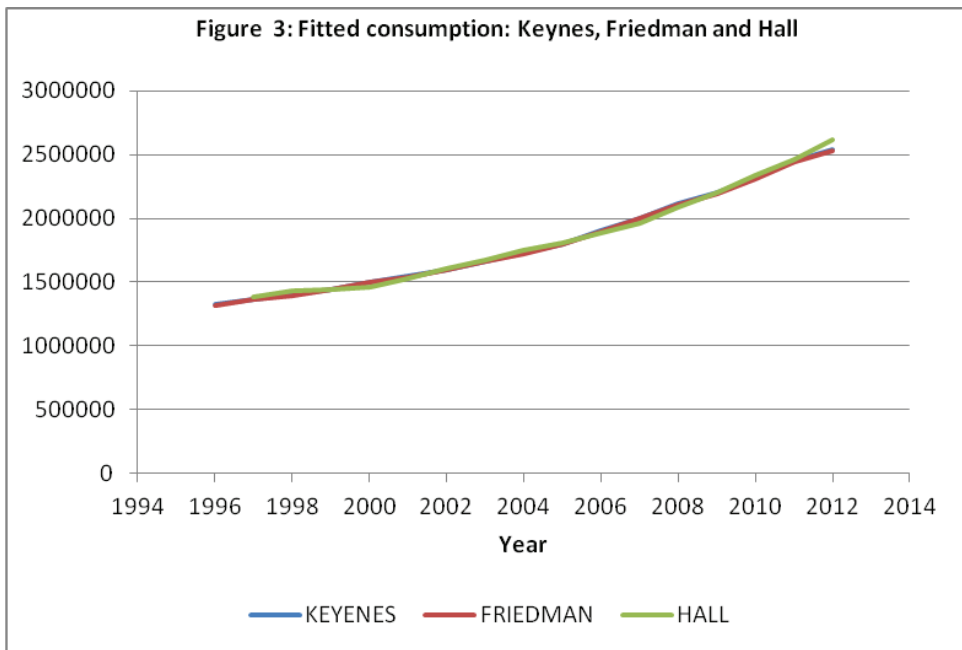
Conclusion:

The important findings of the study are that real disposable income and lagged value of consumption which have a definite pattern of effects towards the contribution of consumption. All other variables, liquid assets, population size, deposit interest rate and remittances from abroad included in the models along with disposable income had the expected sign, but their effects were statistically insignificant. The average propensity to consume exhibited decline with the rise in income. The expected value of consumption figures obtained by the three approaches, namely Keynesian model, Friedman model and Hall random walk model were more or less similar.

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Performance Analysis of Supply Chain and Value Chain of Selected Fruits in Khagrachari Hill District

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Abstract: *The study was conducted at Khagrachari Sadar upozila under Khagrachari Hill District to document the socioeconomic profile of market actors of selected fruits, to know the existing supply chain of selected fruits, to identify value chain of selected fruits, and to find out constraints in value chain performance of selected fruits. Three local markets, namely Shapla chattor (town market/baro bazar), Madhupur bazaar, and Shonirvhor bazar and one assembly market in Narikal Bagan were purposively selected for data collection from both fruit growers and market intermediaries. For value chain development of selected fruits, UNIDO's approach to agro-value chain analysis and development was followed. In the study area, nine supply chains were found for mango marketing, of which three supply chains had gone out of the region. For jackfruit and litchi marketing six supply chains were found. For all fruits (mango, jackfruit and litchi), the most important supply chain, grower to customer, was supplied about 34 percent of total fruits supply. In the study area value was added in some stages. These were grading, cleaning, packaging, storing and transportation. Highest value was added on grading process, which was about 85 percent to 100 percent. For developing value chain in the study area some constraints like post harvest losses, storage problem, lack of processing center, high packaging cost etc were found.*

1. Introduction

The Chittagong Hill Tracts (CHT) covers an area of 13,295 square kilometers of Himalayan range hills and hillocks measuring one tenth of Bangladesh. The major hill soils are yellow-brown to strong brown permeable friable loamy, very strongly acidic and low in moisture holding capacity. However, soil patterns generally are

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complex due to local differences in sand, silt and clay contents of the underlying sedimentary rocks and in the amount of erosion that has occurred (BBS, 2011).

The area is becoming a seasonal fruit hub with immense potential for the development of a food-processing sector. Last year the CHT produced nearly 14 lakh tonnes of fruit, officials said, while a decade ago production in the region was 6 lakh tonnes in 2002 (The Daily Star, 2012). In Khagrachari Hill District fruit was grown on 3855 acres of land in 2010/11, up from1025 acres in 2006/07 (BBS, 2011).

Fresh tropical fruits are on winning ground in world markets as to recent statistical figures (Anonymous, 2001). Its production has risen by 7 percent annually since 1997; and the bulk of these fruits (98 percent) are grown in developing countries. Hundreds of farmers in the three hill districts produce plenty of mango, jackfruit, papaya, pineapple, orange, and banana every year, but do not get fair prices of the perishable produces, only because of the lack of proper marketing facilities.

Khagrachari hill district with an area of 2699.55 square kilometers is bounded by the Indian State of Tripura on the north, Rangamati and Chittagong districts on the south, Rangamati district on the east, Chittagong district and the Indian State of Tripura on the west.

The vast area of Khagrachari hill district is suitable for fruits production. From all fruits mango, jackfruit and litchi are dominant in production in this area. In 2010-11, the total area of mango was 912 acres and total production was 2819 m.tons. During the year, total area of jackfruits was 3066 acre and total production was 37356 m.tons whereas total area of litchi was 273 acres and total production was 1228 m.tons. Also the percentage change in yield over 1995/96 to 2010/11 was 153.9 mt/ha, 195.48 mt/ha and 140.65 mt/ha for mango, jackfruit and litchi, respectively (BBS , 2011).

Even though fruit is economically and socially important, fruit supply chain and their characteristics have not yet been studied and analyzed for Khagrachari hill district where great potential of fruit production (Mango, Jackfruit & Litchi) exists.

The changing demand in domestic and international markets for high-value products creates challenges and opportunities. Small and marginal holders produce majority of the horticultural commodities like fruits and vegetables, but due to weak and fragmented value-chain, only a small percentage of the produce reaches the urban market. Appropriate marketing infrastructure is crucial for efficient marketing of fruits and vegetables. Adequate transportation and product handling are also important for the trade of agricultural products and important factors in assuring good prices and poverty alleviation. Investment is required for improved maintenance of road and port infrastructures. In addition to infrastructure develop-

ment, modification of policies and management are also needed to improve appropriate and timely shipping of perishables (World Bank, 2005).

Fruit production and marketing assume an important place in the agricultural development as well as cheaper fruit based nutrient supply to the population of the country. Despite the vast utility of fruits production, its marketing system in hill region is plagued with several inadequacies. Therefore, the present study was designed to address for identifying value chain and constraints in value chain performance of selected fruits to derive policy implications for value chain development of selected fruits in Khagrachari hill district.

2. Methodology

Data: The study was confined to Khagrachari Hill District. Based on higher concentration of fruits garden, Khagrachari sadar upazila was selected purposively for the survey. Three local markets, namely Shapla chattor (town market/baro bazar), Madhupur bazaar, and Shonirvhor bazar and one assembly market in Narikal Bagan were purposively selected for data collection from both fruit growers and market intermediaries. The participants involved in fruits (mango, jackfruit and litchi) production and marketing in the study area are fruit growers, wholesaler, bepari, faria and retailer. As the population size was not readily available, the fruit growers and market intermediaries were selected considering availability at the first sight. The selected samples included 130 fruit growers (mango growers-56, jackfruits growers-34 and litchi growers-40) and 84 market intermediaries (wholesaler-16, faria-20, bepari-32 and retailer-16). Primary data were collected during the months of April to July 2014.

Analytical tools: The data were collected from different categories of fruit growers and from different marketing functionaries. Descriptive statistics were used to summarize the data and presented in tabular form of market actors. For identifying existing supply chain descriptive research was done and for value chain analysis UNIDO's approach to agro-value chain analysis was followed.

3. Results and discussions

3.1 Existing Supply Chain of Fruits in Khagrachari Hill District

The analysis of supply chains is intended to provide a systematic knowledge of the flow of the goods and services from their origin (producer) to the final destination (consumer).The mango, jackfruit and litchi market supply chains, depicted in Table 4.1, 4.2 and 4.3 were constructed based on the data collected in one main town market, three local markets, and two aratder markets in Chittagong. The result revealed that there were 9, 6 and 6 major supply chains for mango, jackfruit and litchi, respectively, which were obtained from traders' survey. The estimated

total volume of supplied fruits was counted as 100 percent for estimating percentage of fruit supplied of each grower and trader. The supply chains of each fruit are treated separately, and the result obtained was the following.

3.1.1 Existing Mango Supply Chain

Nine supply chains were identified for mango of which three have gone out of the region. The supply chain comparison was made based on percentage of volume that passed through each supply chain. Result showed that the fruit grower-local customer, the shortest supply chain, carried the largest percentage (34.83 percent) of the total percentage.

Table 1: Existing supply chain of mango in the Khagrachari Hill District

Sl. No.	Existing supply chain of mango in the Khagrachari Hill District	% of total fruit supplied	Rank of importance
1	Grower – Customer (local)	34.83%	1st
2	Grower – Bepari (local) – District market – Customer (local)	13.95%	3rd
3	Grower – Faria(local) – Retailer – Customer (local)	3.30%	8th
4	Grower–Faria (local) -Customer (local)	3.15%	9th
5	Grower–Bepari (local)–Aratder (Chittagong market)– Bepari (Chittagong market) – Retailer (Chittagong market) – Customer(Other district)	10.25%	4th
6	Grower– Bepari (local)– Bepari (other district)– Customer (other district)	6.25%	5th
7	Grower–Aratder (Chittagong market) -Bepari (Chittagong market)-Customer (Other district)	5.81%	7th
8	Grower - Retailer (local) – District market – Customer (local)	6.45%	6th
9	Grower-Wholesaler(local)-District market-Customer(local)	20%	2nd

Source: Field survey, 2014.

1. **Grower – Customer (local) supply chain:** This supply chain represented 34.83 % of total mango supplied to the market during the survey period. The supply chain was found to be the first important supply chain in terms of importance.

2. **Grower – Bepari (local) – District market – Customer (local):** According to survey, this supply chain accounted for 13.95% of total mango supplied to the market. The supply chain was found to be third most important mango supply chain in the study area.

3. **Grower – Faria (local) – Retailer – Customer (local) :** Represented 3.30% of total mango supplied to market and found to be eighth mango supply chain in the survey area.

4. **Grower–Faria (local)-Customer (local):** This supply chain represented 3.15% of total mango supplied to the customer and found to be ninth most important mango supply chain.

5. **Grower–Bepari (local) –Aratder (Chittagong market) –Bepari (Chittagong market) – Retailer (Chittagong market) – Customer (Other district):** It accounted for 10.25% of total mango supplied to Chittagong market and was fourth most important supply chain in the district.

6. **Grower–Bepari (local) –Bepari (other district) –Customer (other district):** The supply chain accounted for 6.25 % percent of mango supplied and was fifth most important mango supply chain.

7. **Grower–Aratder (Chittagong market) - Bepari (Chittagong market)- Customer (Other district):** This supply chain was seventh most important Supply chain of mango and supplied 5.81% of total supplied.

8. **Grower - Retailer (local) – District market – Customer (local):** This supply chain accounted for 6.45% of total mango supply during the survey period and it was found to be sixth important mango supply chain in Khagrachari Hill District.

9. **Grower-Wholesaler(local) -District market-Customer (local):** This supply chain represented 20% mango supplied in the Survey area and it was placed second most important mango supply chain in the study area.

3.1.2 Existing Jackfruit Supply Chain

Six supply chains were identified for jackfruit of which two have gone out of the region. The supply chain comparison was made based on percentage of volume that passed through each supply chain. Accordingly, the fruit grower-local customer the shortest supply chain carried the largest percentage (35.88 percent) of the total.

Table 2: Existing supply chain of jackfruit in the Khagrachari Hill District

Sl. No.	Existing supply chain of jackfruit in the Khagrachari Hill District	% of total fruit supplied	Rank of importance
1	Grower – Customer (local)	35.88%	1st
2	Grower – Bepari (local) – District market – Customer (local)	15%	4th
3	Grower – Faria (local) – Retailer – Customer (local)	8.78%	5th

4	Grower–Wholesaler (local)–Aratder (Other market)–Bepari (Other market) – Retailer (Other district) – Customer(Other district)	6.50%	6th
5	Grower–Bepari (local)–Bepari (other district)– Retailer (Other district) - Customer (other district):	15.45%	3rd
6	Grower-Wholesaler (local) -Retailer (local) -District market- Customer (local):	18.48%	2nd

Source: Field survey, 2014.

1. **Grower – Customer (local) supply chain:** This supply chain represented 35.88 % of total Jackfruit supplied to the market during the survey period. The supply chain was found to be the first important supply chain in terms of importance.

2. **Grower – Bepari (local) – District market – Customer (local) :** According to survey, this supply chain accounted for 15% of total jackfruit supplied to the market. The supply chain was found to be fourth most important jackfruit supply chain in the study area.

3. **Grower – Faria (local) – Retailer – Customer (local) :** Represented 8.78% of total jackfruit supplied to market and found to be fifth jackfruit supply chain in the survey area.

4. **Grower–Wholesaler (local)–Aratder (Other market)–Bepari (Other market) – Retailer (Other district) – Customer (Other district):** It accounted for 6.50% of total jackfruit supplied to other district market and was sixth most important supply chain in the district.

5. **Grower–Bepari (local)–Bepari (other district)– Retailer (Other district) -Customer (other district):** The supply chain accounted for 15.45 % percent of jackfruit supplied and was third most important jackfruit supply chain.

6. **Grower-Wholesaler (local)-District market - Customer (local):** This supply chain represented 18.48% jackfruit supplied in the survey area and it was second most important jackfruit supply chain in the study area.

3.1.3 Existing Litchi Supply Chain

Six Supply chains were identified in the study area where all supply chains remained in the region except one. The supply chain comparison was made based on percentage of volume that passed through each supply chain. According to the report, the fruit grower-local customer, the shortest supply chain, carried the largest percentage (34.23 percent) of the total litchi supplied.

1. **Grower – Customer (local) supply chain:** This supply chain represented 34.23 % of total litchi supplied to the market during the survey period. The supply chain was found to be the first important supply chain in terms of importance.

2. **Grower – Bepari (local) – District market – Customer (local):** According to survey, this supply chain accounted for 20% of total litchi supplied to the market. The supply chain was found to be second most important litchi supply chain in the study area.

Table 3: Existing supply chain of litchi in the Khagrachari Hill District

Sl. No.	Existing supply chain of litchi in the Khagrachari Hill District	% of total fruit supplied	Rank of importance
1	Grower – Customer (local)	34.23%	1st
2	Grower – Bepari (local) – District market – Customer (local)	20%	2nd
3	Grower – Faria(local) – District market – Customer (local)	7.21%	6th
4	Grower–Wholesaler (local)- District market – Customer (local):	12.7%	3rd
5	Grower–Bepari (local)–Aratder (Other district market)– Retailer (Chittagong market) – Customer(Other district):	8.42%	5th
6	Grower-Wholesaler (local) -Retailer (local) - District market-Customer (local	11.11%	4th

Source: Field survey,2014.

3. **Grower – Faria (local) – District market – Customer (local) :** Represented 7.21% of total litchi supplied to market and found to be sixth most important litchi supply chain in the survey area.

4. **Grower–Wholesaler (local) - District market – Customer (local):** This supply chain represented 12.7% of total litchi supplied to the customer and found to be third most important litchi supply chain.

5. **Grower–Bepari (local) – Aratder (Other district market)– Retailer (Chittagong market) – Customer(Other district):** It accounted 8.42% of total litchi supplied to other district market and was fifth most important supply chain in the district.

6. **Grower-Wholesaler (local)-Retailer (local)-District market-Customer(local):** This supply chain represented 11.11% mango supplied in the Survey area and it was fourth most important litchi supply chain in the study area.

3.2 UNIDO's Approach to Value Chain Analysis of selected fruits (Mango, Jackfruit, Litchi) in Khagrachari district

Selection and prioritization of value chains

The selection and prioritization of value chains to be analyzed are the first steps and they certainly entail some of the most important decisions to be taken in any value chain development. The selection of sectors, sub-sectors, products or commodities determines to a large extent the prospects for a value chain's impact on socio-economic indicators. (UNIDO, 2009)

Mapping the value chain

Mapping a value chain facility requires a clear understanding of the sequence of activities and the key actors and relationships involved in the value chain. In Khagrachari district, different actors like financial institutions, Govt. institutions, traders, growers and customers are involved in the value chain of fruits. In the whole chain there are flows of fruits, knowledge, information. These flows can be both tangible and intangible, for instance, product, money, information and services. Mango was processed into pickle and one packet (5gm) was sold at tk 10. From one kg of raw mango at tk 30, 20 packets of pickle can be produced and processor gains tk 200. Value was also added in some stages of marketing like grading, cleaning, packaging and transporting (Figure 1).

Analyzing value chain technical capacities

This analysis is made in order to assess the value chain production system and tools; evaluate their technical performance; and determine the principal technical actions that need to be carried out to upgrade individual enterprises within the chain and to enhance their competitiveness.

Three aspects of production are to be assessed:

1. Utilization of inputs (raw materials and supplies, labour, water and energy, production materials, equipment etc.). In Khagrachari district fruit growers purchase their input materials from town market. Most of respondents reported that they purchased their own inputs from town market.
2. The production system (technology and process). This is compared with systems used in the sector by the main competitors in terms of the utilization of raw materials, labour, etc; the capacity of the enterprise to provide finished products that meet the needs of customers in terms of quality, delivery time and cost is also assessed. Respondents reported that they transfer technology to each other for improving their fruit production. Fruit growers are all time careful to maintain quality. They adopt new technology, hot water treatment to store fruits for some days without any preservative chemicals.

3. In the study it was observed that for mango marketing fruit growers were personally involved in mango marketing. They personally carried fruit to market and sold it. Large size mango growers rested at small shop personally and sold their fruits. For jackfruit and litchi marketing intermediaries were more involved in marketing than fruit growers.

Analyzing the value chain economic performance:

This analysis entails the measuring of economic factors (production cost, margins, added value etc). In the study area, majority of respondents reported that from all of production cost fertilizer cost, pesticide cost was so much high. Small fruit growers could not use fertilizer timely because of lower capital. Also irrigation facilities were lower in the study area. But most of the respondents reported that the production of fruits was better than in the last decade; it's because of value chain performance. Most of fruit growers practiced grading, packaging etc., which increased their profits.

Formulating an upgrading strategy for the selected value chain
At this stage, upgrading plans are drawn up which describe the interventions required in fruit value chain, including policy and institutional recommendation. Specific interventions at growers level also happened in the study area. Fruit growers were more concerned about the good quality of fruits. Most of the respondents reported that if Govt. took any initiatives for fruit production in this area, the production of fruits also increased. Some action taken by local govt. like formalin usages restriction, free distribution of sampling to fruit growers etc helped to maintain the good quality of fruits in the study area.

Implementing the upgrading, monitoring and impact assessment
After formulating policy recommendation, all market actors need to implement those policies. Govt. body should be monitoring the whole value chain process.

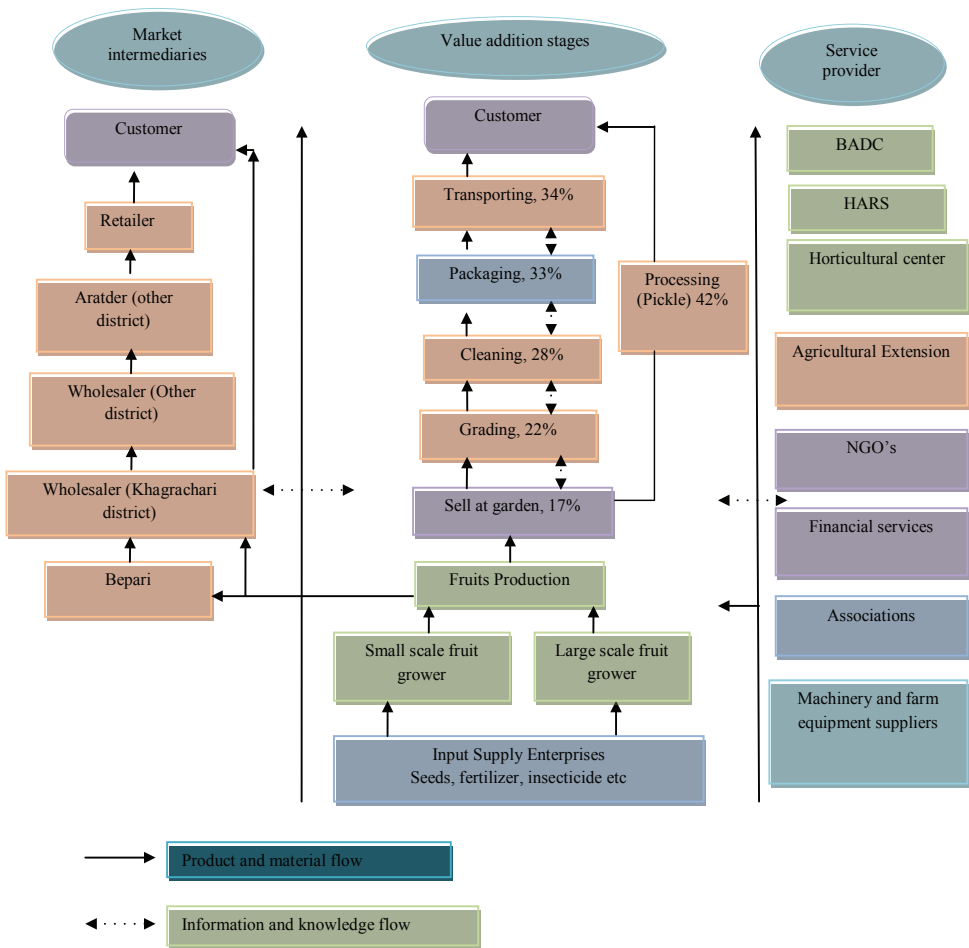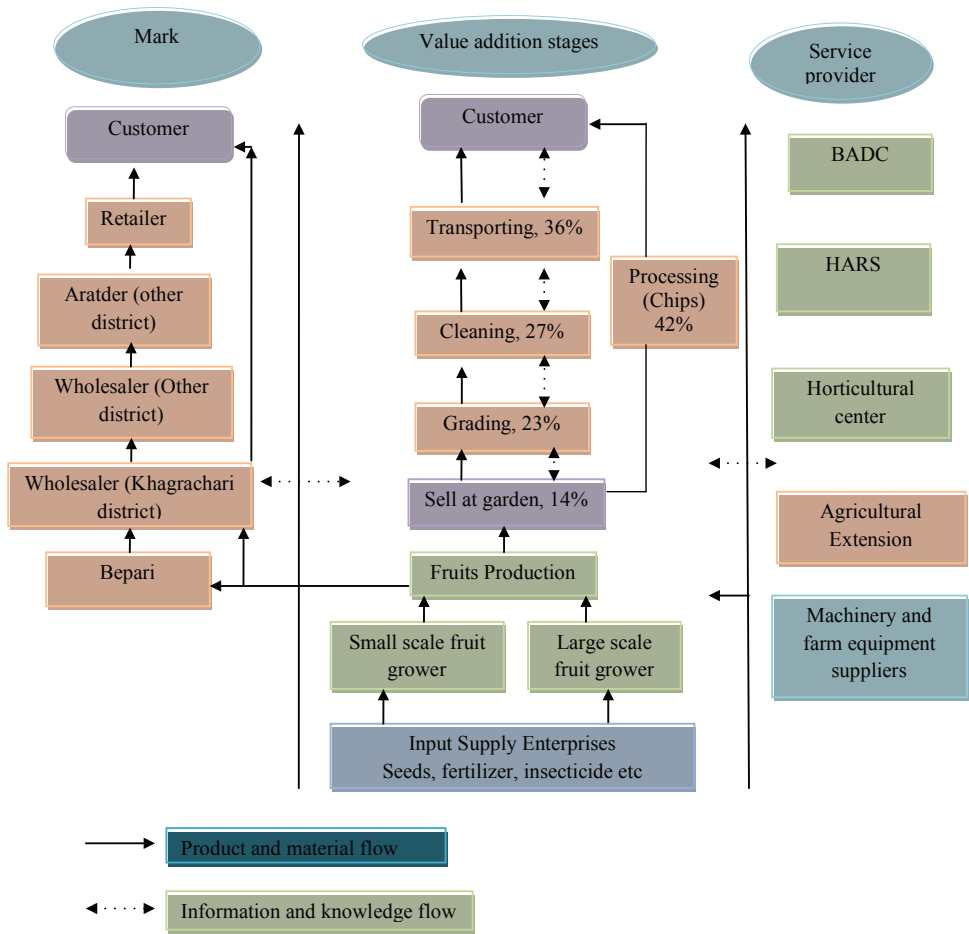*Figure 1: Mapping of mango value chain in Khagrachari Hill District*

Figure 2: Mapping of jackfruit value chain in Khagrachari hill District

In the study area, jackfruit was processed in only one form of chips. When it was processed the price was raised 42 percent from its fruit price. Value was added in some stages like grading, cleaning, transporting.

Figure 3: Mapping of litchi value chain in Khagrachari Hill Districts
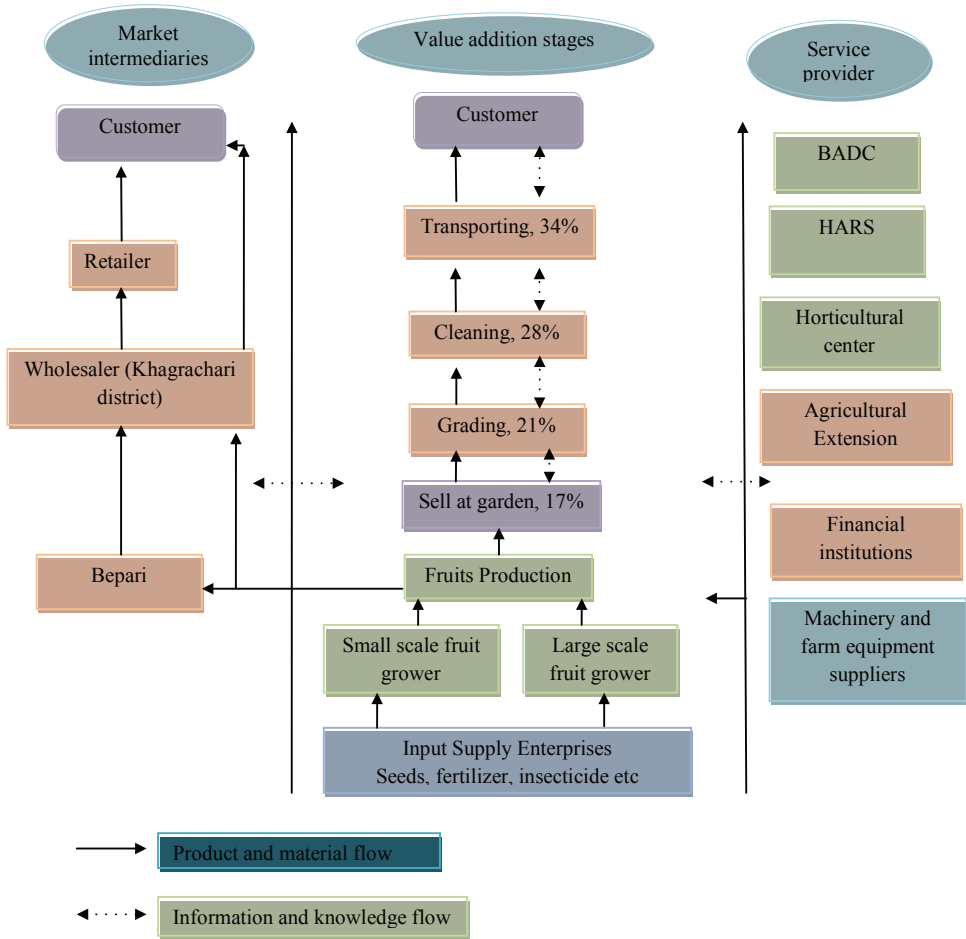
In the study area, litchi was not processed in any form. Value was added in different stages, when litchi was sold in garden the price was tk 3000 per piece and when it was graded the price was increased 21 percent and after cleaning the price was increased 28 percent. Finally when litchi was transported the price was raised to tk 5000 per 1000 piece.

4. Constraints in Value Chain Development

The main advantages to commercial stakeholders from being part of an effective value chain are reductions in the costs of doing business, increased bargaining power, and improved access to technology, information and capital, leading to innovations in production and marketing processes to gain higher value and provide higher quality to customers. (AGRICO, 2004)

From a business perspective, ineffective value chain linkages cause failure among commercial stakeholders and service providers translate into ineffective value chains. Value chains are organized linkages among groups of producers, traders, processors and service providers who join together in order to improve productivity and add value to their activities. By joining together, the actors in a value chain increase competitiveness and are able to maintain competitiveness through innovation. The limitations of each single actor in the chain are overcome by establishing synergies and governance rules aimed at producing higher value. (AGRICO.2004)

In the study area some constraints were faced during value chain development of selected fruits. Ranked these problems, the first problem was lack of training facilities and second was post harvest loss. Lack of processing center was the third problem. Also, lack of credit facilities, less institutional support etc were problems in value addition (Table 4).

Table 4: Problems faced by the market actors for upgrading value chain of selected fruits

Sl. No.	Constraints	Rank
1	Post harvest loss	2
2	Lack of communication	10
3	Storage problem	9
4	Lack of processing center	3
5	Lack of institutional support	5
6	Credit unavailability	4
7	Transport problem	6
8	Lack of rules and regulations	7
9	High license cost	11
10	Packaging cost	8
11	Lack of training facilities	1

Source: Field Survey 2014

5. Conclusions and Policy Implications

Given the large potential for fruit production in the country, their contribution to the total GDP has been extremely low for many reasons. The most cited reasons include lack of market oriented production, which is too traditional and poorly supported by scientific recommendations, excessive margin mainly due to inefficient and costly transport, absence of fruit market information, inadequate government interventions and absence of market regulations and legislations, and

its marketing activity is principally attributed to poor actors skill. As a result, fruit marketing needs due attention in any on-going or future fruit development plan. Although comparative rewards, such assuitable agro-ecology, proximity to national market and cheap provision of labor are opportunities, declining prices, occurrence of deadly fungal disease , poor market integration, absence of improved technologies and provision of extension packages are major factors that hinder production-marketing task of mango, jackfruit and litchi. With existing prominent organic production the product is not yet certified in the study area. Constraints hindering the development of mango, jackfruit and litchi are found in all the stages of the chain. At the farm-level, lack of quality sapling has compelled fruit growers to use inferior and low yielding materials. Storage facilities and absence of collective bargaining power has also forced individual fruit growers to accept unfavorable deals. Therefore, a number of actions need to be undertaken in order to promote the development of mango, jackfruit and litchi value chain. This particularly includes capacity building, technological applications, improved extension and plant breeding activities. Infrastructural development is also a key to support the sub-sector. In this arena, emphasis should be given to improved storage and transportation system and offering credit and other services to improve effective production and marketing of the crops.

6. Recommendations

Provide credit facilities: Govt. may provide credit facilities to market actors and processors to encourage in developing value chain of fruits. This initiative can help to provide job opportunities to people as well as to grow entrepreneurship in this area.

Technology dissemination: Both Govt. and NGOs can help to value chain development by disseminating technical information for improvement of fruits production and marketing in this area.

Strengthening research on marketing: Continuous research is crucial to identify and mitigate constraints in value chain development. It can also help in identifying the potential entrepreneurs and processors who were already involved in this profession. Capacity strengthening in terms of research on post harvest management and marketing of the important research organizations, including universities (BAU, SAU and BSMRAU) and research organizations (BARI and BINA) is needed.

Training facilities: Different Govt. organizations and NGOs can provide training facilities to both market actors and processors including harvesting, grading, sorting, packaging, transportation, storage (conventional and modern), processing (small and large-scale) and nutrition. All the market actors in the value chain should be given adequate training.

Transfer of technology: Development of appropriate technology by experts and conducting training by appropriate trainers on different aspects of post harvest management are needed. Bangladesh Agricultural University may play a leading role in this regard in collaboration with BARC, DAE, BARI and BSTI.

Introducing affordable packaging system: Packaging sector for perishables has not been developed in the study area. For long-distance transportation, still voluminous package made of bamboo baskets and gunny sacks are predominantly used, which result in high spoilage due to impact, vibration and heat generation. Recently, mango intermediaries adopted plastic crates in transportation which has created positive impacts in minimizing loss and maintaining quality.

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Bangladeshis External Debt and its Burden:
An Application of Domar's Dynamic Debt Burden Model

Md. Abdul Wadud *

Abstract: *This paper attempts to analyse the external debt of Bangladesh and evaluate its burden for the period 1974 – 2012. It applies Domar's dynamic debt burden model to assess the countrys external debt burden. Our analysis shows that debt service payment by the country has steadily risen and stood at 1504 million U.S. dollars in 2012 which is equal to Tk. 11897.14 crore. It has been found that the debt-GDP ratio and the debt-export ratio show an increasingly fluctuating pattern over the years. Results of Domar's dynamic debt burden model show that the dynamic debt burden of Bangladesh is 4.11 percent of its GDP. This implies that Bangladesh needs to raise about 4.11 percent of its GDP yearly to be able to service the external debt.*

Keywords: External Debt, Debt Burden, Bangladesh, Domar's Debt Burden Model

1. Introduction

Developing country governments often consider the financing through debt an important instrument as it accelerates the pace economic development. Countries facing current account deficit are encouraged to take external debt to boost their economic growth. The government needs to make sure that the expected rate of return of the development projects through this type of financing exceeds the cost of borrowing from external sources. For example, Tanzi and Blejer (1988) report that an efficient investment of borrowed funds can enhance the capacity of paying debt service of the borrowing country out of the forthcoming higher income. The debates of Cole (1960), and Kuznets (1965) as cited in Wijnbergen (1989) specially in the case of United Kingdom and United States produce such evidences. Over many decades in the past, these two countries had extensive debt which turned them into lenders at a later stage. Rao et al (1994) argue that a coun-

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try that borrows for capital formation must repay the debts and become a creditor sooner or later.

Bangladesh, since its inception in 1971, continues to depend heavily on external debt to fill the fiscal and external sector deficit. Therefore, a high level of debt stock and debt servicing emerged in the decade of 1980s and continued to be so in the decades of 1990s and 2000s. External debt has now become a concern of both fiscal and monetary policies in Bangladesh as the increasing amounts of public debt and payment of debt service are likely to exert a pressure on the macroeconomic stability by crowding out private investment. It reduces the capacity of the government for public investment. External debt hence becomes one of the main challenges faced by developing countries like Bangladesh. External debt and its repayments are likely to act as a hindrance to the economic growth and development of developing countries.

Malik, Hayat and Hayat (2010) analysed the relationship between external debt and economic growth in Pakistan for the period of 1972-2005, applying time series econometric method. Results show that external debt is negatively and significantly associated with economic growth. Results also indicate that debt servicing has negative and significant effect on economic growth. Hameed, Ashraf and Chaudhary (2008) analyze whether there is any relationship between external debt and economic growth in Pakistan for the period 1970-2003. Results show that debt service ratio affects economic growth negatively in the long-run, which in turn reduces the ability of the country to pay its debt.

Adesola (2009) examines the effect of external debt service on sustainable economic growth in Nigeria and concludes that a negatively significant relationship exists between GDP and external debt. Cholifihani (2008) analyzes the relationship between public debt service and GDP in Indonesia for 1980-2005. Result shows a debt overhang problem in the long run in Indonesia.

Siddiqui and Malik (2001) examined the effect of external debt on economic growth in South Asian countries and report that the impact of foreign debt on economic growth is positive and statistically significant. Ayadi and Ayadi (2008) investigate the impact of external debt and its dept servicing requirements on economic growth in Nigerian and South African economies. Results show that external debt along with its servicing requirements have had negative impact on economic growth in Nigeria and South Africa. Loganathan, Sukemi and Sanusi (2010) examine whether there is any relationship between external debt and macroeconomic performance in Malaysia for the period of 1988-2008. They find that there is a significant long-run and short-run relationship between external debt and performance of macroeconomic variables in Malaysia. Kumari (1996) investigates the relationship between external debt and economic growth in developing countries. Results report that debt flows do not contribute automatically to the economic

growth; domestic efforts make these flows to contribute to economic growth.

Faiz (2003) and Pasha and Ghaus (2001) assess the evolution of public debt and factors which contribute towards economic growth in Pakistan. Results indicate that the rise in debt to GDP ratio is the result of cumulative effects of large primary budget deficit along with the non-interest current account deficit. A review on debt dynamics indicates that the increasing debt stock and burden is the possible result of the twin deficits, exchange rate fluctuations and high interest rate payments. This paper is designed to assess the extent and burden of external debt of Bangladesh covering the period 1978 to 2002.

The rest of the paper is organized as follows. Section 2 explains the state of external debt, debt service, debt-GDP and debt-export ratios of Bangladesh. Section 3 details the Domar (1944) model of debt burden. Results of the debt burden model are presented in Section 4. Section 5 concludes.

2. External Debt and Debt Service

2.1 Debt Outstanding and Debt Service of Bangladesh

Bangladesh has a considerably significant amount of external debt. Data on external debt and debt service of Bangladesh, debt-GDP ratio, and debt-export ratio are presented in Table 1. Total external debt of Bangladesh stood at 501.00 million U.S. dollars in 1974. This rose to 5941.00 million after five years in 1984. The rise continued and the external debt outstanding amounted to 15373.00 million U.S. dollars in 1994. After another ten years in 2004, the amount stood at 18511.00 million U.S. dollars. This then rose and stood at 22095.00 million U.S. dollars in 2012. Table 1 shows that total external debt of Bangladesh steadily rose from 501.00 million U.S. dollars in 1974 to 22095.00 million U.S. dollars in 2012. This implies an average growth of 553.69 million of external debt per year.

Debt service which is the sum of principal and interest paid back each year gives an indication of the burden of external debt. Debt service payment was about 27.24 million U.S. dollars in 1974 and it rose to about 1504.06 million in 2012. This means that Bangladesh paid about Tk. 11897.14 crore in 2012 as debt service. This is by any consideration a huge amount of money.

Table 1: Data on External Debt, Debt Service, GDP and Tax (in Current Million U.S. Dollar) for Bangladesh (1974-2012)

Year	Total debt (D)	Debt service	Debt service-GDP ratio	Debt service-export ratio	GDP (Y)	Tax (t)
1974	501.00	27.237	0.22	3.70	12512.4605	373.9958
1975	974.00	106.877	0.55	2.90	19448.3481	579.6489
1976	1577.00	137.782	1.36	4.75	10117.1133	534.4258
1977	1828.00	143.098	1.48	7.04	9651.1493	486.2246

1978	2783.00	140.242	1.06	5.56	13281.7671	685.0855
1979	3193.00	199.558	1.28	6.11	15565.4803	812.2262
1980	3400.00	239.255	1.32	5.49	18138.0491	908.5216
1981	4383.00	192.411	0.98	5.27	19714.5655	1093.6181
1982	4959.00	217.16	1.20	5.21	18050.8982	980.8325
1983	5452.00	212.886	1.24	5.74	17184.6801	907.6582
1984	5941.00	283.39	1.45	3.28	19591.4800	966.2159
1985	6281.00	330.014	1.53	5.55	21613.2308	1096.5436
1986	7438.00	444.768	2.11	5.35	21089.7000	1080.1008
1987	8364.00	521.03	2.22	5.17	23474.5484	1257.9417
1988	9473.00	497.027	1.94	5.63	25638.7494	1397.7889
1989	9879.00	507.607	1.83	5.75	27744.4873	1523.2468
1990	10609.00	735.489	2.41	6.12	30495.0815	1756.1100
1991	12714.00	592.527	1.91	6.66	30957.4454	1789.1420
1992	13330.00	532.544	1.70	7.59	31293.8269	2029.3457
1993	13615.00	520.666	1.62	9.02	32063.8072	2925.4334
1994	15373.00	538.612	1.59	9.00	33853.0818	3122.4297
1995	16767.00	754.631	1.99	10.86	37939.7530	3733.7844
1996	15166.00	647.233	1.59	11.08	40666.0156	3753.9946
1997	15025.00	667.767	1.58	11.99	42318.7993	4072.5232
1998	14033.00	622.506	1.41	13.33	44091.7541	4184.2385
1999	14843.00	699.624	1.53	13.19	45694.0724	4113.2314
2000	16211.00	769.119	1.63	13.98	47124.9255	3989.1714
2001	15074.00	664.074	1.41	15.38	46987.8428	4510.8156
2002	16276.00	717.31	1.51	14.28	47571.1301	4855.9495
2003	17411.00	662.974	1.28	14.21	51913.6615	5374.7841
2004	18511.00	653.478	1.16	15.46	56560.7440	6006.5869
2005	18777.00	801.471	1.33	16.58	60277.5610	6384.9992
2006	19420.00	713.758	1.15	18.97	61901.1167	6689.0579
2007	20713.00	992.718	1.45	19.78	68415.4214	7166.2625
2008	20265.00	888.863	1.12	20.34	79554.3507	8824.8285
2009	20858.00	955.336	1.07	19.43	89359.7674	10055.0572
2010	20336.00	1026.778	1.02	18.41	100357.0224	11488.0725
2011	22086.00	1492.658	1.33	22.90	111879.1217	13374.6605
2012	22095.00	1504.063	1.29	23.17	116355.0573	14525.3318

Source: World Bank, World Development Indicators, 2014;
Bangladesh Economic Review 2003 and 2013, Government of Bangladesh

2.2. Debt Service-GDP Ratio and Debt Service-Export Ratio

Debt service-GDP and debt service-export ratios presented in Table 1 can be considered to assess the burden of external debt. The Table shows that debt service-GDP ratio was 0.22 percent in 1974. This rose to 1.45 percent in 1984, and then increased to 1.59 percent in 1994. The ratio fell to 1.16 percent in 2004 and then rose again to 1.29 percent in 2012. Table shows that the ratio was the highest in 1990 (2.41 percent) and lowest in 1974 (0.22 percent). Table 1 further shows that the debt service-export ratio was 3.70 percent in 1974, which rose to 5.74 percent in 1983 and to 9.00 percent in 1994. This ratio stood at 15.46 percent in 2004 and 23.17 percent in 2012. The ratio becomes the highest in 2012 (23.17 percent) and lowest in 1975 (2.90 percent). The range of the highest and the lowest is about 20.27 percent, which implies a huge burden.

3. Domar's Dynamic Burden of Debt Model

When the government of a country accepts external debt, it requires to pay interest charges on its debt. If the payment of debt service is made from tax revenue, then this constitutes a burden on the public. The burden of public debt should not only include the absolute amount of interest charges and the resulting tax but also the ratio of the additional tax and national income (Domar, 1944). An absolute increase in tax might not create any hardship on the public if income grows (Domar, 1944); rather what matters is an increase in the tax-income ratio. The debt burden model of Domar is expressed briefly as follows.

The debt model of Domar can be written as:

$$D'(t) = \alpha Y(t) \qquad (0 < \alpha < 1) \tag{1}$$

where $D(t)$ denotes total debt outstanding, $D'(t)$ lag of $D(t)$ and $Y(t)$ denotes GDP. Assuming that interest rate is constant at rate I, the interest induced tax, $T(t)$ is proportional to the debt outstanding which may be expressed as:

$$T(t) = iD(t) \tag{2}$$

Domar describes the burden of public debt under situations of income growth. If income grows at a constant relative rate β, then we obtain the equation:

$$Y'(t) = \beta Y(t) \qquad (0 < \beta < 1) \tag{3}$$

The debt burden, can then be expressed as:

$$B(t) = \frac{T(t)}{Y(t)} = i\frac{D(t)}{Y(t)}$$

The time paths of $D(t)$ and $Y(t)$ should be derived to obtain the debt burden. Let us integrate (3) in order to get $Y(t)$ and then substitute this into (2) and solve the

resulting first-order differential equation for D(t). We can then treat this problem as one of solving a second-order differential equation. By differentiating (2) with respect to t and using (3) and (2) successively, we obtain:

$$D''(t) = \alpha Y'(t) = \alpha \beta Y(t) = \beta D'(t)$$

That is, $D''(t) - \beta D'(t) = 0$ \hfill (4)

The general solution for this equation is:

$$D(t) = A_1 e^{\beta t} + A_2$$

If we denote the initial values of D and Y as D(0) = D0 and Y(0) = Y0 and setting t = 0 in the general solution, we obtain that:

$$D(0) = A_1 + A_2 = D_0$$ \hfill (5)

Again if we set t = 0 in the derivative of the general solution, it is obtained that, $D'(0) = \beta A_1$. Since equation (1) implies D' (0) = αY(0) = αY$_0$, it follows that

$$\beta A_1 = \alpha Y_0$$ \hfill (6)

Now if equations (5) and (6) are simultaneously solved, then we obtain:

$$A_1 = \frac{\alpha}{\beta} Y_0 \quad \text{and} \quad A_2 = D_0 - \frac{\alpha}{\beta} Y_0$$

So the definite solution of (4) takes the following form:

$$D(t) = \frac{\alpha}{\beta} Y_{0e}^{\beta t} + D_0 - \frac{\alpha}{\beta} Y_0$$

This depicts the time path of the public debt. The other time path can also be obtained. If the initial condition is taken into consideration, it can be derived from equation (3) that:

$$Y(t) = A e^{\beta t} \quad or \quad Y(t) = Y_0 e^{\beta t}$$

Now the debt burden function can be written as follows:

$$B(t) = iD(t)/ Y(t) = \{i(\alpha/\beta)Y_0 e^{\beta t} + iD_0 + i (\alpha/\beta) Y_0\} / Y_0 e^{\beta t}$$

This equation can explain what will happen to B(t) if government borrowing is to continue indefinitely at the indicated rate or what is the limit of B(t) as t becomes infinite. For this, each term on the right is multiplied by e$^{-\beta t}$, thereby transforming the burden function into the following:

$$B(t) = \{i(\alpha/\beta)Y_0 + [iD_0 - i (\alpha/\beta) Y_0] e^{-\beta t} \} / Y_0$$

Since $e^{-\beta t} \to 0$ as $t \to \infty$, the second term in the numerator will tend to zero. There-

fore, the dynamic debt burden can be finally obtained that:

$$\lim_{t\to\infty} B(t) = \frac{i(\alpha/\beta)Y_0}{Y_0} = \frac{i\alpha}{\beta} \tag{7}$$

It can be concluded from this equation that if income grows at a constant relative rate, the debt burden will not increase without bounds but will approach a finite limit, depending on the values of the parameters α, β and i.

4. Results of Domar's Debt Burden Model

We now estimate the parameter of the equations to predict the debt burden of Bangladesh using the data contained in Table 1. In Domar's Dynamic Burden of Debt Model, equation (1) states that:

$$D'(t) = \alpha Y(t) \qquad (0 < \alpha < 1)$$

The estimate of α is obtained using OLS approach as:

$$\alpha = 0.0087$$

Equation (2) states that if interest rate is a constant i so that the interest induced tax T(t) is proportional to the debt outstanding:

$$T(t) = iD(t)$$

The estimate of i is found applying OLS as:

$$i = 0.354$$

Equation (3) states that if income grows at a constant relative rate β, then the equation we obtain as:

$$Y'(t) = \beta Y(t) \qquad (0 < \beta < 1)$$

Applying OLS, the estimate of β becomes:

$$\beta = 0.075$$

Finally, the dynamic debt burden is derived from the relationship:

$$\lim_{t\to\infty} B(t) = \frac{i(\alpha/\beta)Y_0}{Y_0} = \frac{i\alpha}{\beta}$$

Substituting the estimated values of α, β, and i into the above relationship:

Dynamic debt burden = 0.0024 / 0.0446

= 4.11 percent

We can therefore conclude that the dynamic debt burden of Bangladesh is 4.11 percent of its GDP. This means that Bangladesh needs to raise tax for repaying external debt to the tune of 4.11 percent of GDP. Raising revenue earning through

imposing more tax to pay the debt service increases the price level of the economy and hence reduces the disposable income of the people. Besides, if the government attempts to pay the public debt through money creation, this causes inflationary pressure on the economy.

5. Conclusion

This paper aims to analyse Bangladesh's external debt and estimate the country's dynamic debt burden using the data for the period from 1974 to 2012. We apply the dynamic debt burden model of Domar (1944). The analysis shows that debt service payment has steadily risen and stood at 1504.06 million U.S. dollars in 2012. The analysis also shows that the debt-GDP ratio and the debt-export ratio fluctuated over the years. The results of the Domar debt model show that the dynamic debt burden is 4.11 percent of Bangladesh's GDP. This means that Bangladesh needs to raise tax for repaying external debt to the tune of 4.11 percent of GDP.

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The Determinants and Projections of Saving Rates in South Asian Countries

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Abstract: *Using OLS, Fixed Effect, Random Effect models both with and without lag value, we found that domestic saving rates in Bangladesh, India, Pakistan, Sri Lanka and Nepal have, in general, been high and rising but there have been substantial differences from economy to economy. The main determinants of the domestic saving rates during the 1971-2009 period appear to have been the age structure of the population (especially the aged dependency ratio, youth dependency ratio), income level, and the level of financial sector development, and moreover, that the direction of impact of each factor has been more or less as expected. We analyzed the past trends of domestic savings behaviour, and, based on those trends, project the future trends of domestic saving rates in the selected countries for the period 2011-2030. We find that the domestic saving rates in developing Asia as a whole will remain roughly constant during the next two decades. However this future projection of savings does not necessarily imply exact figure of savings in these countries as it depends also on other factors such as the economic size, differences in financial structure across countries, fiscal policy, monetary policy, coordination of nations etc.*

Keywords: *Trends of Savings, Determinants of Saving, Time series data, OLS, Fixed effects, Random effects.*

Section I

1. Introduction

The role of Savings in the process of economic development has long been a fundamental axiom of development theory, with its basis in such classic analyses as Rostow's stages of growth and Lewis's growth theory and the early growth

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models of Harrod-Domar and others. In these analyses, an increase in the rate of saving was isolated as a key factor underlying a nation's ability to achieve a sustained increase in its growth rate.

Developing Asian countries' domestic saving rates and national saving rates are relatively higher than those of the developed countries. These high saving rates have made possible high levels of domestic investment those but have also led to large capital outflows (Park and Shin (2009). Bernanke (2005) asserted that, the developing economies of Asia have oversaved and underinvested, leading to large current account imbalances (surpluses). What are the key determinants of domestic savings rate in those developing countries? What made them to save more? Marx-Keynes viewed savings as a passive determinant of investment so that macroeconomic equilibrium can hold and influence the growth rate of output. In this view, growth gone rates savings.

The purpose of this paper is to present data on trends over time in domestic saving rates in economies in selected developing South Asian countries during the period 1971-2009, to analyze the determinants of those trends, and to project trends in domestic saving rates in these same economies during the next two decades based on the estimation results.

In the paper, we selected five South Asian neighbouring countries, names Bangladesh, India, Pakistan, Nepal and Sri Lanka. As the economies of these countries are almost the same, we took these countries as our sample. We present the data on real measures of domestic saving rates to show the past trends of saving rates for the selected countries and the key determinants of domestic saving rates in those countries. Finally, we attempt to project the future trends of domestic saving rates in these countries.

Various factors affect domestic saving rates, but according to our estimation results, the age structure of the population, the degree of financial sector development, and income levels are the major determinants. Looking first at the impact of the age structure of the population, we found that the aged dependency ratio (the ratio of the population aged 65 and older to the population aged 15-64) has a negative and significant impact on the domestic saving rate, since the elderly finance their living expenses largely by drawing down their previously accumulated savings. This implies that the aging of a population will put downward pressure on domestic saving rates. The youth dependency rate (the ratio of the population aged 14 and under to the population aged 15-64), which would also be expected to put downward pressure on the domestic saving rate, has shown the opposite trend, declining in all of the economies in our sample. The degree of financial sector development would also be expected to influence domestic saving rates because people can be expected to do less precautionary saving if they know that they can borrow when the need arises. Our estimation results show that the degree of finan-

cial sector development and the domestic saving rate have a nonlinear relationship.

The study has the following specific objectives:

i) To identify the key determinants of domestic savings rate in selected south Asian countries.

ii) To delineate the trends over time in domestic savings rates in the selected countries.

iii) To project the future trends of domestic savings rate in those countries.

The paper is organized as follow: Following the Introduction, Section II describes the literature on the subject and Section III illustrates the methodology and data. Section IV explains domestic savings rates. Section V describes estimation and results. Section VI delineates the Projection of saving rates in South Asian Countries. Section VII contains concluding remarks.

Section II

LITERATURE REVIEW

There have been many previous empirical analyses of the determinants of saving rates using time series, cross-section or panel cross-country data. Many researchers tried to find the determinants and most of these researches focused on advanced economies, but very few studies paid attention to developing countries. To the best of our knowledge, there is no study conducted to find the determinants of savings based on the selected countries, which we included as our sample.

Cross-section studies by Leff (1980) concluded that dependency ratios were an important determinant of differences in saving behaviour across countries. Ram (1982) empirically found that, saving seemed to be negatively correlated with dependency rates among developed countries, but positively correlated among developing countries. David M. Cutler, M. Poterba, Summers (1990) based on American economies found that increased dependency ratio will reduce living standard by 5-10 percent in the long run.

Kivilcim Metin Ozcan, Asli Gunay and Seda Ertac by using data covering 1968-1994 found negative impact of life expectancy rate, which lends support to the life-cycle hypothesis. The precautionary motive for saving is supported by the findings that inflation captures the degree of macroeconomic volatility and has a positive impact on private saving in Turkey.

Schultz (2004) found large demographic effects on saving in Asia, and exaggerated the impact by including lagged saving in the regression analysis of 85 country sample and the sub-sample of non-industrial Asian countries. Thus concluded, Asia is the source of much of the macroeconomic evidence in support of large

demographic effects on saving.

Charles Yuji Horioka (2007) analyzed the impact of population aging on the household, private, government, and national saving rates and found that population aging will lead to declines in household, private, government, and national saving rates, but to the extent that population aging is accompanied by absolute declines in population, investment rates will also decline, and moreover, countries always have the option of borrowing from abroad. Thus, the decline in saving caused by population aging will not necessarily spell disaster.

By using the GMM estimator Nola Reinhardt (2007) based on Latin America showed the persistence of saving behaviour in which lagged saving has been found as a significant positive predictor of current saving.

By using a panel data set of 85 countries covering 1960-2005 to investigate the macroeconomic linkages between national rates of saving and investment and population aging, Barry Bosworth and Gabriel Chodorow-Reich (2007) found a significant correlation between the age composition of the population and nations' rates of saving and investment, but the effects vary substantially by region. They also found evidence of demographic effects on both the public and private components of national saving. Most aging economies will ultimately be pushed in the direction of current account deficits.

Park and Shin (2009) and most other studies find that both the aged dependency ratio and the youth dependency ratio decrease the saving rate. These studies found a negative impact of aged dependency and youth dependency on the savings rate. They also found that if real GDP growth rate is high for a country, it causes high income growth and saving rates and that savings will help for further growth by rapid capital accumulation and concluded that the growth of lagged real per capita GDP rates also promote the saving rate.

In the paper titled "Determinants of Private Saving in Turkey", Caroline Van Rijckeghem (2010) based on Turkstat demographic projections, found that demographic changes—a reduction in the youth dependency ratio combined with an increase in the old-age dependency ratio—will be at best neutral for the private saving rate. Meanwhile, reforms to social security may stimulate private saving over time, but this is uncertain as the social security reform also includes a lengthening of the contribution period, which should reduce private saving for retirement.

Study by Nicholas Apergis and Christina Christou (2012) to investigate the impact of the age dependency ratio on domestic savings rates for 16 African countries found evidence of panel cointegration and concluded than dependency ratio affected savings rate negatively.

Section III

METHODOLOGY AND DATA

For this Study, we utilize secondary data from various sources. This study uses yearly time series data on domestic savings for five selected South Asian developing countries, namely Bangladesh, Pakistan, India, Nepal and Sri Lanka over the period of 1971 to 2009 compiled from the World Development Indicator (WDI), World Bank database and IMF dataset. For real measure of Gross Domestic Savings rate and to see trends over time, we collected data from Penn world table (version 7.1). For analyzing the dataset, we employed OLS, Fixed effects model and Random Effects Model. Since the sample size is small, to avoid the loss of degrees of freedom we consider yearly data for our study. The life cycle model has an important role for determining the variable for our study.

A study by Park and Shin (2009) found that Savings rate decreases as aged dependency and youth dependency increase. As old people finance their living expenses by their previous earned savings and as children generally consume without any earning of income, both should have a negative impact on saving rate. If the real GDP rises, it will typically help to save more and finally it will help further capital accumulation which promotes further growth. A study by Bosworth and Reich (2009) found that lagged real per capita GDP growth rates increases savings rate. Beside those GDP related and demographic factors, there are some other factors which have strong impact on savings rate i.e.-financial sector development. As more savings instruments are available, it will help to save more. The real interest rates also have impact on savings rates.

Econometric Specification:

The following model is to be used for our empirical analysis:

$$RDSR_{i,t} = a_{0,i} + a_1^* ADR_{i,t} + a_2^* CDEP_{i,t} + a_3^* LPRGDP_{i,t} + a_4^* SQLPRGDP_{i,t} + CREDIT_{i,t} + a_6^* SQCREDIT_{i,t} + a_7^* X_{i,t} + u_{i,t}$$

Where,

$i = 1 \ldots 5$ [$1(Bangladesh), 2(India), 3(pakistan), 4(Nepal), 5(sri\ lanka)$].

$t = 1 \ldots 39$ [$1 = 1971,\ 2 = 1972 \ldots\ldots\ldots\ldots$]

$RDSR_{i,t}$ = Real Domestic Saving Rate in country i at time t

$ADR_{i,t}$ = Aged Dependency Ratio (ratio of the population aged 65 or older to population aged 15-64) in country i at time t

$CDEP_{i,t}$ = Youth Dependency Ratio (ratio of the population aged 14 or younger to population aged 15-64) in country i at time t

$LPRGDP_{i,t}$ = Log Of Per Capita Real GDP in country i at time t

$SQLPRGDP_{i,t}$ = Square of Log Of Per Capita GDP in country i at time t

$CREDIT_{i,t}$ = ratio of private credit from deposit money banks and other financial institute to GDP in country i at time t

$SQCREDIT_{i,t}$ = Square of CREDITi,t in country i at time t

$X_{i,t}$ = Vector of other explanatory Variables included in the estimated model in country i at time t

$u_{i,t}$ = error

$a_{0,i}$ = a constant plus country fixed effect when a fixed effect model is calculated

In addition, in some cases, we included

CHGDPi,t = Growth rate of real per capita GDP and
RINTi,t = Real Interest rate in country i at time t

As there are some variables in our model which are endogenous, to alleviate biasness, we used one period lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP in some model.

Section IV

DOMESTIC SAVINGS RATE AND ITS PAST TRENDS

To analyze the past trends of domestic savings rate in the selected South Asian countries, we see the real domestic savings rate for which Table 1 is used for the period of 1971 to 2009. We used here real measure because using a real measure is preferable from a theoretical point of view, and a number of authors (such as Aghion, Comin, Howitt, and Tecu (2009) and Shioji and Vu (2011)) have used a real measure of saving, so we decided to use the real domestic saving rate as our dependent variable throughout our regression analysis.

To calculate real domestic savings rate, formula used as

Real domestic savings rate=100-kg-kc

Where,

kg= government share of real GDP per capita

kc= consumption share of real GDP per capita

And for that calculation, we used Penn World Table, Version 7.1.

From Table 1, it is seen that there are different shapes of domestic saving rate in these countries. Average real domestic savings rate in Bangladesh during the period 1971 to 2009 is calculated as 11.11375 percent whereas in India and Pakistan it is, respectively, 19.6 percent and 10.45 percent.

In the period 1971-1975, Bangladesh showed negative real savings rate, the reason may be the liberation war which was conducted in 1971. In the time period 1976 to 1985, the trends of savings was high and showed gradual upward tendency whereas in the period 1986-1990, it slowed a little. But from the period 1991-95, when Bangladesh transited from closed to open economy, real domestic savings rate has been rising gradually.

During the period 2006-2009, real savings rate of all countries except Pakistan showed upward trends. Pakistan in fact showed a little bit low rate than the previous period, compared to other countries.

The highest average real savings rate was in India (19.6 percent) whereas Nepal showed relatively lowest percentage of 10.43 percent. For each country, real domestic savings was gradually showing rising trends in the recent years.
Sri Lanka showed the second highest average savings rate of 17.71 percent. The highest savings rate for that country was 22.16 in the period 1976-80 but in 1986-90, her domestic savings rate was the lowest during the period of 1971 to 2009.

The range of real domestic savings rate was from 19.6 percent in India to 10.427 percent in Nepal. Thus from the table it is seen that the ranking order of these countries is almost the same. Trends of real domestic savings rate throughout the period 1971 to 2009 showed upward trends as a whole for those selected South Asian countries.

Table 14: Real measures: Past Trends over Time in Gross Domestic Savings Rate (1971-2009)

Country	1971-75	1976-80	1981-85	1986-90	1991-1995	1996-00	2001-05	2006-09	Average
Bangladesh	-1.76	7.37	8.27	7.17	10.21	14.34	20.28	23.03	11.11375
India	17.8	19.36	17.06	17.64	18.16	17.08	22.06	27.64	19.6
Pakistan	9.98	3.86	6.4	11.27	12.33	11.03	14.72	14.01	10.45
Nepal	5.93	10.96	9.19	8.85	10.86	11.94	12.05	13.64	10.4275
Sri Lanka	16.84	22.16	18.01	15.09	17.21	17.73	15.36	19.26	17.7075

Note: Saving is computed as 100-kc-kg
Where, kc= consumption share of real GDP per capita & kg= government share of real GDP per capita

There are many factors that affected the trends of domestic savings rate for the selected countries. Almost all of the selected countries experienced rapid demographic transition, increased aged dependency and higher youth dependency.

Figure: Domestic Saving Rates and its Past trends (1971-2009)

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Section V

ESTIMATION AND RESULTS

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In this study, we estimated Ordinary Least Squares (OLS) which are shown in the model from 1 to 3 with no lag value, Country Fixed effects models which are shown in the model from 4 to 6 with no lag value and Random effects model which are shown in the model from 7 to 9 with no lag value. For estimating the model from 1 to 9, we used the non-overlapping data from 1971 to 2009.

We also included lag value for some variables such as lags of LPRGDP, SQL-PRGDP, CREDIT, SQCREDIT and CHGDP because those variables are endogenous and using lagged values will alleviate simultaneity bias. We estimated Ordinary Least Square (OLS) which is shown in the model from 10 to 12 with lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP, Country Fixed effects models which are shown in the model from 13 to 15 with lags of same variables used in model 10 to 12 and Random effects model which are shown in the model from 16 to 18 with lagged values used in the previous model.

To analyse our results for the model without lags which is shown in the model from 1 to 9, we see that in all cases, the value of the coefficient of aged dependency ratio (ADR) is negative and significant which is expected. In the model 1, the coefficient of ADR is -3.175678 which implies that as aged dependency rises by 1%, savings decreases by 3.175678%. Similarly, in the OLS at model 3, we see as aged dependency rises by 1%, savings decreases by 5.32942%. In the fixed effects model at model 4, we see as aged dependency rises by 1%, savings decreases by 4.70155%.

Similarly, the same decrease trends can be followed for the savings rate as aged dependency rises in the random effects model. The coefficient of youth dependency ratio (CDEP) also shows the expected result, which is negative values and in most of the cases it is significant. In the model 1, the coefficient of CDEP is -0.420784, which implies that as youth dependency ratio rises by 1%, savings decreases by 0.420784 %. Similarly, in the OLS at model 2, we see as youth dependency rises by 1%, savings decreases by 4.231233%. In the random effects model at model 8, we see as youth dependency rises by 1%, savings decreases by 0.431712%, except in the model 4-5. In all cases, the result is highly significant and expected.

Now, the coefficient of log of real per capita GDP (LPRGDP) is positive and significant in all cases (except model 4) which are also the expected result. If we explain these results, then we see that as log of real per capita GDP rises by 1%, then real domestic savings rate increases by 141.5597%, which is showed at the

model 1. Similarly the same significant result can be found in all the models.

In all of the cases in OLS, Fixed effects and Random effects Model, the coefficient value of SQLPRGDP showed in the model (except model 4) are significant, which indicate a nonlinear (concave) relationship with the domestic savings rate.

To describe the results of financial sector variables, the availability of CREDIT (ratio of private credit to GDP) showed negative value and in the four models out of nine, these are significant. In the model 3, it implies that, as CREDIT rises by 1%, real domestic savings rate decreases by 49%, because the financial sector of those sample countries have not developed enough.   The coefficients of SQCREDIT showed positive values and in most of the cases, it is showing significant result.

If we turn to see the impact of growth rate of real per capita GDP (CHGDP) and Real interest rate (RINT), showing both result of coefficient is positive in all of the models (except model 8) and for the CHGDP, coefficient value in all the models are highly significant. But the coefficient of RINT is totally insignificant. The reason for that might be that interest rate starts to matter for savings behavior only after economic development has progressed beyond a certain threshold (see Ogaki, Ostry and Reinhart, 1996).

Model 1-3: OLS[1] with no lags:

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
1	-3.175678*** (.4183629) 0.000	-0.420784*** (.0319277) 0.000	141.5597*** (43.78805) 0.001	-21.13122*** (7.012018) 0.003	-0.2538279 (12.60936) 0.984	5.976917 (23.74412) 0.802			0.6595	172
2	-4.231233*** (.415242) 0.000	-0.431712*** (.028917) 0.000	1362.605*** (202.2328) 0.000	-244.5785*** (36.84151) 0.000	-37.12686*** (12.8763) 0.004	54.58192** (22.87024) 0.018	0.0553618*** (.0089918) 0.000		0.7234	172
3	-5.32942*** (.53291) 0.000	-0.654061*** (.0710281) 0.000	1499.418*** (212.3528) 0.000	-272.322*** (38.73833) 0.000	-49.21689*** (11.84754) 0.000	67.99571*** (19.75128) 0.001	0.0645674*** (.009376) 0.000	0.0706452 (.0510681) 0.169	0.7825	116

Notes: First row for estimated coefficient, Second row for Standard errors and Third row for P-value
*Significance at the 10% level. ** Significance at the 5% level. *** Significance at the 1% level.

Model 4-6: Fixed effects model[1]: with no lags:

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
4	-3.70155*** (0.6148685) 0.000	-0.0306456 (0.071204) 0.667	-21.53853 (52.73669) 0.684	6.591666 (8.393473) 0.433	4.072597 (12.82984) 0.751	21.21908 (22.49187) 0.347			0.4095 0.0454 0.1890	172
5	-4.838489*** (0.6648831) 0.000	-0.1230668* (0.0728058) 0.093	893.3375*** (249.6396) 0.000	-159.3449*** (45.06315) 0.001	-23.11236* (14.31962) 0.108	48.68994** (22.84583) 0.035	0.0392058*** (0.0104748) 0.000		0.4571 0.3035 0.3983	172
6	-7.056929*** (0.8438236) 0.000	-0.4637949*** (0.1054798) 0.000	1316.348*** (252.2385) 0.000	-239.9493*** (45.82807) 0.000	-34.04233*** (12.2829) 0.007	59.23153*** (19.08664) 0.002	0.0611895*** (0.010898) 0.000	0.0999215 (.0533501) 0.064	0.6244 0.3490 0.4737	116

*Significance at the 10% level. ** Significance at the 5% level. *** Significance at the 1% level.

Model 7-9: Random effects Model[1]: with no lags:

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
7	-3.175678*** (0.4183629) 0.000	-0.420784*** (0.0319277) 0.000	141.5597*** (43.78805) 0.001	-21.13122*** (7.012018) 0.003	-0.2538279 (12.60936) 0.984	5.976917 (23.74412) 0.801			0.3145 0.9947 0.6595	172
8	-4.231233*** (0.415242) 0.000	-0.431712*** (0.028917) 0.000	-244.5785*** (36.84151) 0.000	-37.12686*** (12.8763) 0.004	54.58192** (22.87024) 0.017	0.0553618*** (0.0089918) 0.000	-1863.145*** (281.7941) 0.000		0.3915 0.9835 0.7234	172
9	-5.32942*** (0.53291) 0.000	-0.654061*** (0.0710281) 0.000	1499.418*** (212.3528) 0.000	-272.322*** (38.73833) 0.000	-49.21689*** (11.84754) 0.000	67.99571*** (19.75128) 0.001	0.0645674*** (0.009376) 0.000	0.0706452 (0.0510681) 0.167	0.5557 0.9932 0.7825	116

Notes: First row for estimated coefficient, Second row for Standard errors and Third row for P-value

*Significance at the 10% level. ** Significance at the 5% level. *** Significance at the 1% level.

The first R-squared is within, the second is between and the third is for overall

1=details of the model including data sources can be found in the appendix which we used in the analysis.

Model 10-12: OLS[1] with lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP:

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
10	-3.175678*** (0.4183629) 0.000	-0.420784*** (0.0319277) 0.000	141.5597*** (43.78805) 0.001	-21.13122*** (7.012018) 0.003	-0.2538279 (12.60936) 0.984	5.976917 (23.74412) 0.802			0.6595	172
11	-4.231233*** (0.415242) 0.000	-0.431712*** (0.028917) 0.000	1362.605*** (202.2328) 0.000	-244.5785*** (36.84151) 0.000	-37.12686*** (12.8763) 0.004	54.58192** (22.87024) 0.018	0.0553618*** (0.0089918) 0.000		0.7234	172
12	-5.32942*** (0.53291) 0.000	-0.654061*** (0.0710281) 0.000	1499.418*** (212.3528) 0.000	-272.322*** (38.73833) 0.000	-49.21689*** (11.84754) 0.000	67.99571*** (19.75128) 0.001	0.0645674*** (0.009376) 0.000	0.0706452 (0.0510681) 0.169	0.7825	116

Model 13-16: Fixed effects model[1] with lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP   (continued)

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
13	-3.70155*** (0.6148685) 0.000	-0.0306456 (0.071204) 0.667	-21.53853 (52.73669) 0.684	6.591666 (8.393473) 0.433	4.072597 (12.82984) 0.751	21.21908 (22.49187) 0.347			0.4095 0.0454 0.1890	172
14	-4.838489*** (0.6648831) 0.000	-0.1230668* (0.0728058) 0.093	893.3375*** (249.6396) 0.000	-159.3449*** (45.06315) 0.001	-23.11236* (14.31962) 0.108	48.68994** (22.84583) 0.035	0.0392058*** (0.0104748) 0.000		0.4571 0.3035 0.3983	172
15	-7.056929*** (0.848236) 0.000	-0.4637949*** (0.1054798) 0.000	1316.348*** (252.2385) 0.000	-239.9493*** (45.82807) 0.000	-34.04233*** (12.2829) 0.007	59.23153*** (19.08664) 0.002	0.0611895*** (0.010898) 0.000	0.0999215* (0.0533501) 0.064	0.6244 0.3490 0.4737	116

Model 16-18: Random effects model[1] with lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP: *(continued)*

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
16	-3.175678*** (0.4183629) 0.000	-0.420784*** (0.0319277) 0.000	141.5597*** (43.78805) 0.001	-21.13122*** (7.012018) 0.003	-.2538279 (12.60936) 0.984	5.976917 (23.74412) 0.801			0.3145 0.9947 0.6595	172
17	-4.231233*** (0.415242) 0.000	-0.431712*** (0.028917) 0.000	-244.5785*** (36.84151) 0.000	-37.12686*** (12.8763) 0.004	54.58192** 22.87024 0.017	0.0553618*** (0.0089918) 0.000	-1863.145*** (281.7941) 0.000		0.3915 0.9835 0.7234	172
18	-5.32942*** (0.53291) 0.000	-0.654061*** (0.0710281) 0.000	1499.418*** (212.3528) 0.000	-272.322*** 38.73833 0.000	-49.21689*** (11.84754) 0.000	67.99571*** (19.75128) 0.001	0.0645674*** (0.009376) 0.000	0.0706452 (0.0510681) 0.167	0.5557 0.9932 0.7825	116

Notes: First row for estimated coefficient, Second row for Standard errors and Third row for P-value

*Significance at the 10% level. ** Significance at the 5% level. *** Significance at the 1% level.

The first R-squared is within, the second is between and the third is for overall

1=details of the model including data sources can be found in the appendix which we used in the analysis.

By analyzing the models with lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP (models 10-18), we find the results are broadly consistent with the results for the model without lags. From the model 10 to 18, the coefficient of ADR showing negative value which is expected result and results are almost similar to the model without lags and in all of the cases, it is highly significant. The coefficient of CDEP is also negative and in the entire models with lags, it is highly significant and expected and results are almost similar to the model without lags.

The coefficient of log of real per capita GDP (LPRGDP) is positive and significant in all models (except model 13) which are very similar with the results without lagged values for the specific variables. In all of the models in OLS, Fixed effects and Random effects Model, the coefficient value of SQLPRGDP showed in the table (except model 13) are negative and significant which are similar with the models without lagged value.

Like the result of the models without lags of specific variables, the coefficient values with the lagged value are similar for CHGDP in the all models (model 10-18). In most of the cases, the values are positive and significant. But the coefficient of RINT is negative and those values are totally insignificant like the models without lagged variables. Similar result is found in both form with and without lagged variables values for CREDIT (ratio of private credit to GDP) which showed negative value in most of the models and in the four models out of nine, those values are significant.

In sum, we identified the main determinants of the domestic savings rate in the selected south Asian countries during the period 1971 to 2009 which are the aged structure of the population i.e age dependency ratio, youth dependency ratio, income levels and the level of financial sector development and the direction of impact of each factor is more or less as expected.

Section VI

PROJECTION OF DOMESTIC SAVINGS RATE IN DEVELOPING ASIA FOR 2011-2030

For the projections for such a long time period, we implicitly assume that there will be no changes in any factor. Structure of population projection for the next two decades, 2011-2020 and 2021-2030, is collected from the U.N projections of the age structure of the population.

Table 15: Future Trends in Real Domestic Saving Rates in Selected South Asian Countries:

Economy	2011-2020 Projected	2021-2030 Projected
Bangladesh	26.575	32.76
India	24.075	25.911
Pakistan	16.246	18.56
Nepal	14.695	16.396
Sri Lanka	16.555	16.119

Notes: calculated by using SPSS >'Transformation'

Savings rate projections are generated for 2011-2020 and 2021-2030 periods by using transformation tools of SPSS. By comparing and analyzing data of Table 1, which showed the past trends of real domestic savings rate with the Table 2, which shows Future Trends in Real Domestic Saving Rates in Selected South Asian Countries, we can see the trends of real domestic savings which are not so up trending because the positive savings rates are dominated by the negative impact of age structure of population. Comparison with the data for the period 2006-2009 in India shows saving rates of 27.64, but projected savings of India for the time period 2011-2020 show saving rate of 26.575. May the reason for such declines in savings will be from high rates of youth dependency ratio in the future for India.

Table 16: Projection of Total Population by Country, 1950-2050 (thousands)

Country	Bangladesh	India	Pakistan	Nepal	Sri Lanka
1950	37894.678	371856.5	37542.38	8230.991	8240.623
1955	43444.382	406374	41108.84	8941.972	8978.595
1960	50101.943	447844.2	45920.2	9740.462	10020.41
1965	57791.778	496400.4	51993.06	10707.31	11215.22
1970	66881.158	553873.9	59382.65	11917.87	12554.58
1975	70582.168	622096.7	68482.53	13373.07	13810.65
1980	80624.423	700058.6	80492.66	15045.33	15082.77
1985	92283.598	784490.8	95470.38	16936.01	16210.47
1990	105256.026	873785.4	111844.7	19081.06	17337.05
1995	117486.952	964486.2	127346.7	21594.87	18229.5
2000	129592.275	1053898	144522.2	24400.61	18745.08

2005	140587.922	1140043	158645.5	27281.95	19842.54
2010	148692.131	1224614	173593.4	29959.36	20859.95
2015	158316.614	1308221	189648.1	32580.61	21709.1
2020	167256.052	1386909	205364.5	35164.23	22343.62
2025	175194.618	1458958	220608.8	37653.24	22783.66
2030	181863.468	1523482	234432	39943.07	23094.47
2035	187102.9	1579802	246788.8	41976.6	23318.18
2040	190933.715	1627029	257777.9	43748.72	23432.92
2045	193344.384	1664519	267239.8	45257.29	23393.8
2050	194352.619	1692008	274875.4	46495.3	23192.81

Source: United Nations, Department of Economic and Social Affairs, Population Division

During the period 2011-2020, if others factor remain constant, Bangladesh, India, Pakistan and Nepal will experience decreasing trends of their savings rate, compared with   the period 2006-2009, while Sri Lanka will experience high domestic savings rate for the same time period. But for the period 2021-2030, savings rate of Sri Lanka will decrease compared to previous decades. During the period 2021-2030, Bangladesh, India, Pakistan and Nepal may experience high real domestic saving rate where Bangladesh will have higher rate of savings compared with other countries. From the projection of population, we see that all the selected countries will experience high rates of population growth where Pakistan and Nepal will experience higher rate than the others during the time period 2011-2030.

Section VII

SUMMARY AND CONCLUSION

Based on the data for the period 1971-2009, we presented trends over time in domestic saving rates in Bangladesh, India, Pakistan, Sri Lanka and Nepal, conducted an econometric analysis of the determinants of those trends, and projected trends in domestic saving rates in the same economies during the next twenty years (2011-2030 period) based on our estimation results. We found that domestic saving rates in those developing Asian countries have, in general, been high and rising but that there have been substantial differences from economy to economy, that the main determinants of the domestic saving rate in developing Asia during these period appear to have been the age structure of the population (especially the aged dependency ratio, youth dependency ratio), income levels, and the level of financial sector development, and moreover, that the direction of impact of each factor has been   more or less as expected. We also found that the domestic saving rates in those countries as a whole will remain roughly constant during the next two decades because the negative impact of population aging

thereon will be roughly offset by the positive impact of higher income levels thereon but there will be substantial variation from economy to economy, with the rapidly aging economies showing a sharp downturn in their domestic saving rates by 2030, because the negative impact of population aging thereon will dominate the positive impact of higher income levels and the less rapidly aging economies showing rising domestic saving rates because the positive impact of higher income levels thereon will dominate the negative impact of population aging.

Limitations:

i)   Our model may suffer from omitted variable bias.

ii)   If we would perform robust analysis, the study might be cause appealing.

Future Projection of Real domestic saving rates may misspell as we can't say exactly what will happen in future. We only can predict.

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The Determinants and Projections of Saving Rates in South Asian Countries

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Abstract: *Using OLS, Fixed Effect, Random Effect models both with and without lag value, we found that domestic saving rates in Bangladesh, India, Pakistan, Sri Lanka and Nepal have, in general, been high and rising but there have been substantial differences from economy to economy. The main determinants of the domestic saving rates during the 1971-2009 period appear to have been the age structure of the population (especially the aged dependency ratio, youth dependency ratio), income level, and the level of financial sector development, and moreover, that the direction of impact of each factor has been more or less as expected. We analyzed the past trends of domestic savings behaviour, and, based on those trends, project the future trends of domestic saving rates in the selected countries for the period 2011-2030. We find that the domestic saving rates in developing Asia as a whole will remain roughly constant during the next two decades. However this future projection of savings does not necessarily imply exact figure of savings in these countries as it depends also on other factors such as the economic size, differences in financial structure across countries, fiscal policy, monetary policy, coordination of nations etc.*

***Keywords:** Trends of Savings, Determinants of Saving, Time series data, OLS, Fixed effects, Random effects.*

Section I

1. Introduction

The role of Savings in the process of economic development has long been a fundamental axiom of development theory, with its basis in such classic analyses as Rostow's stages of growth and Lewis's growth theory and the early growth

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models of Harrod-Domar and others. In these analyses, an increase in the rate of saving was isolated as a key factor underlying a nation's ability to achieve a sustained increase in its growth rate.

Developing Asian countries' domestic saving rates and national saving rates are relatively higher than those of the developed countries. These high saving rates have made possible high levels of domestic investment those but have also led to large capital outflows (Park and Shin (2009). Bernanke (2005) asserted that, the developing economies of Asia have oversaved and underinvested, leading to large current account imbalances (surpluses). What are the key determinants of domestic savings rate in those developing countries? What made them to save more? Marx-Keynes viewed savings as a passive determinant of investment so that macroeconomic equilibrium can hold and influence the growth rate of output. In this view, growth gone rates savings.

The purpose of this paper is to present data on trends over time in domestic saving rates in economies in selected developing South Asian countries during the period 1971-2009, to analyze the determinants of those trends, and to project trends in domestic saving rates in these same economies during the next two decades based on the estimation results.

In the paper, we selected five South Asian neighbouring countries, names Bangladesh, India, Pakistan, Nepal and Sri Lanka. As the economies of these countries are almost the same, we took these countries as our sample. We present the data on real measures of domestic saving rates to show the past trends of saving rates for the selected countries and the key determinants of domestic saving rates in those countries. Finally, we attempt to project the future trends of domestic saving rates in these countries.

Various factors affect domestic saving rates, but according to our estimation results, the age structure of the population, the degree of financial sector development, and income levels are the major determinants. Looking first at the impact of the age structure of the population, we found that the aged dependency ratio (the ratio of the population aged 65 and older to the population aged 15-64) has a negative and significant impact on the domestic saving rate, since the elderly finance their living expenses largely by drawing down their previously accumulated savings. This implies that the aging of a population will put downward pressure on domestic saving rates. The youth dependency rate (the ratio of the population aged 14 and under to the population aged 15-64), which would also be expected to put downward pressure on the domestic saving rate, has shown the opposite trend, declining in all of the economies in our sample. The degree of financial sector development would also be expected to influence domestic saving rates because people can be expected to do less precautionary saving if they know that they can borrow when the need arises. Our estimation results show that the degree of finan-

cial sector development and the domestic saving rate have a nonlinear relationship.

The study has the following specific objectives:

i) To identify the key determinants of domestic savings rate in selected south Asian countries.

ii) To delineate the trends over time in domestic savings rates in the selected countries.

iii) To project the future trends of domestic savings rate in those countries.

The paper is organized as follow: Following the Introduction, Section II describes the literature on the subject and Section III illustrates the methodology and data. Section IV explains domestic savings rates. Section V describes estimation and results. Section VI delineates the Projection of saving rates in South Asian Countries. Section VII contains concluding remarks.

Section II

LITERATURE REVIEW

There have been many previous empirical analyses of the determinants of saving rates using time series, cross-section or panel cross-country data. Many researchers tried to find the determinants and most of these researches focused on advanced economies, but very few studies paid attention to developing countries. To the best of our knowledge, there is no study conducted to find the determinants of savings based on the selected countries, which we included as our sample.

Cross-section studies by Leff (1980) concluded that dependency ratios were an important determinant of differences in saving behaviour across countries. Ram (1982) empirically found that, saving seemed to be negatively correlated with dependency rates among developed countries, but positively correlated among developing countries. David M. Cutler, M. Poterba, Summers (1990) based on American economies found that increased dependency ratio will reduce living standard by 5-10 percent in the long run.

Kivilcim Metin Ozcan, Asli Gunay and Seda Ertac by using data covering 1968-1994 found negative impact of life expectancy rate, which lends support to the life-cycle hypothesis. The precautionary motive for saving is supported by the findings that inflation captures the degree of macroeconomic volatility and has a positive impact on private saving in Turkey.

Schultz (2004) found large demographic effects on saving in Asia, and exaggerated the impact by including lagged saving in the regression analysis of 85 country sample and the sub-sample of non-industrial Asian countries. Thus concluded, Asia is the source of much of the macroeconomic evidence in support of large

demographic effects on saving.

Charles Yuji Horioka (2007) analyzed the impact of population aging on the household, private, government, and national saving rates and found that population aging will lead to declines in household, private, government, and national saving rates, but to the extent that population aging is accompanied by absolute declines in population, investment rates will also decline, and moreover, countries always have the option of borrowing from abroad. Thus, the decline in saving caused by population aging will not necessarily spell disaster.

By using the GMM estimator Nola Reinhardt (2007) based on Latin America showed the persistence of saving behaviour in which lagged saving has been found as a significant positive predictor of current saving.

By using a panel data set of 85 countries covering 1960-2005 to investigate the macroeconomic linkages between national rates of saving and investment and population aging, Barry Bosworth and Gabriel Chodorow-Reich (2007) found a significant correlation between the age composition of the population and nations' rates of saving and investment, but the effects vary substantially by region. They also found evidence of demographic effects on both the public and private components of national saving. Most aging economies will ultimately be pushed in the direction of current account deficits.

Park and Shin (2009) and most other studies find that both the aged dependency ratio and the youth dependency ratio decrease the saving rate. These studies found a negative impact of aged dependency and youth dependency on the savings rate. They also found that if real GDP growth rate is high for a country, it causes high income growth and saving rates and that savings will help for further growth by rapid capital accumulation and concluded that the growth of lagged real per capita GDP rates also promote the saving rate.

In the paper titled "Determinants of Private Saving in Turkey", Caroline Van Rijckeghem (2010) based on Turkstat demographic projections, found that demographic changes—a reduction in the youth dependency ratio combined with an increase in the old-age dependency ratio—will be at best neutral for the private saving rate. Meanwhile, reforms to social security may stimulate private saving over time, but this is uncertain as the social security reform also includes a lengthening of the contribution period, which should reduce private saving for retirement.

Study by Nicholas Apergis and Christina Christou (2012) to investigate the impact of the age dependency ratio on domestic savings rates for 16 African countries found evidence of panel cointegration and concluded than dependency ratio affected savings rate negatively.

Section III

METHODOLOGY AND DATA

For this Study, we utilize secondary data from various sources. This study uses yearly time series data on domestic savings for five selected South Asian developing countries, namely Bangladesh, Pakistan, India, Nepal and Sri Lanka over the period of 1971 to 2009 compiled from the World Development Indicator (WDI), World Bank database and IMF dataset. For real measure of Gross Domestic Savings rate and to see trends over time, we collected data from Penn world table (version 7.1). For analyzing the dataset, we employed OLS, Fixed effects model and Random Effects Model. Since the sample size is small, to avoid the loss of degrees of freedom we consider yearly data for our study. The life cycle model has an important role for determining the variable for our study.

A study by Park and Shin (2009) found that Savings rate decreases as aged dependency and youth dependency increase. As old people finance their living expenses by their previous earned savings and as children generally consume without any earning of income, both should have a negative impact on saving rate. If the real GDP rises, it will typically help to save more and finally it will help further capital accumulation which promotes further growth. A study by Bosworth and Reich (2009) found that lagged real per capita GDP growth rates increases savings rate. Beside those GDP related and demographic factors, there are some other factors which have strong impact on savings rate i.e.-financial sector development. As more savings instruments are available, it will help to save more. The real interest rates also have impact on savings rates.

Econometric Specification:

The following model is to be used for our empirical analysis:

$$RDSR_{i,t} = a_{0,i} + a_1^* \, ADR_{i,t} + a_2^* \, CDEP_{i,t} + a_3^* \, LPRGDP_{i,t} + a_4^* \, SQLPRGDP_{i,t} + CREDIT_{i,t} + a_6^* \, SQCREDIT_{i,t} + a_7^* \, X_{i,t} + u_{i,t}$$

Where,

$i = 1 \dots 5 \;\; [1(Bangladesh), 2(India), 3(pakistan), 4(Nepal), 5(sri \; lanka)].$

$t = 1 \dots 39 \; [1 = 1971, \; 2 = 1972 \dots \dots \dots ..]$

$RDSR_{i,t}$ = Real Domestic Saving Rate in country i at time t

$ADR_{i,t}$ = Aged Dependency Ratio (ratio of the population aged 65 or older to population aged 15-64) in country i at time t

$CDEP_{i,t}$ = Youth Dependency Ratio (ratio of the population aged 14 or younger to population aged 15-64) in country i at time t

$LPRGDP_{i,t}$ = Log Of Per Capita Real GDP in country i at time t

$SQLPRGDP_{i,t}$ = Square of Log Of Per Capita GDP in country i at time t

$CREDIT_{i,t}$ = ratio of private credit from deposit money banks and other financial institute to GDP in country i at time t

$SQCREDIT_{i,t}$ = Square of CREDITi,t in country i at time t

$X_{i,t}$ = Vector of other explanatory Variables included in the estimated model in country i at time t

$u_{i,t}$ = error

$a_{0,i}$ = a constant plus country fixed effect when a fixed effect model is calculated

In addition, in some cases, we included

CHGDPi,t = Growth rate of real per capita GDP and
RINTi,t = Real Interest rate in country i at time t

As there are some variables in our model which are endogenous, to alleviate biasness, we used one period lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP in some model.

Section IV

DOMESTIC SAVINGS RATE AND ITS PAST TRENDS

To analyze the past trends of domestic savings rate in the selected South Asian countries, we see the real domestic savings rate for which Table 1 is used for the period of 1971 to 2009. We used here real measure because using a real measure is preferable from a theoretical point of view, and a number of authors (such as Aghion, Comin, Howitt, and Tecu (2009) and Shioji and Vu (2011)) have used a real measure of saving, so we decided to use the real domestic saving rate as our dependent variable throughout our regression analysis.

To calculate real domestic savings rate, formula used as

Real domestic savings rate=100-kg-kc

Where,

kg= government share of real GDP per capita

kc= consumption share of real GDP per capita

And for that calculation, we used Penn World Table, Version 7.1.

From Table 1, it is seen that there are different shapes of domestic saving rate in these countries. Average real domestic savings rate in Bangladesh during the period 1971 to 2009 is calculated as 11.11375 percent whereas in India and Pakistan it is, respectively, 19.6 percent and 10.45 percent.

In the period 1971-1975, Bangladesh showed negative real savings rate, the reason may be the liberation war which was conducted in 1971. In the time period 1976 to 1985, the trends of savings was high and showed gradual upward tendency whereas in the period 1986-1990, it slowed a little. But from the period 1991-95, when Bangladesh transited from closed to open economy, real domestic savings rate has been rising gradually.

During the period 2006-2009, real savings rate of all countries except Pakistan showed upward trends. Pakistan in fact showed a little bit low rate than the previous period, compared to other countries.

The highest average real savings rate was in India (19.6 percent) whereas Nepal showed relatively lowest percentage of 10.43 percent. For each country, real domestic savings was gradually showing rising trends in the recent years.
Sri Lanka showed the second highest average savings rate of 17.71 percent. The highest savings rate for that country was 22.16 in the period 1976-80 but in 1986-90, her domestic savings rate was the lowest during the period of 1971 to 2009.

The range of real domestic savings rate was from 19.6 percent in India to 10.427 percent in Nepal. Thus from the table it is seen that the ranking order of these countries is almost the same. Trends of real domestic savings rate throughout the period 1971 to 2009 showed upward trends as a whole for those selected South Asian countries.

Table 14: Real measures: Past Trends over Time in Gross Domestic Savings Rate (1971-2009)
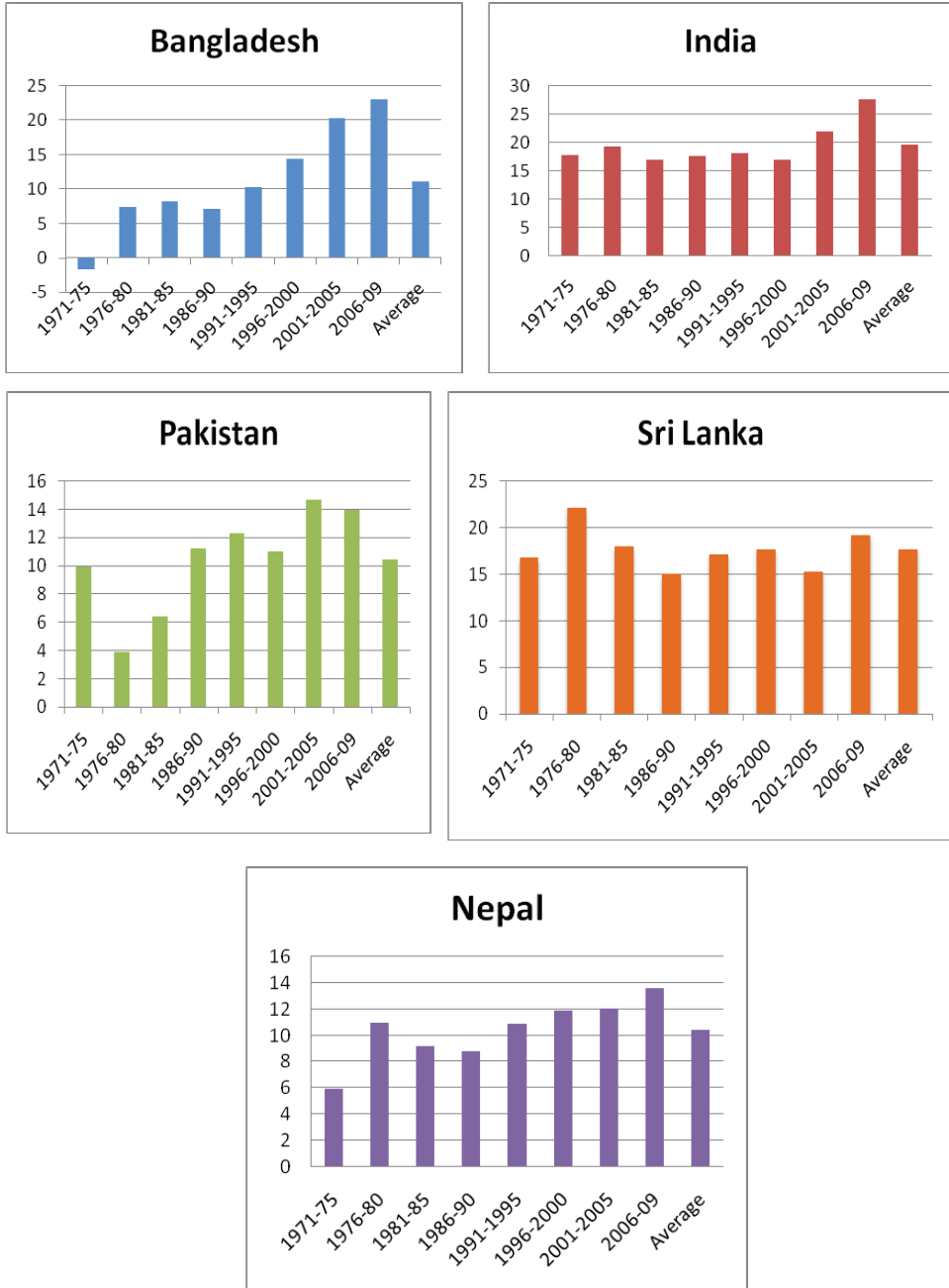
Country	1971-75	1976-80	1981-85	1986-90	1991-1995	1996-00	2001-05	2006-09	Average
Bangladesh	-1.76	7.37	8.27	7.17	10.21	14.34	20.28	23.03	11.11375
India	17.8	19.36	17.06	17.64	18.16	17.08	22.06	27.64	19.6
Pakistan	9.98	3.86	6.4	11.27	12.33	11.03	14.72	14.01	10.45
Nepal	5.93	10.96	9.19	8.85	10.86	11.94	12.05	13.64	10.4275
Sri Lanka	16.84	22.16	18.01	15.09	17.21	17.73	15.36	19.26	17.7075

Note: Saving is computed as 100-kc-kg
Where, kc= consumption share of real GDP per capita & kg= government share of real GDP per capita

There are many factors that affected the trends of domestic savings rate for the selected countries. Almost all of the selected countries experienced rapid demographic transition, increased aged dependency and higher youth dependency.

Figure: Domestic Saving Rates and its Past trends (1971-2009)

Section V

ESTIMATION AND RESULTS

In this study, we estimated Ordinary Least Squares (OLS) which are shown in the model from 1 to 3 with no lag value, Country Fixed effects models which are shown in the model from 4 to 6 with no lag value and Random effects model which are shown in the model from 7 to 9 with no lag value. For estimating the model from 1 to 9, we used the non-overlapping data from 1971 to 2009.

We also included lag value for some variables such as lags of LPRGDP, SQL-PRGDP, CREDIT, SQCREDIT and CHGDP because those variables are endogenous and using lagged values will alleviate simultaneity bias. We estimated Ordinary Least Square (OLS) which is shown in the model from 10 to 12 with lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP, Country Fixed effects models which are shown in the model from 13 to 15 with lags of same variables used in model 10 to 12 and Random effects model which are shown in the model from 16 to 18 with lagged values used in the previous model.

To analyse our results for the model without lags which is shown in the model from 1 to 9, we see that in all cases, the value of the coefficient of aged dependency ratio (ADR) is negative and significant which is expected. In the model 1, the coefficient of ADR is -3.175678 which implies that as aged dependency rises by 1%, savings decreases by 3.175678%. Similarly, in the OLS at model 3, we see as aged dependency rises by 1%, savings decreases by 5.32942%. In the fixed effects model at model 4, we see as aged dependency rises by 1%, savings decreases by 4.70155%.

Similarly, the same decrease trends can be followed for the savings rate as aged dependency rises in the random effects model. The coefficient of youth dependency ratio (CDEP) also shows the expected result, which is negative values and in most of the cases it is significant. In the model 1, the coefficient of CDEP is -0.420784, which implies that as youth dependency ratio rises by 1%, savings decreases by 0.420784 %. Similarly, in the OLS at model 2, we see as youth dependency rises by 1%, savings decreases by 4.231233%. In the random effects model at model 8, we see as youth dependency rises by 1%, savings decreases by 0.431712%, except in the model 4-5. In all cases, the result is highly significant and expected.

Now, the coefficient of log of real per capita GDP (LPRGDP) is positive and significant in all cases (except model 4) which are also the expected result. If we explain these results, then we see that as log of real per capita GDP rises by 1%, then real domestic savings rate increases by 141.5597%, which is showed at the

model 1. Similarly the same significant result can be found in all the models.

In all of the cases in OLS, Fixed effects and Random effects Model, the coefficient value of SQLPRGDP showed in the model (except model 4) are significant, which indicate a nonlinear (concave) relationship with the domestic savings rate.

To describe the results of financial sector variables, the availability of CREDIT (ratio of private credit to GDP) showed negative value and in the four models out of nine, these are significant. In the model 3, it implies that, as CREDIT rises by 1%, real domestic savings rate decreases by 49%, because the financial sector of those sample countries have not developed enough. The coefficients of SQCREDIT showed positive values and in most of the cases, it is showing signifi-cant result.

If we turn to see the impact of growth rate of real per capita GDP (CHGDP) and Real interest rate (RINT), showing both result of coefficient is positive in all of the models (except model 8) and for the CHGDP, coefficient value in all the models are highly significant. But the coefficient of RINT is totally insignificant. The reason for that might be that interest rate starts to matter for savings behavior only after economic development has progressed beyond a certain threshold (see Ogaki, Ostry and Reinhart, 1996).

Model 1-3:OLS[1] with no lags:

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
1	-3.175678*** (.4183629) 0.000	-0.420784*** (.0319277) 0.000	141.5597*** (43.78805) 0.001	-21.13122*** (7.012018) 0.003	-0.2538279 (12.60936) 0.984	5.976917 (23.74412) 0.802			0.6595	172
2	-4.231233*** (.415242) 0.000	-0.431712*** (.028917) 0.000	1362.605*** (202.2328) 0.000	-244.5785*** (36.84151) 0.000	-37.12686*** (12.8763) 0.004	54.58192** (22.87024) 0.018	0.0553618*** (.0089918) 0.000		0.7234	172
3	-5.32942*** (.53291) 0.000	-0.654061*** (.0710281) 0.000	1499.418*** (212.3528) 0.000	-272.322*** (38.73833) 0.000	-49.21689*** (11.84754) 0.000	67.99571*** (19.75128) 0.001	0.0645674*** (.009376) 0.000	0.0706452 (.0510681) 0.169	0.7825	116

Notes: First row for estimated coefficient, Second row for Standard errors and Third row for P-value
*Significance at the 10% level. ** Significance at the 5% level. *** Significance at the 1% level.

Model 4-6: Fixed effects model[1]: with no lags:

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
4	-3.70155*** (0.6148685) 0.000	-0.0306456 (0.071204) 0.667	-21.53853 (52.73669) 0.684	6.591666 (8.393473) 0.433	4.072597 (12.82984) 0.751	21.21908 (22.49187) 0.347			0.4095 0.0454 0.1890	172
5	-4.838489*** (0.6648831) 0.000	-0.1230668* (0.0728058) 0.093	893.3375*** (249.6396) 0.000	-159.3449*** (45.06315) 0.001	-23.11236* (14.31962) 0.108	48.68994** (22.84583) 0.035	0.0392058*** (0.0104748) 0.000		0.4571 0.3035 0.3983	172
6	-7.056929*** (0.8438236) 0.000	-0.4637949*** (0.1054798) 0.000	1316.348*** (252.2385) 0.000	-239.9493*** (45.82807) 0.000	-34.04233*** (12.2829) 0.007	59.23153*** (19.08664) 0.002	0.0611895*** (0.010898) 0.000	0.0999215 (.0533501) 0.064	0.6244 0.3490 0.4737	116

*Significance at the 10% level. ** Significance at the 5% level. *** Significance at the 1% level.

Model 7-9: Random effects Model[1]: with no lags:

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
7	-3.175678*** (0.4183629) 0.000	-0.420784*** (0.0319277) 0.000	141.5597*** (43.78805) 0.001	-21.13122*** (7.012018) 0.003	-0.2538279 (12.60936) 0.984	5.976917 (23.74412) 0.801			0.3145 0.9947 0.6595	172
8	-4.231233*** (0.415242) 0.000	-0.431712*** (0.028917) 0.000	-244.5785*** (36.84151) 0.000	-37.12686*** (12.8763) 0.004	54.58192** (22.87024) 0.017	0.0553618*** (0.0089918) 0.000	-1863.145*** (281.7941) 0.000		0.3915 0.9835 0.7234	172
9	-5.32942*** (0.53291) 0.000	-0.654061*** (0.0710281) 0.000	1499.418*** (212.3528) 0.000	-272.322*** (38.73833) 0.000	-49.21689*** (11.84754) 0.000	67.99571*** (19.75128) 0.001	0.0645674*** (0.009376) 0.000	0.0706452 (0.0510681) 0.167	0.5557 0.9932 0.7825	116

Notes: First row for estimated coefficient, Second row for Standard errors and Third row for P-value

*Significance at the 10% level. ** Significance at the 5% level. *** Significance at the 1% level.

The first R-squared is within, the second is between and the third is for overall

1=details of the model including data sources can be found in the appendix which we used in the analysis.

Model 10-12: OLS[1] with lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP:

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
10	-3.175678*** (0.4183629) 0.000	-0.420784*** (0.0319277) 0.000	141.5597*** (43.78805) 0.001	-21.13122*** (7.012018) 0.003	-0.2538279 (12.60936) 0.984	5.976917 (23.74412) 0.802			0.6595	172
11	-4.231233*** (0.415242) 0.000	-0.431712*** (0.028917) 0.000	1362.605*** (202.2328) 0.000	-244.5785*** (36.84151) 0.000	-37.12686*** (12.8763) 0.004	54.58192** (22.87024) 0.018	0.0553618*** (0.0089918) 0.000		0.7234	172
12	-5.32942*** (0.53291) 0.000	-0.654061*** (0.0710281) 0.000	1499.418*** (212.3528) 0.000	-272.322*** (38.73833) 0.000	-49.21689*** (11.84754) 0.000	67.99571*** (19.75128) 0.001	0.0645674*** (0.009376) 0.000	0.0706452 (0.0510681) 0.169	0.7825	116

Model 13-16: Fixed effects model[1] with lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
13	-3.70155*** (0.6148685) 0.000	-0.0306456 (0.071204) 0.667	-21.53853 (52.73669) 0.684	6.591666 (8.393473) 0.433	4.072597 (12.82984) 0.751	21.21908 (22.49187) 0.347			0.4095 0.0454 0.1890	172
14	-4.838489*** (0.6648831) 0.000	-0.1230668* (0.0728058) 0.093	893.3375*** (249.6396) 0.000	-159.3449*** (45.06315) 0.001	-23.11236* (14.31962) 0.108	48.68994** (22.84583) 0.035	0.0392058*** (0.0104748) 0.000		0.4571 0.3035 0.3983	172
15	-7.056929*** (0.848236) 0.000	-0.4637949*** (0.1054798) 0.000	1316.348*** (252.2385) 0.000	-239.9493*** (45.82807) 0.000	-34.04233*** (12.2829) 0.007	59.23153*** (19.08664) 0.002	0.0611895*** (0.010898) 0.000	0.0999215* (0.0533501) 0.064	0.6244 0.3490 0.4737	116

Model 16-18: Random effects model[1] with lags of LPRGDP, SQLPGDP, CREDIT, SQCREDIT and CHGDP: *(continued)*

Model	ADR	CDEP	LPRGDP	SQLPGDP	CREDIT	SQCREDIT	CHGDP	RINT	R-Squared	#obs.
16	-3.175678*** (0.4183629) 0.000	-0.420784*** (0.0319277) 0.000	141.5597*** (43.78805) 0.001	-21.13122*** (7.012018) 0.003	-.2538279 (12.60936) 0.984	5.976917 (23.74412) 0.801			0.3145 0.9947 0.6595	172
17	-4.231233*** (0.415242) 0.000	-0.431712*** (0.028917) 0.000	-244.5785*** (36.84151) 0.000	-37.12686*** (12.8763) 0.004	54.58192** 22.87024 0.017	0.0553618*** (0.0089918) 0.000	-1863.145*** (281.7941) 0.000		0.3915 0.9835 0.7234	172
18	-5.32942*** (0.53291) 0.000	-0.654061*** (0.0710281) 0.000	1499.418*** (212.3528) 0.000	-272.322*** 38.73833 0.000	-49.21689*** (11.84754) 0.000	67.99571*** (19.75128) 0.001	0.0645674*** (0.009376) 0.000	0.0706452 (0.0510681) 0.167	0.5557 0.9932 0.7825	116

Notes: First row for estimated coefficient, Second row for Standard errors and Third row for P-value

*Significance at the 10% level. ** Significance at the 5% level. *** Significance at the 1% level.

The first R-squared is within, the second is between and the third is for overall

1=details of the model including data sources can be found in the appendix which we used in the analysis.

By analyzing the models with lags of LPRGDP, SQLPRGDP, CREDIT, SQCREDIT and CHGDP (models 10-18), we find the results are broadly consistent with the results for the model without lags. From the model 10 to 18, the coefficient of ADR showing negative value which is expected result and results are almost similar to the model without lags and in all of the cases, it is highly significant. The coefficient of CDEP is also negative and in the entire models with lags, it is highly significant and expected and results are almost similar to the model without lags.

The coefficient of log of real per capita GDP (LPRGDP) is positive and significant in all models (except model 13) which are very similar with the results without lagged values for the specific variables. In all of the models in OLS, Fixed effects and Random effects Model, the coefficient value of SQLPRGDP showed in the table (except model 13) are negative and significant which are similar with the models without lagged value.

Like the result of the models without lags of specific variables, the coefficient values with the lagged value are similar for CHGDP in the all models (model 10-18). In most of the cases, the values are positive and significant. But the coefficient of RINT is negative and those values are totally insignificant like the models without lagged variables. Similar result is found in both form with and without lagged variables values for CREDIT (ratio of private credit to GDP) which showed negative value in most of the models and in the four models out of nine, those values are significant.

In sum, we identified the main determinants of the domestic savings rate in the selected south Asian countries during the period 1971 to 2009 which are the aged structure of the population i.e age dependency ratio, youth dependency ratio, income levels and the level of financial sector development and the direction of impact of each factor is more or less as expected.

Section VI

PROJECTION OF DOMESTIC SAVINGS RATE IN DEVELOPING ASIA FOR 2011-2030

For the projections for such a long time period, we implicitly assume that there will be no changes in any factor. Structure of population projection for the next two decades, 2011-2020 and 2021-2030, is collected from the U.N projections of the age structure of the population.

Table 15: Future Trends in Real Domestic Saving Rates in Selected South Asian Countries:

Economy	2011-2020 Projected	2021-2030 Projected
Bangladesh	26.575	32.76
India	24.075	25.911
Pakistan	16.246	18.56
Nepal	14.695	16.396
Sri Lanka	16.555	16.119

Notes: calculated by using SPSS >'Transformation'

Savings rate projections are generated for 2011-2020 and 2021-2030 periods by using transformation tools of SPSS. By comparing and analyzing data of Table 1, which showed the past trends of real domestic savings rate with the Table 2, which shows Future Trends in Real Domestic Saving Rates in Selected South Asian Countries, we can see the trends of real domestic savings which are not so up trending because the positive savings rates are dominated by the negative impact of age structure of population. Comparison with the data for the period 2006-2009 in India shows saving rates of 27.64, but projected savings of India for the time period 2011-2020 show saving rate of 26.575. May the reason for such declines in savings will be from high rates of youth dependency ratio in the future for India.

Table 16: Projection of Total Population by Country, 1950-2050 (thousands)

Country	Bangladesh	India	Pakistan	Nepal	Sri Lanka
1950	37894.678	371856.5	37542.38	8230.991	8240.623
1955	43444.382	406374	41108.84	8941.972	8978.595
1960	50101.943	447844.2	45920.2	9740.462	10020.41
1965	57791.778	496400.4	51993.06	10707.31	11215.22
1970	66881.158	553873.9	59382.65	11917.87	12554.58
1975	70582.168	622096.7	68482.53	13373.07	13810.65
1980	80624.423	700058.6	80492.66	15045.33	15082.77
1985	92283.598	784490.8	95470.38	16936.01	16210.47
1990	105256.026	873785.4	111844.7	19081.06	17337.05
1995	117486.952	964486.2	127346.7	21594.87	18229.5
2000	129592.275	1053898	144522.2	24400.61	18745.08

2005	140587.922	1140043	158645.5	27281.95	19842.54
2010	148692.131	1224614	173593.4	29959.36	20859.95
2015	158316.614	1308221	189648.1	32580.61	21709.1
2020	167256.052	1386909	205364.5	35164.23	22343.62
2025	175194.618	1458958	220608.8	37653.24	22783.66
2030	181863.468	1523482	234432	39943.07	23094.47
2035	187102.9	1579802	246788.8	41976.6	23318.18
2040	190933.715	1627029	257777.9	43748.72	23432.92
2045	193344.384	1664519	267239.8	45257.29	23393.8
2050	194352.619	1692008	274875.4	46495.3	23192.81

Source: United Nations, Department of Economic and Social Affairs, Population Division

During the period 2011-2020, if others factor remain constant, Bangladesh, India, Pakistan and Nepal will experience decreasing trends of their savings rate, compared with the period 2006-2009, while Sri Lanka will experience high domestic savings rate for the same time period. But for the period 2021-2030, savings rate of Sri Lanka will decrease compared to previous decades. During the period 2021-2030, Bangladesh, India, Pakistan and Nepal may experience high real domestic saving rate where Bangladesh will have higher rate of savings compared with other countries. From the projection of population, we see that all the selected countries will experience high rates of population growth where Pakistan and Nepal will experience higher rate than the others during the time period 2011-2030.

Section VII

SUMMARY AND CONCLUSION

Based on the data for the period 1971-2009, we presented trends over time in domestic saving rates in Bangladesh, India, Pakistan, Sri Lanka and Nepal, conducted an econometric analysis of the determinants of those trends, and projected trends in domestic saving rates in the same economies during the next twenty years (2011-2030 period) based on our estimation results. We found that domestic saving rates in those developing Asian countries have, in general, been high and rising but that there have been substantial differences from economy to economy, that the main determinants of the domestic saving rate in developing Asia during these period appear to have been the age structure of the population (especially the aged dependency ratio, youth dependency ratio), income levels, and the level of financial sector development, and moreover, that the direction of impact of each factor has been more or less as expected. We also found that the domestic saving rates in those countries as a whole will remain roughly constant during the next two decades because the negative impact of population aging

thereon will be roughly offset by the positive impact of higher income levels thereon but there will be substantial variation from economy to economy, with the rapidly aging economies showing a sharp downturn in their domestic saving rates by 2030, because the negative impact of population aging thereon will dominate the positive impact of higher income levels and the less rapidly aging economies showing rising domestic saving rates because the positive impact of higher income levels thereon will dominate the negative impact of population aging.

Limitations:
i)   Our model may suffer from omitted variable bias.

ii)   If we would perform robust analysis, the study might be cause appealing.

Future Projection of Real domestic saving rates may misspell as we can't say exactly what will happen in future. We only can predict.

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Empowerment Of Women Through Entrepreneurship A Study On Women Sme Entrepreneurs In Bangladesh

Meherun Nesa[1]

Abstract: *Development of women entrepreneurship is considered an important contributor to development in Bangladesh. Therefore, women in Bangladesh started to participate in entrepreneurial activities, particularly in the SMEs since the last couple of decades. However, after having discussions with two focused groups of women SME entrepreneurs and interviews with some key informants, this study reaches a conclusion that though engagement with SMEs helps to promote economic empowerment of women, women also have to face different challenges to start and continue their business in SMEs with success due to the existing social structure of the society. Therefore, women entrepreneurs in Bangladesh have limited scope to engage with different SME sectors and they are still in an 'early stage' of entrepreneurship development in the country. This study argues that as women are increasingly participating in entrepreneurial activities in spite of facing several challenges, they have to be given adequate support to extend their scope in different SME sectors. This study believes that an integrated financial policy is necessary to be implemented in this regard. Besides, women should have the access to proper business education, technological and logistical support, and training. In addition, improved law and order situation, promotion of local products, research and development are also important to promote women entrepreneurs in Bangladesh.*

1. Introduction

1.1   Background and Statement of the Problem

Development of women entrepreneurship is an important aspect to empower women economically and to incorporate women into the country's economic development. It is believed that women entrepreneurship through SMEs increases women's economic capacity through providing opportunities for them to initiate and continue small scale business on their own. It is also considered as the engine

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of growth of a developing country like Bangladesh (MIDAS, 2009). Therefore, women entrepreneurs in Bangladesh are getting engaged with SMEs in recent times and the government of Bangladesh also places emphasis on the development of women entrepreneurship in SMEs.

As a result, women's entrepreneurship is growing in the country, but "[w]omen SMEs, with their small size, lack of skill and absence of technology development have disadvantages in competing with large firms in the local & global sphere" (MIDAS, 2009: 32). Moreover, women entrepreneurs in SMEs have to face several challenges in initiating and maintaining their own business in the male dominated social structure of the country. However, it is believed that in spite of having obstacles "[w]omen in Bangladesh have the ability to flourish and contribute to society if they are given the opportunity" (MIDAS, 2009: 32).

1.2 Objectives and Research Questions of the Study

The objective of this paper is to examine how a woman does become a successful SME entrepreneur in Bangladesh. Besides, it also discusses whether the local institutions provide help or increase obstacles to women entrepreneurs in this regard. Therefore, this study focuses on the major impediments facing by the SME women entrepreneurs in the country.

1.3 Literature Review: Women Entrepreneurship in SMEs and Empowerment of Women

Female entrepreneurship first appeared in the literature of entrepreneurship more than 30 years back and the research in women's entrepreneurship is now conducted around the world by several scholars (Jennings and Brush, 2013). Researches show that popular discourses of entrepreneurship are masculine in nature, but despite that, entrepreneurship is often seen as a form of empowerment of women (Gill and Ganesh, 2007). Entrepreneurship promotes self empowerment of women through giving autonomy, opportunity, confidence and self-expression among them (Gill and Ganesh, 2007).

The economic opportunity for women derived from the entrepreneurship promotes other forms of empowerment of women in a society that leads to the removal of gender inequality and thereby ensures development (Sharma and Varma, 2008). The other forms of empowerment include the social and political empowerment of women and all forms of empowerment are interlinked to each other. It can be argued that promoting entrepreneurship among women is an effective way to regenerate a poor economy. "Among other types of business venture, however, women enterprises are a leading sector in contributing to economic and social development of poor women due to their distinct characteristics" (Iheduru, 2002 in Ekpe et al., 2013: 11)

Women entrepreneurs in Bangladesh are mostly involved with SMEs "because [of] access of capital, funding capital through SME loan, and other supportive program by government and other concerning body" (Sultana, 2012). Therefore, one reason that women's entrepreneurship is rapidly growing in Bangladesh is that it has started from a relatively small base rate (Hoque et al., 2008). A report shows that "nearly 50 percent of enterprises established in between 2000 and 2010 were owned by women" (SMEF in Rabbani and Chowdhury, 2013: 32) in Bangladesh.Besides, according to the OECD (2012) up to 38 percent of all registered small business are comprised of women-owned business worldwide.

However, women entrepreneurs have to face different types of obstacles in starting and running a business. These obstacles include lack of confidence, funding, access to business networks, family hostility, culture of masculine advantage and challenges of ethnicity (Gill and Ganesh, 2007). Having these obstacles the successful entrepreneurial activity process can result from a combination of organizational capabilities, external and internal environment of organization and the motives, behavior, background, and psychological characteristics/traits of entrepreneur (Jain and Ali, 2013).

2.   Analytical Framework, Research Method and Limitation of the Study

2.1 Analytical Framework

The theory of Network Affiliation suggests that entrepreneurship is "embedded in a complex network of social relationship" (Muteru, 2013: 8). According to this view entrepreneurship is facilitated or constrained within this network by linkages between aspiring entrepreneurs, resources and opportunities and the presence or absence of this network influences the performance of the entrepreneurs (Muteru, 2013).

This theory acknowledges that access to the network like membership in associations play an important role in influencing the performance of entrepreneurs and as women entrepreneurs have different social and personal networks than men their performance in entrepreneurial activities thus remains different. As a result, most of the time in spite of having the entrepreneurial ability, "their priority may lie in ensuring their family's survival and welfare; they may find it difficult to hire and manage labor, to exercise the requisite degree of mobility" (Kabeer, 2012: 32). Due to these hindrances self - employed women earn less than the self - employed men in most cases. Furthermore, "[t]his theory proposes that the level of education, area of education, previous entrepreneurial experience, and previous business experience and business skills will influence business performance" (Muteru, 2013: 8).

Therefore, based on the theoretical aspect it can be said that due to prevailing gender gap in the society women entrepreneurs do not have a proper social

network to initiate and continue their business with success. Moreover, they have to face several challenges as, besides the fixed assets other than land and building, SME entrepreneurs have to have some other necessary things to start their business which include selection of products and business place, capital accumulation, selection of pattern of business (whether it will be self ownership, shared owner-ship of limited company), trade license/company registration (industry setup and utility service) and other registration and licenses (equipment, machinery, raw materials purchase and human resources) (Bangladesh Bank, 2014).

As a result, empowering women through entrepreneurship development has become questioned since women's empowerment refers to "the ability [of women] to exercise choices regarding the three interrelated dimensions of resources (pre-conditions), agency (process), and achievements (outcomes)" (Kabeer, 1999 in FES, 2012: 12). Consequently, it is expected that to ensure the empowerment of women they should have the access to proper social network including land, education (resources); freedom of choice in making any decision without having any deception (process) and finally they get the achievement without any constric-tion (outcome) (FES, 2012).

Therefore, based on the aforementioned ideas, the analytical framework this study (Figure 1) examines the problems and prospects of economic empowerment of women through entrepreneurship development in Bangladesh with a focus on the procedures through which a woman becomes an SME entrepreneur in the country. This will help to explore the challenges a woman faces on the way to become an entrepreneur in SMEs in Bangladesh in order to attain the objective of this research. Therefore, this paper analyses why and how women engage with SMEs and what kind of challenges they face in different stages of SME businesses based on the following analytical framework (Figure 1):

Figure 1: Problems and Prospects of Empowerment of Women through Entrepre-neurship in Bangladesh

Source: Author's Compilation
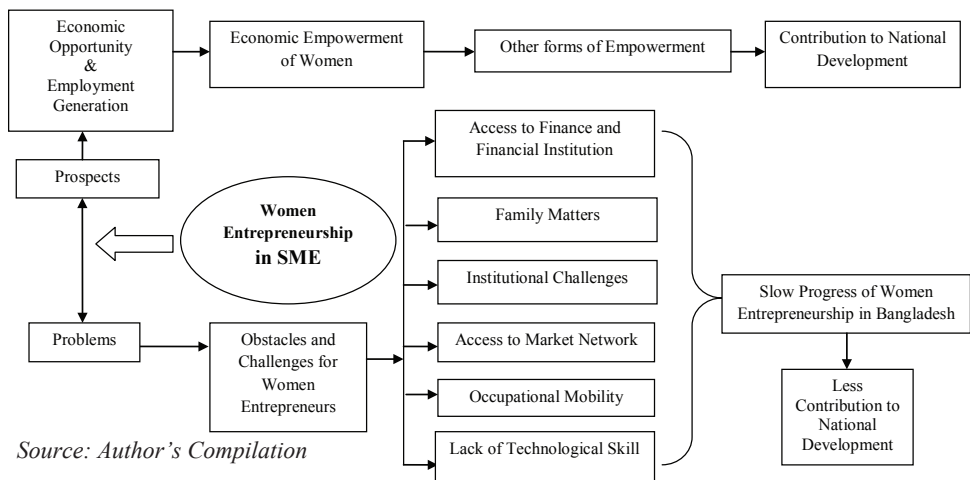
The analytical framework of this study focuses on both the opportunities and challenges created by SMEs in Figure 1. On the one hand, it shows women entrepreneurship in SMEs ensures economic empowerment of women through creating economic opportunity and employment generation and on the other hand it also shows that women in SMEs face different kinds of challenges on the way of becoming a successful entrepreneur.

2.2   Research Method

The study has been conducted by using qualitative research method[2] to explore the obstacles and challenges faced by the SME women entrepreneurs in Bangladesh. It is an exploratory research as there is little available literature relevant to this field of study. The primary data has been collected through methods of ten key informant interviews (KIIs) and two focused group discussions (FGDs). KIIs have been applied to collect data from the persons who are knowledgeable of SME women entrepreneurship development in Bangladesh. Through the FGDs information has been gathered about the challenges faced by different women entrepreneurs in doing businesses in SME sectors. The participants of the FGDs were women entrepreneurs enlisted by the Small and Medium Enterprise Foundation (SMEF), Dhaka, Bangladesh. Besides, different relevant literatures, journals, reports, publications and websites have been reviewed to fulfil the purpose of this study. The study employed purposive sampling in order to select respondents based on the maximum availability of the participants. A semi structured questionnaire with open ended questions was used to get information. Dhaka was chosen because of the maximum availability of women SME entrepreneurs in the city compared to other cities in the country.

2.3   Limitation of the Study

The major limitation of this study is that it focuses on the challenges faced by women SME entrepreneurs who are available only in Dhaka, which indicates a very small scale research. Moreover, most of the respondents of this research were engaged in similar kinds of businesses. Therefore, different kinds of experience from different kind of businesses are missing here to understand the problems faced by women SME entrepreneurs in Bangladesh.

3.   Women in SMEs in Bangladesh: A Brief Overview

3.1 Women's Engagement in SMEs in Bangladesh at a Glance

Women in Bangladesh have started to engage in entrepreneurial activities since 1970s. Usually women in Bangladesh involve with entrepreneurial activities due

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[2] Qualitative research is characterised by its aims, which relate to understanding some aspect of social life, and its methods which (in general) generate words, rather than numbers, as data for analysis" (Patton and Cochran, 2002: 2).

to unemployment, dissatisfaction with the job so far held, occupation so far pursued, to make use of idle funds, husband's death, to give employment to family members etc (Hossain, 2008). Some other influential factors in initiating entrepreneurial activities of women include encouragement from the family members, success stories of other entrepreneurs, previous experiences in manufacturing or industry, technical or professional skills inherited and so on (Hossain, 2008). Women in Bangladesh are much interested in establishing themselves as entrepreneurs in the SME sector as it is a creative sector where women can show their potentiality and can run their business easily with low labor cost and low capital (Khatun et al., 2014: 61).

Formally the development of women entrepreneurship started after the independence of the country in 1971. Since then, "14 enterprises were established between 1976 - 1980, 24 during 1981 -1985, 43 during 1986 - 1990, 85 enterprises were established during 1991 - 95, 195 during 1996 - 2000, and 78 between 2006 and 2009" (Rabbani and Chowdhury, 2013: 32). The involvement of women into the entrepreneurial activities has increased rapidly after 2000 and it has been seen that in between 2000 and 2010 nearly 50 percent of enterprises established were won by women (SMEF, 2009 in Rabbani and Chowdhury, 2013).

3.2 Policy Initiatives to Promote Women's Participation in SMEs in Bangladesh

In order to promote women's participation in economic activity, the government and NGOs are trying hard since the independence of the country with a meaningful purpose. In its National Action Plan (NAP) the government has set distinct strategies for the development of women entrepreneurship, including tax policy, tax holiday, etc. (Nawaz, 2009). The Industrial Policy of 2010 encourages the participation of women in SMEs by providing financial help to them through public – private partnership. Besides, in order to ensure the participation of women in the development process of the country and to enhance their capacities to establish and run SMEs several initiatives have been highlighted in the Gender Action Plan of 2008 – 2012 of the Government. Furthermore, considering SMEs an engine of growth and development the government pursued SME policy since 2005. It has focused on the SME policy that participation of women in SMEs will increase economic capacity of women and thereby empower them along with the society in a broader sense (Rabbani and Chowdhury, 2013).

Though the government does not have any integrated financial policy to assist exclusively the women entrepreneurs, the central bank of the country, Bangladesh Bank, has formulated 'Small and Medium (Enterprise) Credit Policies & Programmes' to ensure more institutional facilities to women entrepreneurs. According to this guideline, the interest rate for women is fixed at not more than 10 percent per annum, which seems helpful to ensure women's access to credit.

Besides, a number of NGOs are there in Bangladesh to assist women entrepreneurs through training, organizational and technical supports. Moreover, SME initiatives taken by some private banks in the country in recent times help women entrepreneurs to initiate and maintain their business. They have undertaken some projects to assist women entrepreneurs through credit services and training and offer special packages to encourage women entrepreneurs to take loans.

However, due to the lack of the gender analysis of most of the initiatives undertaken by both government and NGOs, participation of women in entrepreneurship is not increasing in the way it was expected. Especially the credit-based self - employment programs undertaken by both government and NGOs meet the needs of poverty and women empowerment in a very small scale. Besides, though the number of training and consultancy has increased, "the necessity and application of management development tools" (Jalil et al., 2014: 82) have not been concentrated at all. Therefore, weaknesses of initiatives are creating obstacles toward the faster growth of development of women entrepreneurship in Bangladesh.

Besides, though SMEs are playing a vital role in promoting women entrepreneurship in Bangladesh, any data on the number of women entrepreneurs exclusively in SME sectors is rare to be found due to lack of research. Moreover, women in SMEs are facing problems in attaining trade license because of complex bureaucratic procedures. Research shows that due to this reason almost 50 percent of women entrepreneurs are doing their business without having any trade license (Rabbani and Chowdhury, 2013). Women also "have limited access to finance, various government services, information and critical advisory services to operate a business efficiently" (Rabbani and Chowdhury, 2013: 36). In addition, initiating a small scale business seems difficult for women when they face problems to access bank loan due to lack of tax identification numbers (TINs) and other necessary papers (Rabbani and Chowdhury, 2013).

The initiative of both government and NGOs to provide financial service to women seems very weak from the very beginning. Firstly, the government lacks an integrated financial policy to assist women entrepreneurs as previously mentioned. Secondly, the micro - credit initiative also seems unreliable due to lack of gender analysis which increases the risk of women to some extent rather than empowering them. Research shows that "violence against women was also exacerbated by the frustration of husbands at the wives' delay or failure in accessing credit" (Kabeer, 2001: 64). Therefore, it seems clear that accesses to loan through microcredit program had done little to empower women. It mainly contributes to the increase of social status of loan receiving women compared to the less well - off women. In addition, it does not increase the social status of women compared to men within their household or the wider community.

Therefore, women in SMEs face several challenges and have limited scope to involve in different sectors of SME. Hence, this study has explored the challenges and obstacles SME women entrepreneurs face in Bangladesh by talking with them in person, which is discussed in detail in the following section. It is expected that the findings of this research derived from the existing literature and field study will help the relevant organization to think about new ideas and strategies for further development of women entrepreneurship in Bangladesh.

4.   Challenges faced by Women SME Entrepreneurs in Bangladesh: Qualitative Analysis of Field Study

A number of issues have been found after conducting the FGDs and KIIs to discuss the challenging factors which are creating obstacles to the enhancement of the entrepreneurship development of women in the country. It is revealed that women in Bangladesh are still vulnerable to initiate business on their own, and once they start it seems quite difficult to continue their business with success. The most common challenges faced by women in SMEs in Bangladesh are discussed below based on the findings from the KIIs and FGDs conducted for this study.

4.1 How and Why does a Woman Engage with SME?

In response to the question how and why does woman engage with SME business, most of the respondents of this study said that participation in entrepreneurial activities helped them to become independent economically. It makes them enjoy their work through employment generation for others. It increases their economic capacity and it helps them to enjoy their lives on their own. That is why they engage with SME business to increase their economic capacity and to enjoy their lives. It also helps them to contribute financial support to their family.

Mrs. Rupa[3], the proprietor of a renowned Fashion House in Dhaka, one of the respondents of the FGD two, said that "when you enjoy your work, the festivity of your life will be increased, you will enjoy your life then". Besides, according to some of the respondents, women become interested to involve with the SMEs as it helps them to overcome the depression from their lives and it also helps them to become self-dependent. Therefore, they can contribute to the decision making process of their family too. Mrs. Anu, respondent of the FGD two, stated that after getting retired from her previous job she was suffering from depression and then she was advised by her aunt to start a business. As her aunt was involved with a clothing business, Mrs. Tania started a joint venture with her aunt. Then after few years she started to work separately and set up her own business in boutique and clothing. She used her savings and later she took loan from a bank. Now she has

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3   Real name of the participants of FGDs are not used here.

her store at *Joyeeta*. She also supplies her products to some other stores and she has around 60 employees in her business. Similarly, Mrs. Lucky, respondent of the FGD one, started her boutique business by getting inspiration from the handicrafts business of her aunt and decided to start one on her own.

Respondents of both FGDs agreed that they have to face different kind of challenges to start and continue their business but they do not want to quit as the entrepreneurial activities help them to overcome the hurdles of their lives. In addition, respondents of this study stated that they did not have to invest a large amount of capital to start their business and it was one of the reasons why they involve with SME business. Therefore, it has been seen that mostly women in Bangladesh involve with entrepreneurial activities to become economically independent, to employ others, to overcome depression, to contribute financial support to family and the like. Besides, small amount of investment and sometimes successful stories of other entrepreneurs inspire them to engage with SME activities (Hossain 2008).

4.2 Support from Family Members and Society

Social and cultural barrier is one of the significant issues which create different kind of challenges for the SME women entrepreneurs in Bangladesh. Shamsun Nehar, chairperson for the Women By the Women Forum stated that "in the context of Bangladesh a woman has to overcome the barrier of her own family, in-law's family and the community". Furthermore, when the respondents were asked whether they were supported or criticized by their family member or society, a couple of respondents of both FGDs answered that at the beginning of their business they were not appreciated but when they have established their business successfully, the attitude of the people surrounding them has changed gradually. Some of the respondents seemed overloaded with work at home and business place at the same time.

Moreover, woman in most cases needs help from the male member of her family when she thinks about to start a business. This male member can be her husband or father or brother. If the husband is not helpful to her, she has to depend on her father or brother to initiate her business. Mrs. Rabeya, Managing Director of a Mushroom Food Products Company, is one of the respondents of the FGD two who struggled a lot to establish her business as her husband did not cooperate with her. She was married in a very early stage of her life and her husband did not want her to continue her study. She had to struggle a lot to continue her study and later she started her business by taking fund from her father. The other respondents also expressed the same kind of feelings and they said that it seemed very hard to start and maintain a business without the help from the male member of the family.

Therefore, family support is considered as one of the important elements for women who want to start a business in SMEs. Thus, it has been seen that after deciding to initiate a business on their own female entrepreneurs need to have support from family and society to proceed on.

4.3 Types of Business for SME Women Entrepreneurs in Bangladesh

When participants of both the FGDs were asked "what kind of business do you have?" it was seen that most of the respondents were involved with the boutique business and only one respondent was found who deals with mushroom business. The entrepreneur who deals with mushroom business has also the business of handicrafts and clothing. The reason behind the involvement with the handicraft, clothing and boutique business is that this kind of business does not require huge amount of capital and raw materials. Besides, most of the women entrepreneurs in the country do not think about to engage with the business where they have less comparative advantage than men.

Likewise, Mrs. Saima started her business on her own with a very small amount of capital. At first she used to make different kind of showpieces by bamboo sticks and papers. She did not have enough education and lost her husband at the very early stage of her married life. She did not have any support from her in – law's family. Therefore, she did not have any other option to live her life with three little children. One of her neighbors helped her to start a small business. She knew a little bit about how to make small showpieces with the use of bamboo sticks and papers; she then started to do so. On the other hand, as Mrs Lucky was educated enough, she did not face much difficulty to take loan from the bank and to collect the trade license as well, she stated. Now both Mrs. Saima and Mrs. Lucky have their own shop at Joyeeta and earn thousands of BDT per month. Mrs. Saima has been associated with her son to run her business.

Not only these two ladies, most of the women entrepreneurs in Bangladesh are involved with boutique and beauty parlor businesses as men entrepreneurs have low comparative advantage in these sectors as stated by Dr. Khondaker Golam Moazzem, Additional Director, Research, CPD. Dr. Fahmida Khatun, Head of Research, thinks that due to the lack of enough support from the relevant organization, lack of financial resources and lack of training, women have limited scope in SME sectors. It has thus hampered the mobility of the women entrepreneurs in SME sector in Bangladesh.

4.4 Capital Accumulation

After taking the decision to start a business the most challenging factor for women in Bangladesh is to accumulate enough capital. When questions related to the

capital accumulation were asked during the discussion, most of the respondents of this study said that they have started their business with their own fund as banks are not much cooperative to provide loan to them. As a result, women do not have the scope to start their business with sufficient amount of capital as they do not have enough money on their own. In this case women who were involved with other jobs before starting their business were comparatively in an advantageous position as they have some savings from their previous jobs though the amount of savings was not very high.

The main problem for women who have to obtain loan from the bank is that the bank requires the signature of two guarantors for women entrepreneurs. One of the key informants of this study, Aziza Khan, the owner of Décor Idee, said "to collect signature as a guarantor from a third party is very difficult for women since they do not have enough social network who can give a signature for her. For my case, I had to collect a signature from my daughter's husband as my husband discouraged me to do so." On the other hand, M. K. Rasedul Hasan, SME in Charge, the City Bank Limited, stated "third party signature is needed to ensure the proper use of the money of the loan". Aziza Khan thinks that the central bank of the country should manage the third party signature for SME women entrepreneurs as they face difficulties to manage a person who can give a signature as a third guarantee while they take SME loan from any bank.

Dr. Fahmida Khatun of CPD said that "though most of the banks have the help desk for women entrepreneurs in SMEs, their attitude is neither pleasant nor cooperative at all." Moreover, the banks are not interested to give a large amount of money to women entrepreneurs as they do not have enough trust upon the capacity of a business woman. In case of business women who take loan from the bank have a very short period of time to pay the interest. Besides, banks give loan to them who have two years of established business. As a result, there is no scope to take loan from the bank at the very initial stage of the business.

In case of the unmarried women banks feel uncomfortable to give loan because after marriage nobody will know where the lady will go with her husband. In this case, it becomes uncertain whether the interest on the loan will be paid in time after the marriage of the woman that has taken, loan before marriage to conduct her business, so said Dr. Fahmida Kahtun of CPD.

Besides, though some of the respondents of both FGDs and KIIs showed positive views on the microcredit services provided by some NGOs like BRAC and GB, most of the respondents think that microcredit services have very little role to promote SME women entrepreneurs in the country. They think microcredit rather makes women vulnerable as most of the time the male member of the family uses

the loan money and women do not have full control over the money they borrow (Kabeer, 2001).

Another problem regurding the access to loan for SME women entrepreneurs in Bangladesh is that they do not know properly about the government facilities for SME women entrepreneurs in the country because of the information gap between the central bank of the country and the women entrepreneurs.

4.5 Business Management

Women in SMEs have to rent a land if they do not have any land to set up a store on their own. In most cases, women entrepreneurs need to rent a land or a store as they do not have any land of their own. In that case, local land owners demand large donation to set up the store, but it often becomes impossible for SME women entrepreneurs to give donation at the initial stage of their business. This was stated by a couple of respondents of both FGDs. Besides, most of the time it has been seen that after they set up a business in a rental house the landlord suddenly gives notice to leave the house, which creates uncertainty to continue that business as managing any place in a short period of time is quite difficult for any business woman. Shagufta Yeasmin, WEAB, thinks that SME women entrepreneurs cannot move further due to the uncertainty of their business created by the lack of availability of rental houses.

In addition, women entrepreneurs have to close their stores everyday early in the evening because of the lack of security. Dr. Fahmida Khatun of CPD stated that the improvement of law and order situation is needed to protect the women SME entrepreneurs in the country. They also need security when they move from one place to another to market their products. In addition, acquiring trade license often becomes a difficult task for most of the SME women entrepreneurs as they are not educated enough to understand the process of getting a trade license. Besides, Dr. Fahmida Khatun thinks that sufficient technological support to SME women entrepreneurs is needed to make proper balance sheet of their business.

4.6 Product Marketing

In the case of product marketing the SME women entrepreneurs in rural areas of the country have to face more problems than the entrepreneurs living in the urban areas, mainly in the capital city of the country. In most cases, women entrepreneurs have to depend on other persons to market their products as they do not have enough social networks to market their product on their own. To market the products women entrepreneurs need to participate in different kinds of activities like SME fair which are mostly held in Dhaka. When they want to participate in this kind of fairs they have to come to Dhaka. It requires extra transport and living cost which creates extra burden for the small business women.

Besides, the women SME entrepreneurs often face difficulties to sell their products as the consumers are mostly attracted by foreign products comparatively at a cheaper price. In this regard Shagufta Yeasmin argued that the marketing of products produced by the local women entrepreneurs should be promoted by the government of the country.

4.7 Role of Local Institutions in Promoting Women Entrepreneurs in SME Sector

Majority of the respondents of both of the FGDs think that the government is quite helpful to the women entrepreneurs and women associations also give sufficient support to uphold their businesses. Conversely, some of the respondents think that the women associations should work more in favor of the SME women entrepreneurs who are under privileged. One of the key informants said that most of the women associations are chaired by those who have strong links with political and business organizations. These linkages make them able to collect fund from different sources to run their businesses and they do not use those funds for the development of the condition of women entrepreneurs rather invest those funds for the development of their own political interests, she stated.

However, most the respondents of both the FGDs are quite positive regarding the initiatives taken by the government as most of them are associated with the government supported organization, SMEF. According to them, the SMEF is giving support to them by organizing several SME fairs and giving information to them about the fairs organized by other organizations. Besides, some of the entrepreneurs expressed their satisfaction upon the assistance provided by several NGOs and women associations.

Both Dr. Fahmida Khatun and Dr. Khondaker Golam Moazzem think that the government and NGOs are doing better in providing assistance to the development of women entrepreneurship in Bangladesh in SMEs. Khondaker Golam Moazzem thinks that the government is quite helpful but the business environment is not completely favorable to women yet and as a whole the SME business is not developed fully in Bangladesh regardless it is done by men or women. In spite of having this reality, women entrepreneurs in SMEs are doing well with the help of the government and NGOs, he said.

5.   Conclusion and Recommendation

Findings from the field research discussed in the foregoing indicate that women empowerment through the development of entrepreneurship is a quite difficult task

under the purview of rigid and gender biased social structure. Besides, initiating and maintaining self - business seem challenging for women as it increases loads of responsibilities for women both in home and workplace. Thus on the way to becoming a successful entrepreneur women face various challenges from their family members and from society. Mostly they have problems of access to loan from banks and financial institutions and they have very limited scope in different SME sectors other than the traditional businesses. Besides, due to the lack of technological skill they cannot manage their accounts properly. Therefore, women entrepreneurs in SMEs in Bangladesh are facing different kinds of social, political and market challenges in initiating and maintaining their businesses. As a result, in most cases, they remain stuck in the early stage of the entrepreneurship development.

Therefore, relevant measures should be taken to overcome the challenges faced by SME women entrepreneurs and the role of local institutions along with the government is important in this regard. These may include integrated financial policy, proper business education, technological support and training, improved law and order situation, logistical support and promotion of local products. Thus, policies and strategies should ensure equal participation of both men and women in every sphere of life for the sake of development. The government, NGOs and other business organizations can organize relevant programmes to support women entrepreneurs in SMEs. In this regard, "extended SME program can facilitate [women entrepreneurs] by providing collateral free and easy access of financing their business" (Sultana, 2012: 28). In doing so, there will never be a "quick fix" rather sound policies, holistic approach and long term commitment from all development actors are needed (OECD, 2012).

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Socio Economic Status And Consequence Of Child Labor As Transportation Helper In Dhaka City

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Abstract: *The most common scenario in Dhaka city is to see child as working-child. Most of the city dwellers are aware of the child labor situation in Dhaka city. Children here engage themselves in risky and hazardous work which plays a significant role in improving the family's wellbeing earnings, whereas they were supposed to be engaged in education. The present study aimed at visualizing the socio-economic status of the child-labor as transportation helpers and their contribution to the economy. Children who work as transportation helper in Dhaka city are considered as the population of the study and 100 of them have been randomly selected from different areas of the city as the sample of the study. The study administered a structured questionnaire along with an observation technique and an informal interview to collect primary data. The study also drew information from the existing literatures, internet, newspapers and various reports regarding child labor to clarify the socio-economic status of the child-labor. The major findings of the study are that the financial incapability of family, relocating labor from rural to urban areas, assisting family financially, and family breakdown were the major causes of child-labor. The study also found the contribution of child-labor both to the economy and family by earning money. The study concluded that most of the child-labor who had to give up their basic education is now the income generating source for their families and they live in a very miserable situation with the shortage of basic facilities and amenities.*

Key words: Child, Transportation helper, Dhaka city, Contribution, Economy.

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1.0 Introduction

Child labor is the most common phenomenon and a widely viewed scenario in most of the developed and developing countries. Bangladesh is one of the best places to see child as a working child. Social practice and economic conditions somehow accept child labor as the horm in Bangladesh. For many families they generate income as fuel to run their families. The definition of the term child labor varies depending on various social context and human perception. Scholars all over the world define the term in different ways. Child labor is a factor that impedes a child's ability to successfully transition into adulthood.

Economically child labor is defined as any economic activity undertaken by children under the minimum age for admission to employment. (DeBrenna L. Agbényiga, 2011). The term child labour refers to when children is working in any type of work that is dangerous and harmful to children's health or the work hinders their education. Child labour refers to low wages, long hours, physical and sexual abuse (Moyi, 2011). According to Edmonds and Pavcnik (2005), child labour is viewed as a form of child labour abuse, when children work in bad conditions and hazardous occupations. Bhat (2010) says that the definition of child labour is not at all simple because it includes three difficult concepts to define, which are "child", "work" and "labour". He claims that the term childhood can be defined by age, but in some societies people cease to be child at different ages. However, Weston (2005) argues that any work children do can be damaging to their health because the work can be abusive, exploitative or hazardous and it can influence their health. Omokhodion and Odusote (2006) argue that any work that children do outside home is classified as child labour. According to them, working outside home is usually exposed to environmental hazards which may affect their health and safety. The definition of child labor differs among societies, for example in Africa and Asia they do not consider the work of fifteen years old person as a child labor, and they view child labor as a good task that children learn skills from work.

The world renowned organizations responsible for making legislation for human rights and better human treatment all over the world widely vary in the meaning of child labor. A child, according to the UN Convention on the Rights of the Child (CRC), 1989 refers to a person under the age of eighteen. The World Bank assumes that child labour can be a serious threat to long-term national investment. Furthermore, according to UNICEF the problem of child labour can have more bad consequences beside all the concerns of investment or its relation to economic activity (ILO, 2013; Weston, 2005). ILO argues that child labour is difficult to define. It depends on the type of the job and, if the age is under eighteen, the job will interfere with the children's education and development (ILO: 2004). The onset of puberty occurs at different ages for different people. Therefore Article 1 of the United Nations Convention on the Rights of the Child and the ILO Convention on the Worst Forms of Child Labour, 1999 (No. 182) define a child who is

under the age of eighteen years (Bhat, 2011).

According to UNICEF (2008), Child labour is work that exceeds a minimum number of hours, depending on the age of a child and on the type of work. Such work is considered harmful to the child and should therefore be eliminated:

- Ages 5-11: At least one hour of economic work or 28 hours of domestic work per week.

- Ages 12-14: At least 14 hours of economic work or 28 hours of domestic work per week.

- Ages 15-17: At least 43 hours of economic or domestic work per

Bangladesh Labour Act 2006 (Act XLII of 2006) defines the "child" and "adolescent" on the basis of age. Section 2(8) of the Act defines a person who has attained the age of 14 but is below the age of 18 as an 'adolescent' and section 2(63) defines a person not attaining the age of 14 as a 'child'. According to this definition, the labour provided by a child would be known as 'child labour'.

1.1 Child as a transportation helper

This study has taken an attempt to define Child as a transportation helper and considered children between age 7 and over 15 years who are engaged in employment either permanently or temporarily in daily transport services and responsible for collecting fair from passengers, washing vehicle etc, and who may or may not stay with their parents or relatives, and live in slums or poorly equipped rented house, who left school previously and earned a specific sum and contributed to the family for its survival, and who are sometimes verbally abused by the driver and the passenger.

1.2 Child labor scenario in Bangladesh

According to the second National Child Labour Survey (NCLS) of Bangladesh Bureau of Statistics (BBS 2002/03) there are 4.9 million working children (14.0 per cent of the total 35.06 million) in the age group of 5-14 years in the country. The total working child population between 5 and 17 years old is estimated at 7.9 million. The proportion of boy and girl child workers in the age group of 5-17 years is 73.5 per cent and 26.5 per cent, respectively. The total number of working children aged 5-17 years in rural areas is estimated at 6.4 million as against 1.5 million in urban areas; as many as 93.3 per cent of all working children in the age group of 5-17 years operate in the informal sector. Agriculture engages 4.5 million (56.4 per cent children), while the services sector engages 2 million (25.9 per cent), and industry 1.4 million (17.7 per cent). A total of 1.3 million children are estimated to be working 43 hours or more per week. More boys than girls are

engaged in this form of child labor across all age groups. Among children aged 5-14, about five million, are economically active. According to the International Labour Organization there are about 3.2 million child laborers in Bangladesh. Certain groups of children are more likely to work than others, for instance boys comprise about three-quarters of all working children. In slums almost one in five children aged 5-14 are child labors, and of these, only 25 per cent attend school. Rapid urbanization means that more children will move into urban slums and be compelled to work (UNICEF Child labor in Bangladesh)

1.3 Rationale of the study

Children are the future of a nation and it is the moral responsibility for every nation to provide all the basic facilities and amenities to the children to make them a complete man. Unfortunately a large number of children are deprived of basic facilities, which make them bound to engage in various risky and hazardous work for their survival along with their families. Being a transportation helper is an assiduous task requiring enormous physical labor and long hour to work and it is related to uncertainty. Even the risky work is not readily available and verbal and physical abuse and harassment is common. The innocent children face such difficulties, not intentionally but to follow the doctrine of necessities. The situation has snatched their right to attend school and play. An attempt should be made to address them appropriately and bring them into light. This study is a modest attempt as part of a big continuous process.

1.4 Objective of the study

The objective of the study is to visualize the socio-economic status of the child-labor as transportation helpers and their contribution to the economy

1.5 Rationale of the selection of the study area

Dhaka is the capital city of Bangladesh having huge number of population. People from different parts of the country come here to make a living. As a result, the city never sleeps, and is always busy with the maintenance of these new as well as existing people. The buses, tempos and Legunas (locally called) are the most extensively used vehicles for public transportation. These vehicles regularly use children often as their helper for various activities like collecting fare, calling passengers, washing vehicle etc. In Dhaka city most of the people are used to hear child workers inviting them to ride buses, tempos or Legunas. In Dhaka city almost everywhere there is the bus or tempo or Leguna using child labor. Because of easy availability, close to residence and familiarity with the respondents the study has chosen Mohammadpur, Zigatola, Dhaka Uddan, Firmgate, Gabtoli, Mirpur, Mohakhali and Gulshan as the study area so that a mutual co-operative relation can be established with the respondents to gather facts and essential information for the purpose of the study.

1.6 Nature and sources of Data

Primary and secondary data have been used in this study. The primary data were collected by field survey whereas the secondary data were collected from different studies, bureau of statistics and also widely used online journals, blogs and website for getting current information.

1.7 Methodology and Research Design

The study considers descriptive research design to conduct the survey. Descriptive research design is made to describe the socio-economic condition and major problems associated with them. By the descriptive research design the causes pertaining to the recent situation or problems were brought out.

1.8 Universe and Sampling

The study considers all the child labor working as transportation helper as the population of this study. The respondents have no specified time of working because of their continuous nature of work. They do not know when they can be back home. They have to go here and there with their vehicle. So, it was very difficult to make definite time and place to meet them. Therefore, accidental sampling procedure within non-probability sampling was chosen because of their mobile nature and uncertainty. In this sampling method any child labor who was in a favorable condition and free was selected as sample of the study to get information. One hundred transportation helper child labors were randomly chosen as the sample of the study.

1.9 Data collection Technique

The data was collected using the following techniques:

1.9.1 Structured Interview:

For the collection of reliable data and information from the transportation helper, a structured interview was used. This method helps the researcher to collect primary data and information. The questionnaire was prepared to obtain the socio-economic condition, demographic background, working condition, health & hygiene etc. of the transportation helper.

1.9.2 Informal Interview

By the structured interview it is not possible to collect all the information about the respondents. Establishing mutual friendly relation with the respondents was necessary to obtain data on internal feeling and emotions by an informal interview.

1.9.3 Observation:

To know more about their attitudes, behavior, actual condition, living wages,

family environment etc, a non-participatory observation method was taken into consideration.

1.9.4 Case Study:

This method is very useful to gather in depth data. A few case studies have been conducted to get more information about transportation helpers, particularly on their past and present, which helps to know the reason that pushed them to become a transportation helper.

1.9.5 Data processing and Analysis:

For the analysis of data SPSS 17 has been used. Since both qualitative and quantitative data are gathered through interviews, questionnaire and observation, the data are analyzed descriptively. Primary data are edited first, following secondary data and they are being interpreted by using tables, numbers and percentages.

1.9.6 Time frame of the study

Timelines are important in evaluating the feasibility of the study. In order to get sufficient number of respondents and adequate amount of information the study was carried out from February 2014 to July 2014.

2.0 Literature Review

This part of the study reviews the related literature, published both locally and abroad in order to shed some light on the contribution of researchers in the related field.

Banu, N. Bhuiyan, S and Sabhlok, S (1998), mention in their study demonstration marches protesting against child labour on each of the continents in January 1998 to culminate in Geneva where the International Labour Organization meets to take up the issue. Meantime, the extent of child labour in a country is being taken as an indicator of how far that country has fallen behind developmentally. Why do poor parents send their children to work? Will employers be able to resist the threat of consumer boycotts and trade sanctions or will they have to reconsider their child labour employment practices? High economic stakes are at risk and the lives of hundreds of thousand children are involved.

Khanam, R (2004) in her study showed that the education of parents significantly increased the probability that a school-age child will enroll in formal study. Empirical results further show that if the father is employed in a vulnerable occupation, for example, day-labour or wage-labour, it raises the probability that a child will work full time or combine work and study. The presence of very young children in the household increases the likelihood that a school-age child will combine study with work. The significant and positive gender coefficient suggests that girls are more likely than boys to combine schooling with work. The children who

are sons and daughters of the household-head, as opposed to being relatives living in the household, are more likely to specialise in schooling or combine schooling with work.

Khanam (2006) found that the trend and incidence of child labor has been increasing in Bangladesh even though child labor is on a declining trend in other South Asian countries. She attributes this to the inadequacy of existing child labor laws in Bangladesh. The study suggested that a combination of policies would be appropriate for reducing child labor, which include employment generation schemes that lead to economic prosperity for the household, compulsory schooling for children, school enrolment subsidy, improving school infrastructure, the quality of education, flexibility in school schedules and adult literacy campaigns that increase community or social awareness, especially of the adult female.

Kalam, I. M. S (2007), did his study in the light of the findings of a practical survey project that was conducted out of the desire to know the situation of the most unfortunate as well as deprived but most important segment of the country's population. Being the capital of the country the child labor situation of Dhaka would certainly serve as an indicator of the whole country. The paper dealt with various aspect of the child labor, such as causes of child labor, causes of rural-urban migration, hours of work and provisions for leave, income, expenditure and savings, educational background and some other important related topics.

Tariquzzaman and Kaiser (2008) in their study aimed at analyzing how and what factors have contributed to changing the patterns and perspectives of child labor over the last 15 years. Based on an in-depth research of 120 child laborers and 40 employers of child labor in a Dhaka slum and a rural community in the poor northern district of Nilphamari they highlighted the employers' perspectives on child labor, with particular emphasis on understanding what factors have caused them to change their own practices over time. In this regard, they addressed four main issues: (i) why employers depend on child labor; (ii) how the types and forms of children's employment are believed to have changed over the last 15 years; (iii) factors that employers believe have contributed to these changes; and (iv) how employers are adapting to the changing situation with respect to the employment of children.

Based on a survey conducted in Sylhet city, the study by M.N. Uddin, M. Hamiduzzaman, and B.G. Gunter, (2009) found that child workers suffer from different physical and psychological problems and that more than half of them receive their medical assistance from local health care providers who have no recognized qualifications. The study maintains that working from an early age impedes the children's physical growth and intellectual and psychological development, which also has negative effects on their long-term health and earning potential.

The study by Meerza, S. I. A and Bacher, B (2011) mainly focused on the current socio-economic condition of those people who were child labor in their childhood. In this study, economic indicators are income and employment status. On the other hand, the level of education, health status and role in case of decision making in the society are treated as social indicators. According to the study, socio-economic condition of child workers in their adulthood is not very satisfactory. The research study found that a person who was not a child worker in early stage of his/her life has higher probability to enjoy better socio-economic condition than a person who worked as child worker in past.

Hossain M. J and Rahaman Sk. H (2011) maintain that Child labor, a sheer reality in Bangladesh like many other developing countries, is one of the major socio-economic problems in the country. Studies revealed that one in every six children in Bangladesh was a working child. The gravity of the situation led them to conduct a study on "Prevalence of Child Labor in Harmful Work" in the work area at Dhaka, Khulna and Kurigram. The study looked into one of the key aspects of child protection – prevalence of harmful child labor using the definition of children and harmful labor. The study also generated baseline information on major characteristics of child labor, including income and household dependency on work/income from the children.

Hossain M. A (2012) found many child laborer miss out on their right to education and fall a victim to hazardous work because they do not have the time to go to school or to study. In this study a total of 560 child laborers were interviewed by the author during June 15 to July 14 in 2010 in the Rajshahi city corporation area in Bangladesh. The study data showed that the duration of working hours and hazardous working environment are negatively correlated with school attendance, smooth livelihood and physical and mental development of children.

The study by Aktar ,S and Abdullah A .S. M (2013) tried to present the socio-economic scenario of child labour in Bangladesh, which has in recent times attracted concerted attention not only in Bangladesh but also all over the globe Indeed, child labour is recognized as a considerable part of the existing labour market. Their study attempted to search out the ways how child labour can be decreased gradually and at the end of the paper suggestions or recommendations were presented in that regard.

3.0 Analysis of findings

The study analyzes the result through different charts and percentages explained in this section.

3.1 Demographic profile of respondent

Table1: Age of the respondents

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Below 6 years	2	2.0	2.0	2.0
	6-10 years	22	22.0	22.0	24.0
	10-15 years	51	51.0	51.0	75.0
	Above 15 but not 18 years	25	25.0	25.0	100.0
	Total	100	100.0	100.0	

Source: Field survey 2014

Interpretation: Table-1 shows that around 51% (the largest percentage) of child workers working as transportation helper are in 10-15 years age group. Transportation owners prefer this age group of child worker as helper because of their physical fitness and docility. Among the rest of the child workers working as transportation helper around 22% are in the age group of 6-10 years and 25% are between 15 -18 years old. Child workers between age 6-10 years old are generally physically immature for this purpose and those above 15 years are not so submissive in behavior and they charge more wage for their work. That is why most of the time these two categories are not considered ideal transportation helper by their owner.

Table: 2 Parent's occupation

Father's occupation	Frequency	Percentage
Rickshaw puller	34	34.0
Day labor	36	36.0
Auto driver	6	6.0
Unemployed	17	17.0
Died	6	6.0
Others	1	1.0
Total	100	100.0
Mother's occupation		
Housewife	21	21.0
Maidservant	49	49.0
Garments worker	24	24.0
Hawker	6.0	6.0
Total	100	100.0

Source: Field survey 2014

Interpretation: According to the Table-2 the highest percent of respondent's father's occupation is day laborer and rickshaw puller that are, respectively, 36% and 34%. The rest of the respondents' fathers are auto driver, unemployed and some are dead. The study is based in Dhaka city and most of the people migrated from different districts and started their first work as day laborer and rickshaw puller. Both of the jobs generate very low wages and the survival of the whole family with this low income is not possible. As a result their child needs to work to raise family income. As it is costly to lead life in Dhaka city, most of the time respondents' mothers also need to work for income. And according to Table 2, 49% transportation helper child labors' mothers are working as a maidservant at different houses and 24% mothers are working as garments workers.

Table: 3 Family status of respondents

Family bondage	Frequency	Percent
Stay with father	17	17.0
Stay with mother	39	39.0
Stay with parents	42	42.0
Stay with relatives	2	2.0
Total	100	100.0
No. of family members		
Below 4 members	31	31.0
4-6 members	64	64.0
6-8 members	5	5.0
Total	100	100.0

Source: Field survey 2014

Interpretation: Table -3 shows that family bondage of this class of child labour is not very strong. Only 42% respondents stay with their parents and the rest 58% families are broken. Among them 39% respondents stay with mother and 17% stay with father. Table 3 also states that 64% of the respondents' family consist 4-6 members. And 31% respondents have below 4 family members and only 5% respondents have 6-8 members. This clearly indicates that some unemployed people are family members of the respondents; as a result they do not have any option to avoid working.

Table: 4 Educational status of respondents

Educational status	Frequency	Percent
Never attend school	17	17.0
Pre primary	39	39.0
Primary	42	42.0
Secondary	2	2.0
Total	100	100.0

Reasons of not attending school		
Loss of interest in studies	19	19.0
Financial incapability	31	31.0
To take care family	14	14.0
Poor academic performance	35	35.0
High cost	1	1
Total	100	100.0
Willingness to attend school		
Yes	60	60.0
No	40	40.0
Total	100	100.0

Source: Field survey 2014

Interpretation: Table-4 shows that most of the respondents have got primary and pre-primary education, respectively 42% and 39%, and surprisingly only 2% got secondary education. In Dhaka city all the schools charge relatively high fees from students and it is tough for a transportation helper child to maintain this high cost due to financial incapacity. And 31% respondents do not attend school because of these reasons. 36% respondents drop out from school because of poor academic performance. Loss of interest in studies and taking care of family are some other reasons for not attending school. The respondents were asked "would you like to attend school again?" Some of them expressed a deep interest about education. Some 60% respondents want to attend school again. These respondents left school previously or did not get chance to attend school before.

Table 5: Residential and Living status of respondents

Residential status	Frequency	Percent
Native	28	28.0
Migrated	70	70.0
Floating	2	2.0
Total	100	100.0
Living status		
Slum	35	35.0
Rented tin shade house	61	61.0
Garage	4	4.0
Total	100	100.0

Source: Field survey 2014

Interpretation: Table -5 shows that 70% of the respondents migrated to Dhaka from other districts. And only 28% are from Dhaka city. Still Dhaka is the hub of all occupation. People from different remote areas and from different corners of

the country come to Dhaka to get a chance to earn money. Table 5 also shows that 61% of the respondents can live in a rented tin shade house, which has very little space, and where the living quality is poor and 34% of them have to live in slum with their family, and 4% have to live at garage.

Table: 6 Basic facilities and amenities

Drinking water	Frequency	Percent
Get pure drinking water	34	34.0
Get water but not pure	54	54.0
Don't get water	12	12.0
Total	100	100.0
Sanitation		
Hygienic	22	22.0
Moderate	42	42.0
Not Hygienic	36	36.0
Total	100	100.0
Treatment		
Medicine shop	46	46.0
Govt. hospital	52	52.0
Private clinic	2	2.0
Total	100	100.0
Electricity use		
Use	83	83.0
Don't use	17	17.0
Total	100	100.0
Gas use		
Use	34	34.0
Don't use	66	66.0
Total	100	100.0

Source: Field survey 2014

Interpretation: From table-5 it is found that 61% respondents are residing at crowded tin shaded houses and the and next highest 35 % of respondents are living at slum where living condition is   worse. The facilities they get from these areas are very poor. Table-6 shows that only 34% respondents get pure drinking water whereas 54% of them get water but not pure. As a result many of the respondents often suffer from water related diseases. 12% of them are completely deprived from pure drinking water facilities. They need to fight regularly to collect the little amount of water. Quality of sanitation facilities is also very poor. Only 22% respondents can use hygienic sanitation facilities whereas 78% are deprived of these facilities. The respondents often suffer from a lot of various diseases because

of unavailability of different health facilities and the unhygienic environment where they live. Low income does not allow them to take better treatment. According to Table 6 maximum respondents like to take treatment from government hospitals. 83% of respondents are getting the electricity facilities which are analogically better. But 66% of them do not get the chance to use gas facilities.

3.2 Work profile of respondents

Table: 7 Work and its condition of respondents

Previous occupation	Frequency	Percent
Hotel worker	32	32.0
Garbage collector	40	40.0
Hawker	14	14.0
Work at shop	11	11.0
Work less	3	3.0
Total	100	100.0
Years of working		
Below 1 year	24	24.0
2-3 years	48	48.0
3-4 years	28	28.0
Total	100	100.0
Working hours		
Below 6 hrs	19	19.0
6-10 hrs	35	35.0
10-12	45	45.0
Above 12	1	1.0
Total	100	100.0
Working days		
3 days	6	6.0
4 days	30	30.0
5 days	33	33.0
6 days	31	31.0
Total	100	100.0
Motivation of work		
No option	28	28.0
Extra income	70	70.0
Easy to get	2	2.0
Total	100	100.0
Willingness to work		
Yes	39	39.0
No	60	60.0
No comment	1	1.0
Total	100	100.0

Source: Field survey 2014

Interpretation: Table-7 states the previous occupation of respondents of whom 40% were Garbage collectors, 32% were hotel workers, 14% were street hawkers and 11% worked at shops. This indicates that the child workers under this survey were previously engaged in many works. Table 7 unexpectedly expresses the truth about child working hours, as it indicates 45% respondents work around 12 hours per day and 35 % respondents work 6-10 hours per day. They are paid on hourly basis irrespective of their physical condition and health. To know their eagerness to work they were asked "would you like to continue your work?'. Table: 7 shows that 60 % of them replied they were ready to leave the work because of problems associated with the job and its risky nature and 39% replied they would like to continue as they do not have any option. Table 7 also shows that most of the respondents engage themselves in that particular work without having any option. Some of them were engaged as it provided some extra income comparative to other work. The driver of the vehicle provides three times food. They also get tips in addition to income and they are paid on daily basis. These are also the sources of their motivation to be a transportation helper.

3.3 Income profile of respondents

Table: 8 Income of the respondents

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Below 200	19	19.0	19.0	19.0
	200-400	48	48.0	48.0	67.0
	400-600	33	33.0	33.0	100.0
	Total	100	100.0	100.0	

Source: Field survey 2014

Interpretation: Table-8 shows the daily income of respondents. It indicates that the income of 48 % respondents is around 200-400tk a day. And their monthly income range is 6000-12000 tk. Some 33% of them earn 400-600tk daily. And 19% earns below 200tk daily, which is really very small to survive with family in Dhaka city as life is expensive here. It is almost impossible to maintain minimum basic needs of a family with this income when the child is the only earning member of the family. So child workers remain vulnerable. They do not afford to take nutritious food. Neither are they able to go to doctor or take medicine in case of illness. Child

workers are the portion of regular labor in our society. As the number of child labor increases day by day so with their income they contribute a good amount to the economy. It is true that child labor diminishes the possibility to earn better in the long run. But in the short run they have a huge contribution in our economy. The result also supports the statements of Mike Davis.

Mike Davis (2004), in his article "planet of slums" stated that, 'A recent study of slum children in Dhaka, for instance, discovered that "nearly half of boys and girls aged 10 t0 14 were performing income generating works, and only 7 percent of girls and boys aged 5 to 16 years attended school. Dhaka has the largest number of child laborers in Asia (about 750,000), and their earnings provide half the income in poor female headed households and nearly a third in male headed families.'

Table: 9 Descriptive Statistics of income generated by respondents

	N	Minimum	Maximum	Mean	Std. Deviation
Daily income:	100	1.00	3.00	2.1400	.71095
Valid N (list wise)	100				

Source: Field survey 2014

Table-9 shows the descriptive statistics of income of the respondents. The mean value of it is 2.14 that means almost all of the respondents have the average income of tk. 200-400 per month (the scale is, 1=below 200, 2=200-400 and 3=400-600). This means that the respondents' monthly income is in a range of 6000-12000tk. As a child worker it is huge for them and for their family having education or without education and any specified skills. This part of employment and income is not considered properly in national income calculation but it has huge consequence on the total economy of the country.

3.4 Problems of respondents

Table 10: problems faced by respondents

Problems	Percentage*
Problems with passenger	56
Verbally abuse	79
Physically harass	42
Exploited by driver	23
Not permanent	90

Source: Field survey 2014

*Percentages will not add to 100 because many of the respondents experienced more than one problems (all are rounded figure)

Interpretation: From Table-10 it is found that 79% respondents experience harassment by their owner verbally and 21% report that their master often slaps them for mistakes. Child workers are mentally soft and any harassment affects them badly. So the Child workers pass a very tough childhood, which they do not deserve. According to Table 10, 56% respondents say that they often faced problem with passengers. Passengers of different age, different mentality and different behavior use these transportations. Some of them try to deceive the respondents by giving them less money. Sometimes some of them behave roughly with them and verbally abuse them and sometimes they slap them. So overall they are physically assaulted, verbally abused and become the victim of exploitation by the owner or driver or passengers.

3.5 Respondents' happiness and future plan

Table11: Happiness

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Strongly agree	27	27.0	27.0	27.0
	Agree	32	32.0	32.0	59.0
	No comment	10	10.0	10.0	69.0
	Disagree	5	5.0	5.0	74.0
	Strongly disagree	26	26.0	26.0	100.0
	Total	100	100.0	100.0	

Source: Field survey 2014

Interpretation: Table-11 shows the respondents' feeling of happiness with limited wages and limited facilities. Some 27% respondents strongly agree and 32% of the respondents agree that they are happy in this profession whereas 26% strongly disagree that they are not happy.

Table 12: Future plan

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Driver	67	67.0	67.0	67.0
	Owner of vehicle	33	33.0	33.0	100.0
	Total	100	100.0	100.0	

Source: Field survey 2014

Interpretation: Table 12 shows that as the respondents start their life as a helper of the driver and do not have proper educational facilities, most of them want to become a driver in the future. 33% respondent's future plan is to be vehicle owner.

4. Conclusion and Recommendation

Child labor is a burning issue for most of the developing countries. The densely populated Dhaka city is also a safe field of child labor. Children are the victim of some unavoidable causes and the result is child labor. Because of low wage rate the driver and contractor choose them enormously. As it does not require any specific skill and it is easily available, generates more income, and payment is made daily, children choose it without hesitation. These minor age people need to engage in their work from early morning to night only for their survival. The task is basically risky and hazardous in nature. They have given up their basic educa-tion. They live especially with their mother in slum or in rented house with the absence of basic facilities and amenities. They are often verbally abused and physically harassed. Because of their working environment they are easily accus-tomed with some bad habit. In so many cases they are the prime income generator for their families. Despite the fact that they earn very little amount, it is something like life blood for their families and it also plays a significant role in the total economy of the country. But they are not happy at all in their profession and they have a dream to go to school again. If they need to continue the profession they will like to become a driver or owner of a vehicle. The world is in the ultimate stage of civilization now. Protection of human rights is getting utmost attention from every nation of the world. Some renowned organizations voluntarily along with government cooperation and assistance are working to reduce the level of child-labor from every sector and provide the remediation, and if necessary financ-ing the remediation, to ensure the child the right to live freely with effective educa-tion and better environment. The child labor in any sector should have the right to live as a child. Child labor is the ongoing curse; all the concerned parties should

come forward to eliminate it now.

Recommendations

Based on the literature and practical observation and findings, the study makes the following recommendations which might be helpful to change transportation helper child labor's life.

The study found child laborers work more than the normal working hours. It recommends that working hours should be reduced by the drivers.

The study found that most of the respondents do not get pure water, live in slums, rented house, or garage of the Dhaka city. Govt. should ensure supply of pure drinking water through setting up pure water supply plant for those dwellers.

Most of the respondents do not have proper sanitary system for their own; government should ensure at least minimum level of sanitary system to them.

Government and NGOs should offer charitable medical campaign and establish dispensaries for free medical checkup and medicine in the places they are needed.

Introduction of mass education program is desirable for the improvement of the present educational status of child labor. Government should provide night shift education facilities with technical education and arrange comprehensive publicity for making the child-labor aware of the necessity of education. In the school more facilities such as free book, food, tiffin etc. may be introduced to encourage them to enroll in school.

Moreover people's perception should be changed towards them.

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How Socio-Economic Conditions of Women Affect their Commuting Behaviour in Urban Bangladesh?

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Abstract: *Women commuting are connected with their productivity, empowerment and social equity. The linkage of socio-economic status, transportation system and commuting behaviour of women is obvious. The main objective of the paper is to examine the commuting behaviour of Bangladeshi women in urban cities of Bangladesh. It mainly focuses on the determinants of the commuting behaviour of urban working women and their difficulties in the capital town of the country. In Bangladesh, socio-economic condition and family status have considerable influence on the commuting behaviour of women. In the absence of well-scheduled bus system women commuters heavily rely on rickshaw and walking to reach their work place. Generally, women have poor accessibility to the overcrowded public buses of Dhaka city.   Due to inadequate transports, many women are forced to depend on more expensive and private modes of transport. The combination of unsafe, unaffordable and inaccessible trans-port system has put heavy constraints on female commuters. A gender-aware transport system is the need of the time for Dhaka city that would increase women's mobility and productivity, and ensure sustainable economic growth.*

1. Introduction

There is considerable difference in the basic mobility needs of working women and men because of gender-based division of labour, socio-economic status, culture, and nature of employment. A man's common role in almost all societies is that of the main income-earner, who leaves the house for work in the morning and comes back in the evening. A woman, however, usually performs triple roles as income earner, homemaker, and community-manager (Peters, 1999). Commuting needs and behaviors of working and non-working women are also significantly different. These aspects also vary from country to country, community to commu-nity, and rural to urban areas. However, in most developing countries, interven-

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tions in the transport sector have hardly responded positively to the special and varied needs of women.

In Bangladesh, women are primarily involved in the informal sector and contribute substantially to their households. In general, women participate more in those industries that can be conducted at home in breaks between household works, and less in those that require them to work outside the home. However, these opportunities are relatively less in urban areas. In the major cities of Bangladesh, a large number of women work in export-oriented garment industries, the main source of the country's export earnings. Hardcore poor women workers are found in certain activities traditionally falling within the male domain like earthwork, construction etc. A significant number of women also work as teachers, lawyers, journalists, government employees, and employees in non-government organisations (NGOs). In spite of these, the majority of women in Bangladesh have yet to be empowered to participate actively in the social, cultural, economic, and political life of the country (Sicat, 2007). The level of socio-economic empowerment of women is considered as one of the important determinants of women commuting.

In urban areas of Bangladesh, female students and working women are the main travelers. In Dhaka, transport related difficulties of working women are very apparent. As in many developing economies, socio-economic factors and transportation infrastructure are believed to be two important determinants of the women commuting behaviour in Bangladesh. The paper attempts to examine the commuting behaviour of working women of Bangladesh in urban areas. It aims to find answers of the following research questions: How does socio-economic status matter for the commuting behavior of working women in Bangladesh? Is transport infrastructure of Bangladesh designed to accommodate women commuters? What are the difficulties of working women in their day-to-day commuting?

The following are the specific objectives of the paper: one, to examine the linkage of socio-economic status of working women in Bangladesh and their commuting behaviour; two, to discuss women transportation issues in the perspective of the current transportation infrastructure of the country; and three, to capture the commuting behaviour of working women in urban Bangladesh.

Published literatures have been reviewed to form the background of the study. A questionnaire survey was conducted among 200 working women of Dhaka city of different classes/professions. Some case studies complement the evidence on women commuting behavior and relevant difficulties. Cases are collected from the women working commuters of different economic, social groups of Dhaka city. The paper is divided into five sections. After a brief background, relevant literatures are reviewed in section 2. Section 3 examines determinants of women's commuting in the socio-economic setup of Bangladesh. Section 4 examines the survey outcome related to the commuting behaviour of working women of Dhaka city. And section 5 puts forward concluding remarks.

2. Socio-economic Conditions and Commuting Behaviour of Working Women: Literature Review

Most gender-based commuting behaviour analyses treat men and women as independent trip makers, where gender, marital status and number of children in the household are taken as explanatory variables (Taylor and Mauch, 1998). Ramon (1981) rightly notes that the mobility experience of the individual is shaped by socio-cultural factors. The evolution of the labour force has brought forth the unique needs, burdens, and patterns associated with women's commuting that are different from men. In connection with working men and women, it has been found that men are more likely to use simpler trip patterns than women (MacDonald, 1999). Women appear more likely to integrate non-work activities within work trips, including child chauffeuring and other household-serving trips (Taylor and Mauch, 1998).

Marital status of women defines their role in the family and thus influences their commuting behaviour (Meng, 2008). Turner and Niemeier (1997) find that both marital status and presence of children reduce women's commuting distance but not men's. The dual career-home responsibility affects women's careers much more than men's and thus also their commuting behaviour (Srinivasan and Peter, 2005). It has been shown in different studies (Kamiya et al 1995; Blumen, 1994 etc.) that the commuting distances of married women are generally shorter than those of married men. That is chiefly because the housekeeping role forces married women to remain close to home (Blumen, 1994). Meng (2008) observes that women select jobs closer to their residence because their household responsibilities shorten commuting distance. Kamiya et al. (1995) find that women, especially mothers of small children, regardless of their occupational status, are more likely to work in local labour markets and to commute shorter times compared to men.

Walking, non-motorized transport, and public transport like buses are the main means of transports for most people in the cities of developing countries. However, many of the mass or public transportation systems are inefficient and chaotic (GTZ, 2007). Car ownership is not a realistic option for most people living in the cities of developing countries. When it comes to female vehicle ownership rates, the rates become even lower. A UN-Habitat study of nine cities in various developing countries finds that while 11.6 percent of households headed by men had cars, only 1.62 percent of women-headed households had them (Women Watch, 2009). This can also be seen in the degree to which women get a driving license. Dependence on walking is very common by women in developing countries (Meng, 2008). However, women are significantly less likely than men to walk alone and reported walking with friends and family much more often than men (Kelly and Andrea, 2004).

Some unique difficulties are commonly faced by women commuters. In a number of low-income countries, problems of dirty footpaths crowded with hawkers and harassment by street boys is a great difficulty for the women commuters (Zahir Salma, 2003). In regard to availing public buses, there is health risk associated with waiting for long periods in inclement weather, particularly for older women. Overcrowded public transport involves invasion of personal space, which many find distressing and renders women vulnerable to sexual abuse. Moreover, fear of harassment and attack on the street produces high levels of anxiety among women commuters (Hamilton 2002). This is the common picture of most urban cities of a number of low income economies. For example, the residents in centrally located Srinivasapuram (an Indian city) expressed concern about the quality of public transportation and safety of women in the city (Srinivasan and Peter, 2005). A study on Nigeria (Asiyanbola, 2007) finds that urban transport infrastructure condition and intra-urban travel constitute a major threat to psychological well-being of women commuters.

It is evident that average women of Bangladesh are gradually overcoming social, cultural and corporate barriers and acquiring important positions in all economic sectors. Over the years, the women's labour force participation rate in urban areas increased, life expectancy at birth improved, and maternal mortality rate decreased. Public awareness efforts by development organizations and mass media have played an important role in this connection. In addition, women-led NGOs have been pushing for change in women's societal roles through research and advocacy. This has added momentum for development partners to push the government to address critical gender issues. Data from WHO (2009) house¬hold surveys over 20 years indicate that the female disadvantage has tended to persist in India and may have worsened in some other countries such as Nepal and Pakistan; however, for Bangladesh the gap has narrowed significantly over time. According to the Gender Gap Report of the World Economic Forum (2008), Bangladesh climbs 10 places in the rankings and is distinctive for being the second highest-ranking country in South Asia, after Sri Lanka; and is the highest-ranking Muslim-majority country in the Index, followed closely by Indonesia. It is expected that, the growing number of initiatives to promote women's empower-ment and changing social conditions, coupled with the introduction of innovations in transportation infrastructure will have strong impact on women's commuting behaviour in near future.

3. Socio-Economic Status of Women in Bangladesh and their Commuting Behaviour

In Bangladesh, most women have limited role in household decision-making, limited access and control over household resources, restricted mobility and inad-equate knowledge and skills that lead to vulnerability (Sebstad and Cohen, 2002).

Traditional, cultural and social values and practices have reinforced the lower status of women as compared to the man in Bangladesh (Parveen and Ingrid, 2004). A woman, on an average, is married at the age of 19 years in Bangladesh (World Economic Forum, 2012). The latest available estimates indicate that in South Asia, 49 percent of women become mother at the age of 20 to 24, and in Bangladesh, more than a third are mothers by that age (United Nations, 2009). In a family, women generally have primary responsibility for the care and feeding of children. Cooking, cleaning, childcare and nursing activities, and looking after family members occupy the major portion of both working and non-working women's daily jobs (Islam and Nahid, 2006).

The relevant indicators of Global gender Gap Report 2012 show that women in general lag behind men in terms of literacy, health, and income (World Economic Forum 2012). In regard to overall Gender Gap Index the ranks of Bangladesh improved from 91 to 86 in between 2006 and 2012. In spite of the improvements, gender gap in the country lags behind in terms of economic participation, education and health. The rankings in terms of economic participation of women, literacy rate and health were 121, 109, and 123, respectively (World Economic Forum 2012).

Illiteracy is one of the main factors, which deters women from equal participation in socio-economic activities with her male counterparts and helps to perpetuate the inequality between sexes (Islam and Nahid, 2006). The ratio of female at secondary education is higher (Table-1). However, the girl students' dropout rates at both primary and secondary levels are comparatively higher than those of the boy-students. Consequently, the completion rates for girls are lower in both primary and secondary levels.

Table-1: Gender Gap in Education in Bangladesh			
	Country Rank	Female	Male	Female to Male Ratio
Literacy rate	109	52	61	0.85
Enrolment in primary education	128	67	78	0.85
Enrolment in secondary education	1	50	45	1.13
Enrolment in tertiary education	119	8	13	0.61
Source: World Economic Forum 2012.				

Table-2: Gender Gap in Economic Participation in Bangladesh				
	Country Rank	Female	Male	Female to Male Ratio
Labour force participation	82	62	85	0.73
Legislators, senior officials, and managers	102	10	90	0.11
Professional and Technical workers	104	22	78	0.28
Source: World Economic Forum 2012.				

In Bangladesh, women's participation in economic activities shows great variations by gender. The participation of female in economic activities is not at all encouraging and falls behind the group of least achieved economies (see the country rank in table 2). The differences of male and female are significant in this connection. Especially, in case of senior officials, managers, professional and technical workers, the disparity is very wide (table-2). Non-recognition of household work performed by women shows almost half the population as unemployed and inactive (Islam and Nahid, 2006). Working women are also expected to play roles in family household works. Thus working women are to struggle between their jobs and family maintenance (Mini Case-1).

Mini Case-1: Sahana has to Struggle in between her Garments Job and Family Maintenance

Sahana is a twenty-five years old garment worker, stays with her mother-in-law, husband and four kids. Her mother-in-law takes care of her children and she hardly gets any support from her daily labourer husband in her household activities. She has a very tough daily life as she has to perform jobs like preparing food, cleaning, washing clothes, and feeding children alongside her jobs as garment worker. Walking is the mode of commuting to reach her work place. She lives in Rayerbazar area and covers a distance of approximately three miles to reach the factory located at Sobhanbag. While coming to the work place she sometimes faces situation such as physical assault, comment, vulgar words from the path walkers. Her working hours start from 8 and finishes at 6. She generally performs some overtime to earn money for better living. Walking not only takes lot of her time but also gives mental stress, insecurity and physical tiredness. While returning, she faces additional insecurity as it becomes dark. Again when she reaches home, she does household activities. The mental agony and insecurity of commuting make her life tough and challenging.

Note: Interviewed on December 04, 2013; name of the interviewee is changed.

In regard to the employment in different broad sectors, both male and female are

largely employed in the informal sector of the country. According to Maligalig et al. (2009), over 91 percent employed women are engaged in informal sector in Bangladesh. Employed women are mostly engaged in private household, agriculture, health, social work, and manufacturing. In the urban areas of Bangladesh, employed women are almost equally divided between unpaid family workers and employees. Relatively, greater proportion of urban women is engaged in formal sector. Nearly two out of every five urban employed women are found in the formal sector, as opposed to only 4 percent of their rural sisters (Pal 2001). This is mainly because of the readymade garments factories that provide employment to thousands of urban women. Labour in Bangladesh is cheap, female labour is even cheaper. According to a World Economic Forum (2012) survey, Bangladesh ranked 115 in terms of wage equality; and women's wage is on average 55 percent that of the male. As a whole a considerable proportion of urban women are concentrated largely in low-paid and tedious jobs (Pal, 2001).

Social, economic and family status has considerable influence on the commuting behaviour of working women of Bangladesh (Sicat, 2007). According to a study by Zahir Salma (2003), female travelers are more literate and better educated than non-travelers. About 67 percent of female travelers were students and 71 percent of female non-travelers were housewives (Zahir Salma, 2003). Married women work closer to home compared to single women, and mothers of young children commute less than other women (see an example Mini Case-2). Specifically, women who have greater home responsibility, due to the presence of young children, are less inclined to increase commuting efforts (Islam and Nahid, 2006).

Mini Case-2: Short Commuting by a Working Mother in Dhaka City

Sultana works in a college as administrative personnel. She is having a very co-operative and educated family. Her two children study in a nearby school. Being the mother, she has to take care of her household responsibilities along with her job. Her husband is very understanding, and cooperative who always appreciates her effort and tries to make her stress at lower level. They have rented a house near to her office that is in Uttara so that she can commute for shorter time comfortably. On the other hand, her husband has to commute for nearly one and half an hour to reach Motijheel area. The shorter commuting time gives her a little relief in managing both household and office activities.

Note: Interviewed on January 17 December, 2013; name of the interviewee is changed.

The transportation system of Dhaka is predominantly road based, and non-motorized transportation has a substantial share. Rickshaws (a type of tri-cycle peddled by human) and buses are the dominating mode of public transport. The number of passengers in public transport has been increasing continuously over

the last two decades. The road network of the Dhaka City is non-lane basis and all transport modes (motorized and non-motorized) use the same lane. Buses are the cheapest mode available as mass transit among the public transport. Other than buses, taxi, auto-tempo, auto rickshaw (baby taxi commonly called CNG) are available but relatively expensive small passenger transport modes (Mannan and Karim, 2001). Different studies also found that a considerable proportion of working women in Dhaka city rely on non-motorized mode and walking (Sicat, 2007).

In Dhaka city, buses are operated both by private and public operators. However, the private sector is dominating. Services of most buses are inefficient and unsafe. Long waiting, overloading, discomfort, and long walking distance from the residence/work place to bus stoppages are some of the obvious problems that confront the users of buses in their daily lives. In peak hours they very often load and unload at unspecified stoppages. It is a common practice in rush hours to deny access to the old, women, and children passengers, because this group has a tendency to avoid fighting during boarding and alighting (Mannan and Karim, 2001). The city road networks are designed for a smaller population, and do not have the capacity to handle the current increasing number of travelers and vehicles. This leads to overloading and overspeeding, which increases the risk of accidents (Mannan and Karim, 1999).

Use of the transportation system by men and women varies considerably in Bangladesh. According to a study by Zahir Salma (2003), the major modes of travel for female trips were 67 percent walking and 21 percent rickshaw. Use of public buses was 4.5 percent for women against over 8 percent for men. Public transport is not always comfortable to the women of Dhaka city. Especially, middle and upper income class women are not at all comfortable in using public buses. According to Women Watch (2009), in Dhaka, women's exclusion from public transport is due to overcrowded buses. A considerable number of low income employed women walk to and from work. For example, women garment workers account for about 70 percent of the female labour force in Dhaka and about 60 percent of these women walk to and from work (Sicat, 2007). The Study by Zahir Salma (2003) also finds the similar picture i.e., about 63 percent of women garment workers were found to walk to work (on average, 3 kilometers) and 36 percent to avail buses. It is well-known that rickshaws are popular in Dhaka as they provide door-to-door transport, enabling women and girls to travel to the workplace, schools, and other areas without being harassed or feeling uncomfortable in overcrowded buses and inadequate sidewalks. Bangladeshi women hardly travel alone. Generally, women have a lower incidence of vehicle use, and a higher incidence of walking. This is partly a reflection of lack of money to afford to buy vehicles or pay for services. A study by GTZ (2007) found, typically, men have greater mobility when looking only at motorized modes. The study added, when considering all

trips (motorized and non-motorized), women make more trips per day (more mobility), but the costs in both time and money are higher (less accessibility).

Difficulties of women commuters are well known and distinct in Dhaka city. Zahir Salma (2003) discusses several gender problems and issues of Dhaka city of which two address women commuting: one, absence of a good scheduled bus system and poor accessibility for women to existing bus services due to overcrowding; and two, inadequate sidewalks and pedestrian facilities which constrain poor garment workers who walk to work in large numbers. The transport services currently provided by the public and private buses are insecure, unreliable, congested and unsafe. It is difficult for women to compete with men for the limited space on the buses particularly given the cultural background in Bangladesh.

Incidences of violence against women and sexual harassment are among the challenges to the female commuters of Bangladesh especially in urban areas. Sometimes young women commuters face sexual and verbal harassment in the road (The Daily Star, Forum, March 2010). They have similar experiences in the public transport stands, railway stations or at other common places (Islam and Nahid, 2006). The majority of the mugging victims are working women. Pedestrians and women traveling on rickshaws face mugging. Women, more than men, are afraid to travel after dark. As the garment workers return home late, they are forced to walk in groups that provide personal security (Pal, 2001).

4. Commuting Behaviour of Working Women in Dhaka City- Survey Observations

The survey on the commuting behaviors of working women covers women of different personal and family income groups. As the distribution of the working women shows (table-3), most belong to the low income group (40%)

Table-3: Distribution of Sample based on Family and Individual Income Group (Figures are in approximate percentage)				
Personal Income	**Family Income**			
	Below BDT20000	BDT20000-50000	Above 50000	Total
Below BDT10000	36	4	0	40
BDT-10000-30000	0	22	18	40
Above BDT 30000	0	8	12	20
Total	36	34	30	100

According to the survey observations, like men, women use own transport, buses, taxi, auto-tempo, auto rickshaw (three wheeler commonly called CNG) to travel to their workplace. The survey data (table-4) show that a considerable proportion of

working women in Dhaka city rely on rickshaw, own transport or public transport. The data indicate that public transport (mainly big and mini buses) is not the main mode of commuting for the working women, though it has been for the most male workers. The reasons have mainly been the poor accessibility and overcrowding. A good number of women also walk to their workplaces. Of the commuters, 25 percent walk to their workplace, as the survey data reveal. These women are mainly the garment workers. It is well-known that many garment workers in the Dhaka city travel to their workplace in group on foot every morning.

Table-4 : Use of Transport Mode by the Working Women for daily Commuting	
Transport Mode	**Number of Women in Percentage (approx)**
Own Transport	26
Public Transport	18
Office Transport	6
You share vehicle pool	0
Rickshaw	22
Auto Rickshaw	10
Walk	25
Note: Multiple responses Source: Survey data	

Table-5 : Basis for the selection of Commuting Mode during Office Hour	
Commuting Mode	**Number of Women in Percentage**
Time Factor	36
Cost Factor	40
Comfort Factor	32
Family Attitude	42
Distance Factor	4
Note: Multiple responses Source: Survey data	

Different factors affect their decisions in selecting available suitable mode for each (table-5). In most cases the determining factors are more than one. Family attitude and decisions are among the key factors in deciding transport modes by the working women. A considerable middle and upper class family found bus or public transport unacceptable for their female family members in Dhaka city. Time and comfort factors also come up as important determinants. Cost factor is particularly

important for low income group (individual or family). As expected, distance can hardly be a determining factor in a city with huge traffic especially in the office hour.

It is more or less recognized that in many cases services of buses are inefficient and unsafe for women. It is a common practice in rush hours to deny access to the old, women, and children passengers, because this group has a tendency to avoid fighting during boarding and alighting (Mini Case-3). Thus the tendency to use public transport by the working women is less in Dhaka city during day time. However, at night working women generally prefer public transport on security ground (in the absence of personal vehicle). Sometimes they also share vehicle. Walking and rickshaw are less preferred as compared to the day time (table-6).

Mini Case-3: Availing Public Bus is Every Day's Challenge to Parul Rani

Parul, a forty year old lady works as a governess, has to come by local bus to her work place. She has to accomplish her whole household work and take care of her 19-year old daughter as her husband left her six years back. She belongs to lower income group and her income (Tk. 3500 approx.) is the only source of her livelihood. She lives in the Mirpur area of the city and she has to cover a long distance from there to Dhanmondi area every day. She starts approximately two hours before her reporting time from her home to catch the local buses. While coming from her home she has to come walking to the bus routes. These local buses are overcrowded because of the comparatively low fare. Practically it's really very difficult for a female to get an entry into the buses fighting with the male folk. Usually she gives many attempts to get chance to enter into the buses. She faces worse situation at the time of getting down, as Dhanmondi area is the mid way for most of these buses. The rainy season becomes a nightmare for her. She has to wait for long hours to get entry into these overcrowded buses. In many occasions, she lost her moneybags while commuting and got hurt physically. However, she has no option but to go on with it.

Note: Interviewed on January 02, 2014; name of the interviewee is changed.

Table-6 : Preference Regarding Transport Mode during Night in the absence of personnel vehicle	
Commuting Mode	**Number of Women in Percentage (approx)**
Public Transport	56
You share vehicle	5
Rickshaw	24
Auto Rickshaw	15
Walking	8
Note: Multiple responses Source: Survey data	

Commuters commonly face huge traffic in Dhaka city. Thus working women are to spend considerable time in commuting. Around 34 percent working women spend in between two to three hours in commuting (table-7) and around 35 percent working women travel more than 10 km in traveling their workplace every day (table-8). Other than commuting to the workplace, around 28 percent working women accompany their children to the schools regularly, as the survey data reveal.

Table-7 : Average Time spend for Daily Commuting by the Working Women	
Time Spend	**Number of Women in Percentage (approx)**
Less than one hour	18
Less than two hours	19
Less than three hours	34
More than three hours	29
Source: Survey data	

Table-8 : Average Daily distance Travelled by the Working Women	
Distance in Kilometers	**Number of Women in Percentage**
Less than 2 KM	32
Less than 5 KM	20
Less than 10 KM	13
More than 10 KM	35
Note: Multiple responses Source: Survey data	

Difficulties in commuting by the working women are not uncommon in Bangladesh. According to the survey information, over 85 percent working women face difficulties in getting transports during peak hour. The figure is 46 percent during off peak hour. Poor accessibility for women to existing bus and other public transportation services are evident in the city. To save time and to reach workplace in time many women are forced to depend on unsafe or more expensive modes of transport (Mini Case-4). Still around 57 percent women commuters could not reach their office in time frequently or in several instances every month. About 51 percent working women reported their dissatisfaction in regard to their commuting to their offices.

Mini Case-4: Shefali is forced to Rely on Costly and Unsafe Travel Modes

Shefali is a school teacher and belongs to a middle income family. She completed her post graduation in English from Dhaka University two years back. She stays with her husband and in-laws in Yatrabari in their ancestral home. Commuting is really a tough task for her, as she cannot avail direct buses from that place to Dhanmondi due to fewer buses in that route. CNGs (auto rickshaw) or taxis (Taxi cabs) are the only alternative modes for commuting to her work place. Being a woman she tries to do some household work, packs food for herself and husband and starts for her office at around 7'o clock in the morning. Generally it takes lots of time and energy to get a taxi or CNG at the rush hour. Moreover, on most occasions, taxi and CNG drivers do not want to go by meter. They try to exploit commuters, especially the women passengers by taking much higher fare. The tussle to get taxi or CNG makes her late to the office on many occasions, which affects her performance at workplace. Moreover, certain incidents of Malam Party (putting poisonous ointment into the eyes for snatching) and chhintai (snatching) made the modes risky especially for the female folk. She has to spend 20 percent of her salary to meet her transportation expenses.

Note: Interviewed on January 04, 2014; name of the interviewee is changed.

Sometimes, women face harassment on crowded public modes of transportation. Thus for many rickshaw is the preferred mode. This is, however, costly and is not affordable by the working women of all classes. In this connection the government's decision to ban rickshaws in a numbir of streets of Dhaka has been affecting transport choice accessible to most women and thus their mobility. Pedestrians and women traveling on rickshaws face mugging in many instances. Using rickshaw as commuting mode is hazardous and unsafe for many working women.

In Dhaka city, car owners commonly engage drivers for driving their cars. The number of owners driving their own cars is very small and very rare in the case of women. There are several reasons that include multiple uses of cars by the family members and safety of the cars in the absence of adequate parking in most work-places. Most of these drivers are not professional and experts. In many cases, they own fake license and they may be hired at low wages. Thus there is lack of general awareness and knowledge among drivers and almost absence of true traffic rule followers. Sometimes attitude towards the women drivers are not acceptable. The environment is not at all congenial for the women who can drive their own cars (Mini Case-5).

Mini Case-5: Culture bounds Afrina to depend on Unprofessional Drivers

Afrina belongs to a well-educated and high-income group family. She works in a law firm. She lives with her husband in Gulshan and her law firm is located in the Motijheel commercial area. She drives well. Her mode of commuting is her own personal car, but she does not like to drive the car and hired a driver. Two years back she started driving

but the lack of general awareness among general people, ill mentality of co-drivers, negative attitude towards women drivers, and lack of true traffic rule followers have compelled her to leave driving. In Bangladesh, most of the people depend on drivers, who are generally lowly educated, and many of them have even false driving license. As a whole performance of these drivers is not upto the mark and sometimes their driving is very risky. She is capable of driving but she is compelled to depend on drivers, who are not truly professionals.

Note: Interviewed on December 07, 2013; name of the interviewee is changed.

Due to the faulty transport system and socio-economic status of women, the working women of the Dhaka city face difficulty both at home and workplace. In the workplace, being late is the most common occurrence followed by tiredness and exhaustion (table-9). As women have to perform a number of other family responsibilities, they are also getting affected due to the commuting problems of the working women. Many could not reach their desired destination and home in the right time and fail to serve their respective families (table-10). These affect a working woman's reputation both at workplace and at family.

Table-9 : Types of Difficulties faced at Workplace by the Working Women	
Common Difficulties	**Number of Women in Percentage**
Late in office	57
Late or absent in official Meetings	4
Bad reputation due to late coming	6
Feel tired and exhausted at office	46
Mental or Physical pressure of difficulty	20
Getting negative comments from colleagues/Boss	2
Note: Multiple responses; Source: Survey data	

Table-10 : Types of difficulties faced by the Working Women at Home	
	Number of Women in Percentage
Delay or Non-Performing Kitchen shopping	26
Unable to help child in studies	14
Inability in attending social gathering	36
Difficulty in accompanying family members to the Doctors	18
Difficulty in sharing time with Child/Husband	14
Unable to take dinner together with family members	20
Difficulty in getting leisure for relaxation and own health care	50
Note: Multiple responses; Source: Survey data	

5. Concluding Remarks

Considering the different socio-economic conditions of man and woman, a gender-aware transport system is the need of the time for urban Bangaldesh that would increase women's mobility, productivity, and ensure sustainable economic growth. It is important to develop specific policies and transportation planning models that take into account gender differences in different modes of transportation. A design of long-term plan for integrated metropolitan transportation with a clear vision of proper placing of train, bus and taxis as well as motorcycle and non-motorized transport is needed. Ensuring accessibility is the most crucial factor at this moment that is expected to take care of the time, money and comfort of the women commuters. There should be specific guiding rules to be followed by bus owners, staffs, and commuters and their proper enforcement to ensure safety, security, and convenience of the women commuters on the street. However, awareness development among common people of all groups and gender is the most crucial aspect that can make the progress rapid and smooth. The existing evidences suggest that for sustainable development it is appropriate to address women commuting issues by policy makers and advocacy groups of the country alongside other major gender sensitive issues.

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Changing Modes of Transportation:
A Case Study of Rajshahi City Corporation

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Abstract: *This paper presents findings of a comparative study of the changing mode of transportation in a selected city area in Bangladesh. Battery operated auto-rickshaws are a newly introduced vehicle in city areas and took the place of rickshaw because of cheap cost and comfort. We selected Rajshahi City Corporation (RCC) as a sample area, because rickshaws and auto-rickshaws are widely used for daily travelling. Based on primary data, this study tried to show the socio-economic conditions, which ultimately influence the income of auto-rickshaw drivers and rickshaw pullers. Here, linear regression model is used to estimate the income determinants. In case of auto-rickshaw opportunity cost, family member, and other costs have significant impact on income while ownership, age, education of auto-rickshaw drivers have insignificant impact. In the case of rickshaw other costs and family members have positive and significant effect on income, but education, ownership of vehicle and opportunity cost have been found insignificant here. To increase the income of auto drivers as well as rickshaw pullers, the number of rickshaw and auto-rickshaw must be limited in city area and the vehicles should have licence issued by proper authority.*

1. Introduction

Economic development and transportation are closely related. Transport is important because it carries not only passengers but also enables trade among people, which is essential for the development of civilization. Transport or transportation

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is the movement of people and goods from one place to another. Mode of transport is a term used to distinguish substantially between different types of transport. The most dominant modes of transport are aviation, land transport (which includes rail and road) and water transport. Other modes also exit, including pipelines, cable transport and space transport in different countries of the world. Three types of transport are popular in Bangladesh where most of the people use road transport for their daily travelling and transporting goods. Vehicles travelling on road and rail networks include trains, buses, trucks, car, automobiles, rickshaws, auto-rickshaws, bicycles, etc.

Bangladesh is a developing country in South Asia where rickshaw, van and bi-cycle are most important vehicles in urban and rural areas. The word rickshaw's origin lies in the Japanese language, and it literally means "a human-powered vehicle". The first known use of the term was in 1887. It is used all across the world, but more commonly in the Asian countries, especially in India and Bangladesh. The rickshaw began as a two or three-wheeled passenger cart, called a pulled rickshaw, generally pulled by one man with one or two passengers. The rickshaw is one of the oldest modes of transportation, and a source of employment for male labours in Bangladesh since the 19th century. Their popularity declined as cars, tempo, laguna, baby taxi and other forms of transportation became widely available. The various types of rickshaws also evolved over time with the earliest ones being the pulled-rickshaws. Other variations of the mode of transport include the cycle-rickshaw, the auto-rickshaw and the relatively newer iteration of the e-rickshaws (electronic rickshaw).

Auto rickshaws are becoming more popular in some cities in the 21st century as an alternative to taxis because of their low cost. Auto-rickshaws are a common means of public transportation in many countries in the world. Also known as a three-wheeler, samosa, tempo, tuk-tuk, trishaw, autorick, bajaj, tricycle, mototaxi, baby taxi or lapa in popular parlance, an auto rickshaw is a usually three-wheeled cabin cycle for private use and as a vehicle for hire.

Battery operated auto-rickshaw is a newly added para-transit mode in urban transportation system of Bangladesh. The mode, introduced in 2008 in Bangladesh, attains much popularity among urban passengers since it involves lower travel cost than other locally available transport modes as well as it provides reasonable safety and comfort to the users during travel. This popularity in turn results in rapid growth of the mode in urban areas of Bangladesh. Now, the mode has become an inseparable part of urban people's mobility network, especially in small-compact towns. Before 2008, rickshaw was the major transport vehicle in Rajshahi City Corporation (RCC) area for travelling short distance but now battery run auto-rickshaw has become popular for easy travelling and cheap cost. According to a private survey, there are nearly 11,000 battery operated auto-rickshaws, 35,000

rickshaws, 800 CHG-rickshaws and auto-tempos, 1,500 human haulers, 1,200 rickshaw vans and 1,500 cars and micro-buses in Rajshahi Metropolitan area (Rusho, 2014). According to RCC sources, there are more than 10,000 auto-rickshaws and 30,000 rickshaws moving in the city area and the RCC officials claimed that they have issued licence to 20,000 rickshaws and 1500 auto rickshaws (Feroz, 2014 and Atik, 2014).

The popularity of auto-rickshaw has increased because of less rent and one can quickly reach his destination. On the other land, the use of rickshaw has decreased day by day because of high rent and less speed. Before introducing auto-rickshaw in Rajshahi city area, a rickshaw puller earned Tk. 300 - Tk. 400 daily, where their present income is on an average Tk. 150 – Tk. 200 daily. On the other hand, the daily average income of an auto-rickshaw driver is Tk. 800 - Tk. 1000. Because of high income and less laborious work, lower class as well as lower middle class people show more interest in driving auto-rickshaw. At the same time the rickshaw puller has left this job because of poor income and high laborious work and has migrated to other jobs. It is easily seen that there is a sharp income inequality among the rickshaw pullers and auto-rickshaw drivers. To find out the determinants of income of rickshaw pullers and auto-rickshaw drivers we have set the following sub objectives in this paper:

1.   To analysis the socio-economic condition of rickshaw pullers and auto-rickshaw drivers;
2.   To investigate the nature of income and cost of rickshaw pullers and auto-rickshaw drivers;
3.   To identify the key determinants of income of rickshaw pullers and auto-rickshaw drivers;
4.   To find out the problems of rickshaw pullers and auto-rickshaw drivers and forward some policy suggestions.

2.   Literature Review

Extended studies have been done on different aspects and issues of auto-rickshaws and rickshaws. Most of the studies tried to show the socio-economic conditions of the rickshaw pullers and energy consumption of auto-rickshaw. Generally, the researchers used the technique of tabular analysis for comparison between previous and present mode of transport.

Rahim et al. (2013) showed that auto-rickshaw reduces unemployment problem near about 2%. This study calculated the amount of energy consumed by the battery driven auto-rickshaw and it was near about 10 kilo-watt per charging. It can travel at an average distance of 150 km per charging. This study also found that battery driven auto-rickshaw has increased the income, social status, comfort and decreased the unemployment problem.

Rana et al. (2013) tried to show that battery operated auto-rickshaw offers lower travel cost than rickshaw and greater travel comfort than other urban para-transits like auto tempo, nosimon and public transport like minibus and therefore attract urban passengers significantly from those modes. They found that although this mode creates pressure on local electricity supply, energy consumption by the mode can be negotiated as the mode is liable only for 1.53 hours of load shedding a day which takes place at off-peak period (between 11:00 pm to 7:00 am) at night.

Rana et al. (2012) tried to show that investment on auto-rickshaw is highly economically beneficial as it involves an income-cost ratio of 1.85. On an average, income of individual operators from their previous occupations was BDT 251.75 per day while driving of this mode of transport has doubled it now. In addition, around 21% of the operators were unemployed previously who are now offered with employment opportunities by this mode. Around 38% of total operators intended to migrate to Dhaka, if the mode were not introduced in their towns.

Rana et al. (2013a) said that around 88% of urban passengers are availing this mode now to meet their travel demand. The mode attracts urban passengers mostly from rickshaw and also considerably from nosimon, auto-tempo and minibus through offering a set of benefits over those modes, such as, lower travel cost than rickshaw, greater comfort than minibus, nosimon, auto-tempo, limited but acceptable travel speed and satisfaction quality of service. They suggested that scientific outcomes might assist transport planners in modeling for efficient transportation in the mixed traffic condition where battery operated auto-rickshaw co-exists as well.

Islam and Sarker (2008) showed in their study that educational qualification is negatively related with the rickshaw puller earnings in Sylhet. They also found that expected higher earning is an important factor to accelerate the rural urban migration. On the other hand per capita wealth holding and per capita saving undermine the rural urban migration. Likewise, per capita loan was expected to be positively related to the rural urban migration but surprisingly it is found here negatively related with rural urban migration.

Singh (2014) has undertaken a comprehensive study on socio-economic impacts and the technical characteristics of e-rickshaws in Delhi. The study shows the positive role of this industry in urban employment and income generation and the various problems that affect the system. E-rickshaw has some clear merits and some demerits.

Rahman (2013) showed around 700,000- 800,000 rickshaws were operating in Dhaka city in 2012 and employed over one million people. Everyday about 7 million passenger trips are made in Dhaka by rickshaw over a distance of 11 million passenger miles. The rickshaw pullers are doing very hard job. Two or three persons sit on a rickshaw and the driver pulls or drives it by hand or foot. It

is very much inhumanity. He suggested the way to save rickshaw pullers from doing very hard job by using electric motor instead of pull or drive manually and the rickshaw will take charge from Grid Line in off-peak time.

Rahman et al. (2008) analyzed a preliminary framework for the future place of the Non-Motorized Public Transport (NMPT) rickshaw and explore the problems as well as opportunities for its sustainable co-existence in a mixed mode transport stream that best meets the network performance needs of Dhaka.

Rahman et al. (2009) in their paper provide a brief preliminary analysis of the existing condition of non-motorized public transport (NMPT) sector throughout the developing world, especially those with dominant NMPT market, using Dhaka as a case application. The multi dimensional non- transport contribution (social, economic and environmental) of the NMPT industry is also established through analysis which admits its significance as an integral part of the overall urban system in many developing cities.

Iqbal (2013) in his research paper has compared the battery operated easy bike with CNG operated auto rickshaw in terms of cost (operating cost, manufacturing cost, maintenance cost), user benifit and environment issue. From the study it is seen that the manufacturing cost and maintenance cost are little bit higher for CNG operated Auto Rickshaw than that of Battery operated Easy Bike. He showed, the battery of Battery operated Easy Bike is not environment friendly, because the battery is dumped in open space. Battery contains harmful chemical known as lead-acid battery. This makes the land polluted as well as the air.

Saha et al. (2011) focused on their research to develop an Electric Hybrid Rickshaw without requiring significant changes in the structure of widely popular existing rickshaws. The hybrid system was found to work satisfactorily. The system could be fitted in the existing conventional rickshaw, at a small conversion cost. It allowed reduction of human effort as well as use of relatively small capacity motor and battery. Required human efforts varied from 0% to 25% as compared to a conventional manually operated human power vehicle.

Begum and Sen (2004) suggested in their paper about the income, health, livelihood and other indicators of well being of the rickshaw puller. They showed that most of the rickshaw pullers came from a very poor economic background consistent with the characteristics of chronic poverty. They are susceptible to systematic health risks, very limited schooling and the poor range of occupational choices for children. They suggested some policy for the improvement of the conditions of rickshaw pullers.

From the literature it can be said that very few empirical studies have been done on income determinants of rickshaw pullers and auto-drivers and a few of them used econometric model. This study is based on field survey and used econometric tool to find out the determinants of income.

3. Methodology

Methodology of this study describes the selection of study area and sample size, preparation of questionnaire, collection of data and analytical techniques.

Study Area and Sampling Procedure

There are 10 city corporations in Bangladesh, of which Rajshahi is among the oldest. It was established in 1988 (RCC, 2014). The study is carried out in Rajshahi City Corporation, located in Northwest part of Bangladesh. In the previous decades Rajshahi was called a city of rickshaw but now it is called a city of both rickshaw and auto-rickshaw since a major portion of the city people earn their livelihood from these sources. Therefore, Rajshahi City Corporation is the best place to investigate income determinants of rickshaw pullers and auto-rickshaw drivers because samples are available and there are huge variations among the samples on the basis of socio-economic perspectives.

We collected primary data from different wards of Rajshahi City Corporation to find out the socio-economic conditions of rickshaw pullers and auto-rickshaw drivers. For collecting data, a multistage random sampling technique was used in this study. There are 4 thanas (Administrative Unit) in Rajshahi City Corporation, which includes 30 wards. Among 4 thanas we selected two, namely Rajpara and Motihar, which include 7 and 8 wards, respectively. We selected 2 wards randomly from each thana and finally we selected 2 important city points from each wards where rickshaws and auto-rickshaws were available all day long. There are several important city points namely Shaheb Bazar, New Market, Rail Gate, Lazmipur, Court Point, Court Station, Kazla, Talaimari, Binodpur Bazar, Vodrar More, C&B More, Bornali, Amchottor and among these points we select Court Point, Court Station under Rajpara thana and Kazla and Binodpur Bazar under Motihar thana.

A well designed and pre-tested questionnaire was used, which included both open and close ended questions. The sample has been selected in such a way that it covers all necessary information. We interviewed 40 rickshaw pullers and 40 auto-rickshaw drivers taking 20 (10 rickshaw pullers and 10 auto-rickshaw drivers) samples from each area.

Analytical Framework

In this study, tabular technique was used to illustrate the over-all socio-economic characteristics of the samples. Tabulated data were analyzed by using average, sum, percentage etc. and we also compared the socio-economic characteristics of the selected groups of rickshaw pullers and auto-rickshaw drivers. An econometric model such as linear regression model was used to find out the income determinants of rickshaw pullers and auto-rickshaw drivers.

Specification of the model

To find out the determinants of the income of rickshaw pullers and auto-rickshaw drivers the following linear regression model was applied.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 D_1 + \varepsilon$$

Where,

Y = Yearly income of rickshaw pullers or auto-rickshaw drivers;

X_1 = Opportunity cost (purchasing or rental cost of rickshaw or auto-rickshaw);

X_2 = Other costs (Repairing cost, bribe, pocket money);

X_3 = Age of rickshaw pullers or auto-rickshaw drivers;

X_4 = Number of family members of rickshaw pullers or auto-rickshaw drivers;

X_5 = Year of schooling of rickshaw pullers or auto-rickshaw drivers;

D_1 = Dummy variable, if respondent has own vehicle then 1, otherwise 0.

ε_i = Disturbance term.

β_0 , β_1 ,…………………, β_6 are known as the parameters of the model or intercept and slope coefficients respectively. There are five explanatory variables.

Here, the independent variable is yearly gross income of rickshaw pullers or auto-rickshaw drivers ignoring the ownership of vehicle. There are six explanatory variables in this model where opportunity cost includes purchasing or rental cost of rickshaw or auto-rickshaw. In the case of purchasing cost we consider the depreciation cost of rickshaw and auto-rickshaw on yearly basis and in the case of rent we simply calculate it, which is paid in a year by rickshaw pullers or auto drivers to the owners. Other costs include repairing cost, battery charging cost, pocket money and bribe which are paid by pullers or auto drivers on yearly basis. Age of rickshaw pullers or auto-drivers has positive impact on income. Number of family member is counted on the basis of dependent people of the particular pullers or

drivers. In general view, education has a positive impact on income and in this study we consider the years of school the pullers or drivers attended. In the case of ownership of vehicle we use dummy variable and we put 1 if the pullers or drivers have their own vehicle and 0 otherwise.

Assumptions of this Model

1. All other excluded variables are constant.
2. The disturbances satisfy the usual assumption of the classical linear regression model.

Hypothesis of the study

The main hypotheses of this study are given below.

$$H0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \text{- - - - -} = \beta_{11} = 0$$
$$H1: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \text{- - - - -} = \beta_{11} \neq 0$$

If the null hypothesis is rejected then we can conclude that these variables have an influence on the income of the rickshaw pullers and auto-rickshaw drivers, otherwise not.

Result and Discussion

Socio-economic characteristics play an important role for increasing income of poor people. Personal assets, education, family size, ownership of house, and access to credit facility have positive effect on income of rickshaw puller and auto-drivers. In this study, we tried to investigate some characteristics which play vital role in daily income.

Age of Auto-Rickshaw Drivers and Rickshaw Pullers

Table -1 shows that maximum drivers of auto-rickshaw were in the range of 31 – 40 years. In 11-20 age groups, there was a 17.5% auto-rickshaw drivers but there was no rickshaw puller. Where the majority of auto-rickshaw drivers and rickshaw pullers lie in 21-30 and 31- 40 age groups, their percentage was 32.5% and 27.5% in auto-rickshaw drivers and 40.0% and 27.5% in rickshaw pullers, respectively. After that age group, the number of auto-rickshaw drivers and rickshaw pullers was decreasing gradually.

Table 1 : Age range of auto-rickshaw divers and rickshaw pullers

Age range	Auto-rickshaw driver	Rickshaw puller
11 – 20	7 (17.5%)	0
21 – 30	13 (32.5%)	11 (27.5%)
31 – 40	16 (40.0%)	11 (27.5%)
41 – 50	2 (5.0%)	9 (22.5%)
51 – 60	1 (2.5%)	6 (15.0%)
61 – 70	0	2 (5.0%)
71 – 80	1 (2.5%)	1 (2.5%)
Total	40 (100%)	40 (100%)

Source: Authors' Own Calculation

Level of Education of Auto-rickshaw Drivers and Rickshaw Pullers

It is seen from Table 2 that the level of education of the rickshaw pullers and auto-rickshaw drivers was very low in the study area. It was found that 30% of auto-rickshaw drivers and 77.5% of rickshaw pullers were illiterate or at best having ability of signature. About 45% of auto-rickshaw drivers completed PSC (Primary School Certificate) to SSC (Secondary School Certificate) level education whereas only 5% of rickshaw pullers had this level of education. It is found from Table 2 that auto-rickshaw drivers were more educated than rickshaw pullers.

Table 2 : Level of education of auto-rickshaw drivers and rickshaw pullers

Education	Auto-rickshaw	Rickshaw
Up to PSC	5 (12.5%)	7 (17.5%)
From PSC to SSC	18 (45.0%)	2 (5.0%)
From SSC to HSC	3 (7.5%)	0
BSS or more	2(5.0%)	0
Illiterate or Can Sign	12 (30.0%)	31 (77.5%)
Total	40 (100%)	40 (100%)

Source: Authors' Own Calculation

Family Member

Family members play an important role as an income determinant since if the family size is large then driver or puller tries to earn more money. Table 3 showed that most of the families are nuclear in the case of auto-rickshaw drivers and rickshaw pullers. Now, the joint family is breaking down with the change of social and economic conditions. Very few auto-rickshaw drivers and rickshaw pullers lived in joint family. In this study, it was found that most of the auto-rickshaw drivers and rickshaw pullers have 3 or 4 members in their family.

Table 3 : Family member

	Auto-rickshaw	Rickshaw
Mean	4.42	4.48
Maximum	10	8
Minimum	2	2

Source: Authors' Own Calculation

Ownership of the Vehicles

Table 4 portraits the ownership of auto-rickshaw and rickshaw. In the case of auto-rickshaw 52.5% drivers have their own auto-rickshaw and 47.5% are used vehicles on rented basis. On the contrary, 72.5% rickshaw was personal and 27.5% rickshaw was rented. Because of increasing demand and high income, the number of auto-rickshaw also goes up both in the case personal and rented vehicles. Due to low cost of rickshaw compared to auto rickshaw a greater percentage of rickshaw pullers have their own rickshaw.

Table 4 : Ownership of the vehicles

Ownership	Auto-rickshaw	Rickshaw
Personal	21 (52.5%)	29 (72.5%)
Rented	19 (47.5%)	11 (27.5%)
Total	40 (100%)	40 (100%)

Source: Authors' Own Calculation

Cost and Rent of Auto-Rickshaw and Rickshaw

Table 5 describes that the average buying cost of an auto-rickshaw was Tk. 1,19,809.52 where the average buying cost of rickshaw was Tk.7,075.86. Average rent of auto-rickshaw was Tk. 501.58 per day and it was Tk. 35 for rickshaw. It has been seen that maximum buying cost of an auto-rickshaw was Tk. 1,68,000 which was actually brand new and in the case of second hand auto-rickshaw the minimum cost was Tk. 50,000. On the other side, maximum and minimum buying cost of a rickshaw was Tk. 15,000 and Tk. 3,000. In case of rented vehicle, maximum and minimum rent was Tk. 550 and Tk. 400 for auto-rickshaw and Tk. 40 and Tk. 20 for rickshaw.

Table 5 : Cost and rent of auto-rickshaw and rickshaw

Cost (in Tk.)	Auto-rickshaw	Rickshaw
Average buying cost	1,19,809.52	7,075.86
Maximum buying cost	1,68,000	15,000
Minimum buying cost	50,000	3,000
Average rent per day	501.58	35
Maximum rent per day	550	40
Minimum rent per day	400	20

Source: Authors' Own Calculation

Net income of auto-rickshaw drivers and rickshaw pullers

Generally, the income level of auto-rickshaw driver is high compared to rickshaw pullers and for this reason the living status of auto-rickshaw drivers is comparatively better than rickshaw pullers. Table 6 shows that the monthly average net income from auto-rickshaw and rickshaw was Tk. 11,625 and Tk. 4,563, respectively, whereas the maximum income from an auto-rickshaw was Tk. 22,200, which was around 2.5 times higher than the income of rickshaw. A rickshaw puller's minimum income was Tk. 1,950 per month whereas the minimum income of auto-rickshaw driver was Tk. 12,000 that was 6 times higher than rickshaw.

Table 6 : Net income from auto-rickshaw and rickshaw (in a month)

Income	Net income of auto-rickshaw drivers	Net income of rickshaw pullers
Mean	11,625	4563
Maximum	22,200	9000
Minimum	12000	1950

Source: Authors' Own Calculation

Repairing cost of auto-rickshaw and rickshaw

Auto-rickshaw drivers and rickshaw pullers have to spend a large portion of their income for repairing purpose. Most of the cost occurred for changing battery of auto-rickshaw and tyre and tube of auto-rickshaw and rickshaw. Table 7 shows the average repairing cost of rickshaw and auto-rickshaw and the costs are Tk. 353 and Tk. 2,620, respectively, but the repairing cost varied because of new and old vehicles. It was found that the maximum repairing cost of an auto-rickshaw was Tk. 10,000 which includes the cost of replacing battery. In comparative analysis, the repairing cost of auto-rickshaw was much higher than rickshaw.

Table 7 : Repairing cost of auto-rickshaw and rickshaw

	Auto-rickshaw	Rickshaw
Mean	2620	353
Maximum	10,000	900
Minimum	200	50

Source: Authors' Own Calculation

Daily expenses for food and refreshment

Except the repairing cost every driver and puller needed some money for their daily expenses such as consuming tea, cigarette and food. Table 8 describes the amount of pocket money that was spent for consuming food and for refreshment. Average pocket money of an auto-rickshaw driver was Tk. 72.25 per day, while it was Tk. 59.38 for rickshaw puller. An auto-rickshaw driver spent from minimum Tk.15 to maximum Tk. 150. On the other hand, a rickshaw puller's daily expenditure was maximum Tk.125 and minimum Tk. 20.

Table 8 : Daily expenses of auto-rickshaw drivers and rickshaw pullers as pocket money.

Pocket money	Auto-rickshaw	Rickshaw
Mean	72.25	59.38
Maximum	150	125
Minimum	15	20

Source: Authors' Own Calculation

Bribe paid by auto-rickshaw drivers and rickshaw pullers

Among other costs bribe was one and since most of the drivers and pullers have no legal licence, they have to pay bribe to the traffic sergeant. It is very difficult to measure the amount of bribe since most of the drivers and pullers didn't give the information properly about the exact amount of bribe. Table 9 presents information about the percentage of driver who has given bribe. It is seen that almost 19 (47.5%) auto-rickshaw drivers have given bribe and 21 (52.5%) auto-rickshaw drivers didn't give it. On the contrary 39 (95.5%) rickshaw pullers replied that they did not pay such kind of bribe. There is also charge for auto-rickshaw drivers in the name of "Somiti" which is also counted as bribe.

Table 9 : Bribe paid by auto-rickshaw drivers and rickshaw pullers

	Auto-rickshaw	Rickshaw
Yes	19 (47.5%)	1 (2.5%)
No	21 (52%)	39 (97.5%)
Total	40 (100%)	40 (100%)

Source: Authors' Own Calculation

4. Results and Discussion

The results of the estimated model of the determinants of income of auto-rickshaw drivers and rickshaw pullers are explained in this section with the help of multiple regression models. In this study we tried to find out the effect of different factors on the income of both auto-rickshaw drivers and rickshaw pullers separately.

Income determinants of auto-rickshaw drivers

Result of the multiple regression model of the auto-rickshaw drivers are presented in Table 10. The estimated results show that factors such as age, education and type of ownership of auto-rickshaw are not statistically significant but they have positive effect on income generation. The elasticity of income with respect to opportunity cost of auto-rickshaw drivers is highly significant and it is significant at 10% level, which means that the probability of occurring Type 1 error is 10%, so the confidence interval is 90%. If the opportunity cost (purchasing or rental cost of vehicles) increases by one percent, income will increase by 0.347 percent, because, if the drivers spend more money for purchasing or renting new auto-rickshaw then they can get better service and the repairing cost is also low compared to second hand auto, the cost of which is low. Other costs (repairing cost, pocket money and bribe) and family size have significant but negative impact on income at 5% level. These indicate that if the other costs and family members of auto driver increase by one percent then income will fall by 0.335 percent and 0.198 percent, respectively.

Table 10: Regression model for determinants of income of auto-rickshaw drivers

Variables	Coefficient	Standard Error	t-statistics	Significance
(Constant)	12.359	2.525	4.895	.000
Opportunity Cost	.347***	.187	1.855	.073
Other Costs	-.335**	.143	-2.336	.026
Age of Auto Driver	.008	.055	.138	.891
Family Member	-.198**	.073	-2.696	.011
Education of Auto Driver	.026	.064	.402	.690
Ownership of Auto	-.005	.040	-.120	.905
Adjusted R^2	.571			

Source: Authors' own calculation
* Significant at 1% level, ** Significant at 5% level, *** Significant at 10% level

The relationship between income of auto-rickshaw driver and education is found positive but it has no significant effect on income. It was also expected that education level should impact positively to the respondent's present income. The main reason for this might be that auto-rickshaw driving is a better and less laborious job than rickshaw, so that educated people who have a better educational qualification might choose these types of job. However, the relationship of income with age is positive but insignificant. From the field survey it can be said that middle aged auto-rickshaw drivers might earn more than old and young auto-rickshaw drivers.

Surprisingly, independent variable like ownership of auto-rickshaw is negatively related with the income of auto-rickshaw drivers. Since, the depreciation cost of auto-rickshaw is very high than rental cost and the number of auto-rickshaw is very large in Rajshahi city compared to requirement. So, their income is relatively poor who have their own auto. As a result, the increasing number of owned auto-rickshaw has a great impact on decreasing average income of the auto-rickshaw driver. The coefficient of determination (R^2) of income determinants of auto-rickshaw drivers show that 57.1 percent of the variation is explained by independent variables.

Income determinants of rickshaw pullers

The result of the estimated model on the income of rickshaw puller is shown in Table 11. The estimated result shows that variables like opportunity cost, education of rickshaw puller, ownership of rickshaw are not statistically significant, whereas other cost and family member are positively significant but the age of rickshaw puller has significant but negative impact on income.

Table 11: Regression model for determinants of income of rickshaw pullers

	Coefficient	Standard Error	t-statistics	Significance
(Constant)	9.574	1.548	6.185	.000
Opportunity Cost	.015	.112	.131	.896
Others Cost	.225***	.117	1.921	.063
Age of Rickshaw puller	-.317**	.122	-2.591	.014
Family Member	.175***	.097	1.808	.080
Education of Rickshaw puller	-.028	.017	-1.640	.111
Ownership of Rickshaw	.097	.096	1.014	.318
Adjusted R^2	.643			

Source: Authors' own calculation

* Significant at 1% level, ** Significant at 5% level, *** Significant at 10% level

Opportunity costs (Purchasing or rental cost) is positively related with the income of rickshaw puller but it does not significantly affect the income level. The coefficient of income with respect to other cost (repairing cost and pocket money etc.) has a significant impact on income at 10% level, the probability of Type I error is 10% and so, the confidence interval is 90%. If the other costs increase by one percent, the income will increase by 0.225 percent.

The coefficient of other costs significantly affects the level of income of rickshaw puller at 10% level. This means that if other costs increase by one percent, income will increase by 0.225 percent. If the pullers spend more money for repairing purpose, they can pull the rickshaw easily and earn more money.

Age of rickshaw puller has negative but significant effect on income of pullers at 5 percent level. If the age of rickshaw pullers increases by one unit income will decrease by 0.317 units, as rickshaw pulling is very much laborious and it is very much difficult to pull rickshaw by aged people.

If the family size of rickshaw pullers is large then they have to work hard since they have no alternative income sources. In this study, family size has positive and significant impact on income and if the family member increases by one percent, income will increase by 0.175 percent. It is significant at 10% level, which means that the probability of Type 1 error is 10% and the confidence interval is 90%.

The relation of the income of rickshaw pullers with the level of education is found negative. It is also expected that education level should impact negatively to the rickshaw puller's present income. The main reason for this might be that rickshaw pulling is a low class informal job so that he who has a better educational qualification might not end up with this type of job. However, result shows that rickshaw puller's income with education is negatively related. The result reveals that having own rickshaw has a positive relationship with the present earning but it is not statistically significant.

The coefficients of determination (R^2) for income determinants of rickshaw pullers indicate that 64.3 percent of the variations of income is explained by independent variables.

Problems, Policy Recommendations and Conclusion

Battery operated auto-rickshaws and rickshaws are causing unbearable traffic jam in Rajshahi city by illegally parking near markets and other institutions. The traffic situation is worse in front of the main kitchen markets and populated areas like Shaheb Bazar, Moni Chattar and Rail Gate. There are inadequate traffic police to supervise the busiest points in the city. Moreover, excessive auto-rickshaw and

rickshaw have reduced the income of auto drivers and rickshaw pullers. Therefore, the authority of city corporation must limit the number of rickshaw and auto-rickshaw and issue licence according to the requirement of vehicles of city dwellers.

Rechargeable battery is the main part of auto rickshaw and at least two batteries are needed to run the auto-rickshaw. The length of life of these batteries does not exceed one year and the replacing cost is very high. Therefore, quality of rechargeable battery needs to be improved and government should take necessary steps to produce battery domestically.

All the auto-rickshaws run in the country are imported from China and a huge amount of foreign exchange goes out of the country. So, government should take new project to produce auto-rickshaw domestically as well as improve the quality of these vehicles.

Though travelling is safe by auto-rickshaw, it sometimes causes serious accidents. Quite often, the scarf of female passengers goes to the shaft and wrings within a second and the passengers get seriously injured. To reduce this kind of accidents, owner of auto rickshaw as well as the producer should cover the shaft in a proper way.

According to some auto-drivers, rent is very high for them, which is around Tk. 500 per day, If the owners reduce the rent then their income will increase. The income of rickshaw pullers is less compared to auto drivers and gradually the demand of rickshaw has decreased and they become jobless. Government should provide credit facility to the rickshaw pullers to buy auto-rickshaw and train them for other jobs.

This study reveals that the socio-economic condition of auto-rickshaw drivers is better than the rickshaw pullers. Auto-rickshaw driving is beneficial over rickshaw pulling and day labour in terms of income, comfort and social status. Around 88% of urban passengers are availing this mode, now to meet their travel demand. High quality auto rickshaw positively affects the income of auto drivers where repairing cost and large family size negatively affect the income of auto drivers. In the case of rickshaw pullers, age has negative impact on income since rickshaw pulling is a laborious job. Other costs and family size are positively related with income of rickshaw pullers because rickshaw pullers spend very small amount of money for repairing vehicle and for daily consumption purposes. Therefore, if pullers spend more money for repairing and consumption purposes then their earning will increase. If family size is large, then other members can also involve in this job and family income will increase. Finally, government should take proper steps to

control the number of rickshaw and auto-rickshaw in the city area and improve the quality and produce vehicles locally.

Moreover, government should be more concerned about this employment opportunity and help them through better scope of education, health, security and housing and, above all, a good working environment.

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Agribusiness Potentials for Bangladesh – an Analysis

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Abstract: *Bangladesh cannot sustain long-run economic progress without having a strong agriculture sector accompanied by a dynamic agribusiness sub-sector. This study has been undertaken as an exploratory study to assess the role and significance of agribusiness in Bangladesh along with the current status and future potentials. Various institutional and other weaknesses and challenges are deemed to exist in the country that prevent full realization of the potentials of this industry. At a general level, the paper recommends various structural, institutional, and market-friendly policy reforms accompanied by infrastructural developments in order to encourage entrepreneurship, innovation, and investments along with better and more effective strategic management of this sector. Such reforms are expected to promote better utilization of scarce resources to promote a strong, dynamic, and sustainable agribusiness sector that would be able to contribute substantially to industrialization and economic development of the country.*

Keywords: Agribusiness, Agricultural trade, Bangladesh, infrastructure development, institution-based view, policy reforms
***JEL classification codes:** C60; C50*

Introduction:

Bangladesh is a developing country in South Asia with a large population base (about 150 million), living in a small land area covering only about 55 thousand square miles, and having the highest population density in the world (ignoring the city state of Singapore). Bangladesh's per capita income is USD 1,190 http://bdnews24.com/economy/2014/05/21/bangladesh-s-per-

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capita-income-1190). The country is primarily agriculture-based with a large proportion of population formally and informally depending on this sector for food, income, employment, and livelihood.

Agribusiness is one of the most challenging businesses in the world. Bangladesh depends heavily on agriculture, but the prospects and potentials for agribusiness for this country is yet to be adequately understood or studied, and its enormous potential explored. This sector is at best in an emerging but nascent stage of development. Bangladesh cannot sustain long-run macroeconomic stabilization and economic progress without having a strong agriculture sector accompanied by a dynamic agribusiness sub-sector. Given the high importance of this topic, this exploratory study has been undertaken to assess the role and significance of agribusiness in Bangladesh along with the current status and future potentials. The study is conducted within an institution-based view of the world and examines the institutional and non-institutional factors that may prevent the country from realizing its full potential from agribusiness. The paper argues that various institutional, structural and policy reforms be made and effectively implemented so that the sector can contribute significantly towards the country's economic development.

If properly encouraged, promoted and managed, agribusiness may have the potential to play a strong role in providing rural income, employment, food security, poverty alleviation, and improved external balance position, and thereby contribute to overall industrial and economic development of the country. As Bangladesh suffers from serious unemployment problems due to over-population and given that food availability is becoming scarcer in the country over time as population increases, income grows, and urbanization takes place, the potentials and prospects for agribusiness in the country should be viewed and explored as critical for the development of the country. As such, a strategic management of agricultural business and trade is extremely important so that core competencies could be created and proper supply chain management along with vertical and horizontal integration could be established in the process of promoting and developing agribusiness in the country. Further, one can safely argue that proper development and better management of the agribusiness in the country can also improve the country's scarce natural resource utilization and help achieve better ecological balance and environmental management in the context of the unfolding global warming and climate change.

The study has been undertaken with a few limited objectives in mind: first, to assess the current situation of agribusiness in Bangladesh and its future potentials; second, to examine whether structural, institutional, infrastructural, and policy reforms will be needed to help achieve a viable and successful agribusiness sector in the country; thirdly, to provide some policy implications for proper strategic management to develop agri-business. The study is purely exploratory in nature.

As such, the study is conducted primarily based on information obtained from secondary sources. Exact sources will be mentioned in the paper in inside-text citations and end of paper references.

Given the above limited objectives of this study, the next section (section 2) provides a working definition and scope of agribusiness industry followed by a providing a framework for analysis of the paper. The section that follows deals with a brief review of literature, including a discussion on the current status of agribusiness in Bangladesh. This is followed by a section (section 4) on potentials of agribusiness in Bangladesh. Section 5 deals with institutional weaknesses facing the industry followed by a discussion of institutional strategies and policies for agribusiness development of the country. The sixth and last section gives the concluding remarks with a discussion of the shortcomings and limitations of the study and providing direction for further research.

2. Definition and Scope of Agribusiness Sector

Before proceeding further, it will be useful to define agribusiness sector and what activities this sector encompasses. From a practical perspective, agribusiness can be defined as various value-adding and synergy-enhancing activities based on agro-based products along with its related upstream and downstream activities ranging from improved seed development to soil cultivation to production and processing of various agricultural products, marketing and distribution, storage and transportation, new product development, export promotion, and many other value adding activities. From this perspective, it would be obvious that agribusiness and agricultural trade may include myriads of activities mentioned above done on a commercial basis and utilizing more modern and scientific production methods and technologies.

According to Beierlein and Woolverton (1991), the term agribusiness is important to visualize on the bass of the following three sub-sectors: the agricultural input sector, the production sector, and the processing-manufacturing-distribution sectors, which are highly interrelated as part of a system in which the success of each part depends heavily on the proper functioning of the two others. Further, Kohls and Uhl (2002) argue that the agricultural markets are joined together among various components of the food industry, the farm supply sector, the farm sector, the food marketing system, among others, within the national economy. The input supply and farm markets are often referred to as agribusiness. According to online encyclopedia Wikepedia, agribusiness is a generic term for the various businesses involved in food production, including farming and contract farming, seed supply, agrichemicals, farm machinery, processing, marketing, wholesale and retail distribution (Wikepedia 2012).

Role of Agriculture and Agribusiness in Bangladesh

Bangladesh is primarily an agrarian country with a very low level of economic development and the country is still designated by the World Bank as a low-income poor developing country. Since independence in 1971, the country has been striving to improve economic performance and reduce poverty and to become a middle-income country. In this striving, the agricultural sector in general and the agribusiness in particular has the potential to perform a number of critical roles in transforming the country in the desired direction. The sector can provide food for the rising population and the rising urban sector, generating income and employment opportunities for rural population, supplying labor as well as materials for the rising manufacturing and services sectors, providing a market for the country's growing industrial sector, and generating investable surpluses and foreign exchange earnings that could be utilized for developing the country-side as well as the entire economy. On the other hand, the industrial sector of the country can provide critical support to the agricultural sector in the form of supplying agricultural implements, various other critical inputs (such as fertilizers), improved technology, additional agribusiness-related investments, and providing ready markets for rising agricultural and agribusiness output.

Mujeri(2014) argues that despite significant structural transformation, the policy framework should continue to view agriculture as an active and co-equal partner with industry and other sectors during the post-MDG period. This is mainly due to two considerations: first, agriculture produces goods that directly satisfy basic human needs, and second, agriculture production combines human effort with natural resources. As such agricultural growth must match population growth at the least to avoid Malthusian trap and stagnant development. Moreover, the later generation dual economy models make it apparent that functions that agriculture and industry sectors must perform are totally interdependent. Agriculture sector must release resources for industry, which in turn must have the absorbing capacity. Growth can occur only if release-cum-absorption of labor and capital are efficient. This conceptual framework no longer identifies either sector as leading or lagging.

In Figure 1, the rate of growth in agriculture sector of the country is shown from the period of 1980-81 to 2013-14. In the figure, we observe that the highest rate of growth in the agriculture sector occurred in 2009-10. In 2012-13, the rate of growth of agricultural sector declined.

The country has an important agricultural sector with a growing manufacturing sector and a dominant services sector (Figure 2). The time trend of the sector-wise share (%) in GDP of the three major sectors, agriculture, manufacturing, and services for Bangladesh from 1980 to 2009 is shown in Figure 2. Unlike other

advanced countries in their experience in early stages of their development, the share of the services sector in GDP in Bangladesh is the highest followed by the share of agriculture and then closely by manufacturing. The share of agriculture was higher than that of manufacturing in the 1970s and 1980s, but it has been declining with the process of development and currently the share of the two sectors is converging to around 20% each. Agriculture, therefore, remains quite prominent in its contribution to the economy, being at least as important as the manufacturing sector.

Figure 1: Rate of Growth in Agriculture Sector: 1981-2014
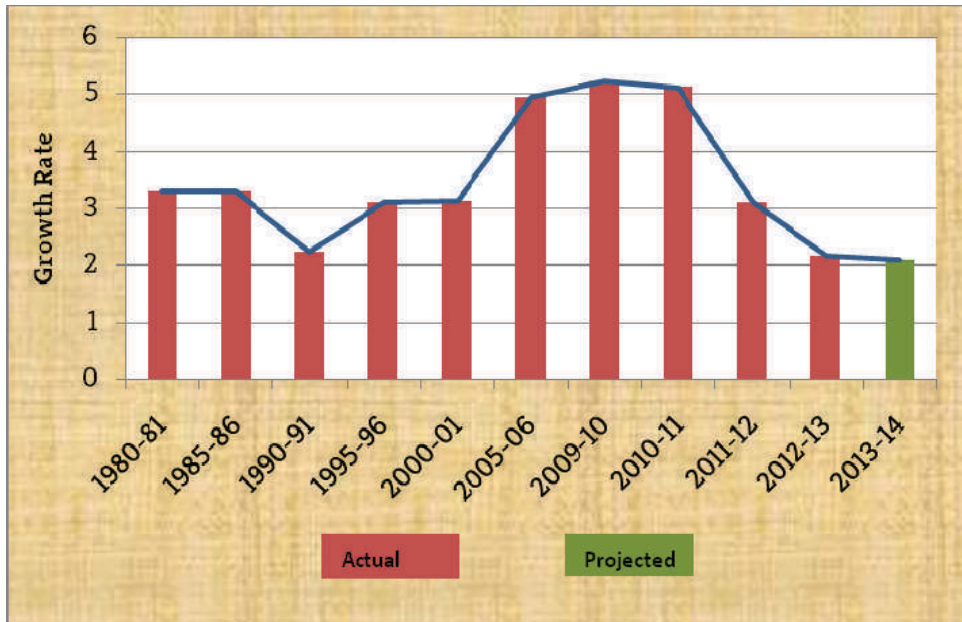
(Source: Bangladesh Economic Update, March 2014, Unnayan Onneshan)

Figure 2: Sector-wise Share (%) of GDP in Bangladesh: 1980 - 2010
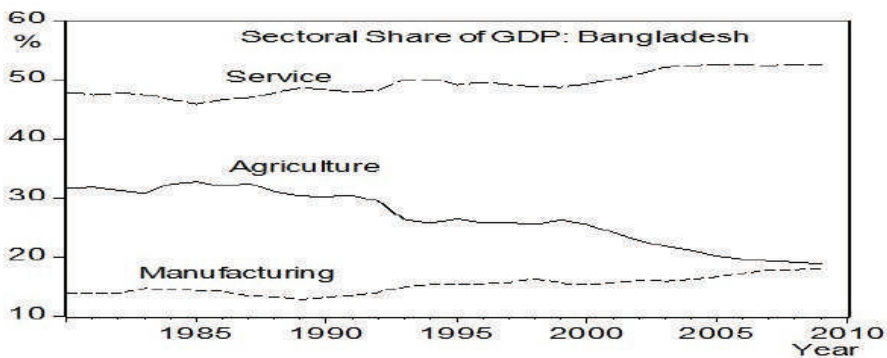
Source: World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org

The significance of agriculture for Bangladesh vis-à-vis some other selected countries is depicted in Figure 3, which shows the sector-wise share in GDP in Bangladesh compared to the South Asian average (SAS), China (CHN), the U.S. (USA), and the world (WLD). It seems that the share of agriculture in Bangladesh has declined over time, a pattern observed in most countries with the process of growth and development of an economy from an agrarian society to a more modernized economy. The declining pattern of change for Bangladesh is similar to what is observed for the South Asian average as well as China (a large and high growth economy in Asia). But compared to China, the world average, and the U.S. (a rich and matured industrialized country), the share of agriculture in GDP for Bangladesh is much higher than the other comparator countries or groups mentioned here. Thus, the role of agriculture in this country of around 20% of GDP remains more prominent than other countries in international comparison with the world average being around 5-6% and the U.S. around 2-3% of respective GDPs in 2009.

Figure 3: Agriculture's share of GDP in International Comparison: 1970 - 2010
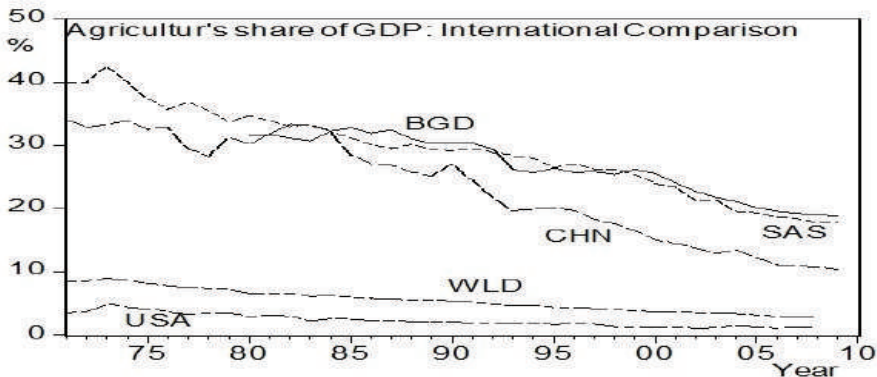
Source: World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org

The prominent role of agriculture in Bangladesh is also demonstrated in Figure 4, which shows the time trend in the distribution of population between the rural and urban sectors of the country. As expected to happen with economic development, the share of population living in rural sector has been declining and that of the urban sector has been rising on a secular basis. However, it is clearly observed that the population share in the rural sector remains quite high (around 70%) even in 2009 with the corresponding share of the urban sector being around 30%. It is thus clear that a large share of population in the country still relies on the rural and agricultural sector for production, employment, and livelihood.

Figure 4: Distribution of Rural and Urban Population in Bangladesh
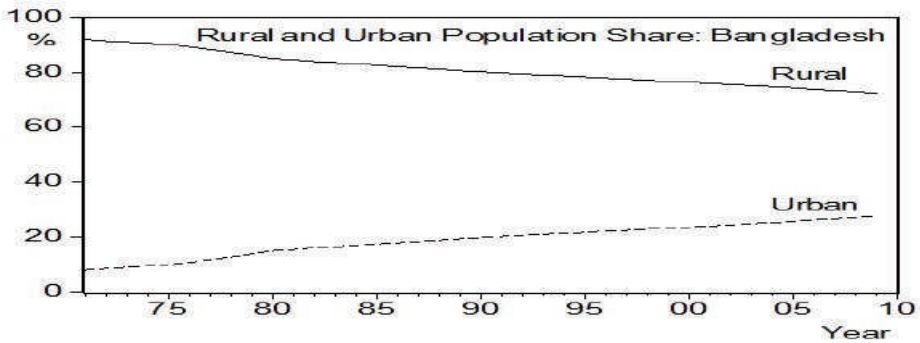
Source: World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org

Figure 5 shows the distribution of employment in Bangladesh by three major sectors, agriculture, manufacturing, and services. The share of employment in Agriculture (AESBGD) as percentage of total employment vis-à-vis the manufacturing share (MESBGD) and the services sector (SESBGD) for selected years from 1980 to 2009 shows that agricultural employment remains the dominant form of employment in the country. This is not surprising given that an overwhelming majority of population still live in the rural areas as shown in Figure 3 earlier. The employment share has declined somewhat from 1980s from around 60% to around 50% in recent years as shown in Figure 4.

Figure 5: Sector-wise Share of Employment in Bangladesh
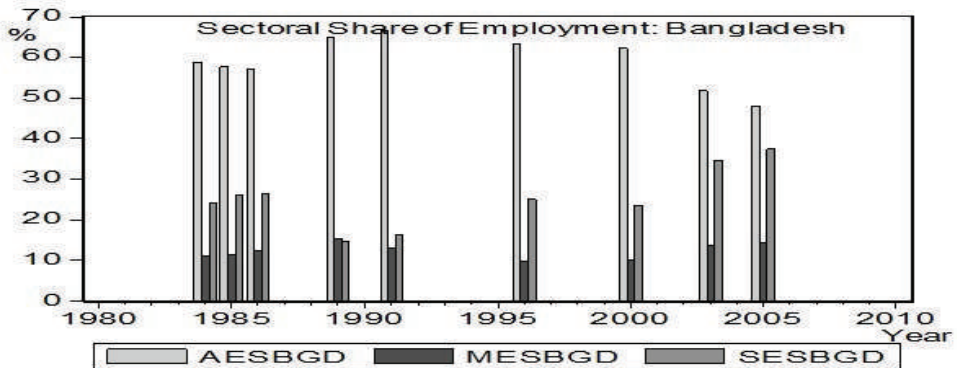
Source: World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org

A Framework of Analysis

In order to have a better understanding of this sector and to gain important insights that could be utilized in formulating strategies and policies related to agribusiness, a general framework of analysis would be helpful. This paper proposes to utilize what is now widely known as the "institution-based view" of the world. Institutions generally refer to the so-called "rules of the game" within which decisions

are made and policies and strategies implemented. The formal part of these institutions involves laws and regulations, including the legal, administrative, regulatory, political, and economic systems and the informal part comprising the culture, customs, traditions, languages, and religions, among others.

Since the pioneering work of North (1990; Peng 2002; Peng 2003), it is now gradually recognized in the literature that "institutions" and "policies" matter and matter significantly in determining the economic outcome and performance at both macro (country-level) and micro (firm and industry) levels. The traditional classical/neoclassical view is that of the existence of a well-functioning, flexible, and efficient market-based institutional framework to allocate resources in an optimal manner, a view that dominated the world of economics for centuries. However, such an institutional environment, even if it exists in a county, may still be imperfect, inflexible, and inefficient. This could be more so in poorer developing and emerging economies where formal institutions are far from being fully developed and which are just evolving over time from a very nascent stage.

As such, developing an appropriate institutional framework is relevant and critical for a poor developing country like Bangladesh and various other emerging economies where institutions are either missing or weak at best and where institutions and policies are continuously evolving to influence business strategy and performance (Peng 2002; Peng 2003; and Peng, Wang, and Jiang 2008; and Hitt et. al. 2004). In addition, choices and policies in developing strategic alliances and partnerships across the globe could be strongly influenced by the institutional framework and policy environment in the country (Peng 2003; Hitt et. al. 2004; and Saebi and Dong 2008). In the ensuing discussion, this institution-based framework will be kept in mind to analyze and understand the development of the agribusiness sector and in the formulation of appropriate strategies and policies.

Bangladesh cannot fully realize its agribusiness potentials because of various institutional, policy, and structural weaknesses that have been and continued to constrain its growth potential. Many of these weaknesses facing Bangladesh have been already mentioned in previous studies related to agribusiness development within the domestic economy. Beyond the domestic economy, further institutional reforms in opening up the country to more foreign trade, business, and investments would be needed to accelerate the growth and sustainable development of the sector. Such institutional developments may include but not be limited to creating a business-friendly environment to encourage investment and entrepreneurship, improving law and order, strengthening the legal, administrative, and regulatory systems to reducing red tape and delays, among others, and in investing in and improving physical infrastructure (better roads and highways, sea- and air-port facilities, improved information and telecommunication technology), educational infrastructure (improving schools, colleges and universities), and technological

infrastructures (telecommunications, broadband, and information technology) would be critical in developing the agribusiness sector in the country, in attracting foreign investments in this sector, and in encouraging strategic alliances and partnerships with overseas businesses and Bangladeshi expatriate communities to help develop this industry.

However, these potentials have not yet been realized nor will be realized in the future because of well-documented institutional weaknesses involving unstable political system and unhealthy political culture, weak judicial and legal environment to enforce property rights and contract enforcements, inefficient and corrupt public administration, ineffective regulatory framework, inadequate and ineffective policies and policy implementations, and severe infrastructural deficiencies, among others. Because of these limitations and constraints, doing international business in Bangladesh is quite difficult and is reflected in the low ranking by the World Bank based on various indicators of doing business in Bangladesh vis-à-vis other countries in the world. These institutional weaknesses are considered by the authors as primary stumbling blocks for the country to realize its full potential from agribusiness. If these weaknesses could be corrected or improved upon, Bangladesh could truly be able to develop this agribusiness sector which can contribute significantly to agricultural development, industrialization, employment creation, poverty alleviation, achieving food security, and overall economic development of the country.

3. A Brief Review of Literature

The extant literature on agribusiness related to Bangladesh is very scarce and those that exist are mostly disjointed and deal at most with very specific or narrow area within this sector. In spite of this, a brief review of the literature is done in this section with a view to understanding the current state of the industry and various institutional and other weaknesses and challenges the industry is facing. Such analysis will be conducted within the institutional-based framework discussed above so as to provide guidance and insights in making any policy recommendations for improvement of this industry in order that that this sector can play its vital role in the development of the country.

Drummond and Goodwin (2004) depict that in the contemporary industrial style integrated agricultural system of the United States, most of the farm activities and functions are performed by extremely sophisticated and specialized business firms at all stages of the production and distribution chains and networks. According to them, these specialized firms have become known collectively as agribusiness. As such, the study of the management, financing, and marketing decisions of agribusinesses is a specialized branch of agricultural economics in most major universities and this business is an integral part of the U.S. Corporate sector.

In the context of India, Meeakshi and Poleman (1994) report for Andhra Pradesh that excellent infrastructural facilities have contributed to achieve dramatic rates of growth in agriculture and have contributed strongly to increased rural employment and decrease seasonality in agricultural production. Focusing on the role of micro level management, Erickson et al. (2002) argued that a successful agribusiness manager must understand what a firm does that contributes to the bottom line, and the successful manager uses this understanding to improve the bottom line in the future.

Several studies for Bangladesh can be highly insightful to understand the role and state of this industry and its institutional and other weaknesses. Khan and Hossain (1989) reports that due to high pressure of population and limited opportunities for non-agricultural occupations, land in Bangladesh is cultivated mostly in very small scale farms. So, development of agribusiness should be challenging in this institutional context and it should be taken into account in strategy development. Islam and Sarker (2003) studied the livestock and poultry population and production in north-western part of Bangladesh and report that the livestock sector, which is composed of cow-buffalo and goat–sheep production, registered very slow growth rate while the poultry sector made of fowl and duck grew at an appreciable rate. They found that the rapid growth of the Poultry sector was still inadequate to meet the growing domestic demand. This study thus indicates that there is perhaps strong need for and prospect of development of the poultry sector in the country.

In a related study, Ali (2011) observes that fish and cattle production requires a longer production time whereas poultry production is relatively faster and easier, and therefore has greater potential for expansion provided both public and private sector initiatives work together. He also argues that Poultry is most probably the only sector that can grow vertically and produce maximum amount of eggs and chickens using the minimum amount of country's scarce land. Moreover, from the poultry industry, biogas and organic fertilizers can be prepared as a complementary byproduct. In a different study, Rahman (2004) argues that the markets for poultry inputs in Bangladesh such as markets for chicks, poultry feeds and medicines are oligopolistic in nature, where prices are determined probably in consultation with others reflecting cartel-type price-fixing behavior to the detriment of farmers and growers. He further argues that successful agribusiness development requires strong entrepreneurship and innovative approaches through combining different attributes of productivity, experimentation, innovation, risk-taking, efficiency, effectiveness and synergy.

Sabur and Rahman (2004) examined various factors that contributed to different varieties of rice production in Bangladesh. They reported that agricultural extension services, human labor, seed, fertilizer, age and experience were main contributors to increased production of Boro variety of rice. For Aus variety, the

main contributors were location and bullock power that had positive effects whereas extension service, area, and bullock power have had positive effects on Aman production. Dobson and Quader (2005) examined the Shrimp industry in Bangladesh and observed that the value of the services provided by middlemen are not readily apparent to others in a supply chain, as such, the middlemen are invariably criticized extensively for the problems facing this rising agro-based industry in the country.

Efficient and effective marketing is of great importance for the success of agribusiness. On this issue, Junaid (2005) argued that marketing of agricultural products in the country is not efficient and hence a proper and effective management of different functions within agricultural marketing will provide better price opportunity to farmers and growers during both peak and off-peak seasons and thereby help increase agricultural production. In a related study, Jahangir (2009) observed that the existing poor marketing system and lack of adequate cold storage facilities have been depriving the growers of perishable products like vegetables and fruits for a long time in this country.

According to Quasem (2008), agricultural productivity in the country is low, as new technologies are not widely used or spread, especially in non-rice crops. To thrive in the competitive global business environment, proper agricultural planning and management should be done so as to achieve competitive advantage and economies of scale in production. He reports that harmful speculative motive in the agriculture sector is strong and vibrant that hurts agricultural production and distribution. As a result of these practices, farmers and growers in many situations are deprived of getting their due and fair share for their valuable contributions towards agricultural production. Further, with respect to the institution of intermediaries, Dobson and Quader (2005) observed that the role of middlemen in the agribusiness is not very efficient and needs to be streamlined and improved so that the gains to consumers and producers can be improved.

Regarding the prospects for organic farming within agribusiness, Ali and Nupur (2009) finds that awareness among farmers of such farming is very low and that such awareness and interest among the producers and consumers can be improved by providing timely and better quality information through methods ranging from simple field training, media programs, leaflets, cell phones, updated websites and comprehensive campaigns.

In a different context, Orr (1993) opined that past gains in agricultural productivity in different countries have contributed significantly to the problem of global warming. Actually Bangladesh has also been facing serious global warming problem which may cause danger in agribusiness. Salinity problems, coastal area problems, flood problems, water–logging, river erosion, river basin surface runoff, drought etc. are creating problems for production of agricultural products as a

whole. This has been accompanied by high growth rate of population. As such proper techniques, innovations, adaptability, mechanization, and policy framework and implementation of the policies are required for agribusiness management of Bangladesh.

In the context of a global economy, poor developing countries get some preferential access to rich country markets for some of their agricultural and other primary and semi-processed exports through the GSP (Generalized System of Preferences) schemes that countries like Bangladesh can take advantage of. In this context, Brenton and Ikezuki (2005) argue that having access to trade preferences is not a panacea for success but rather should be seen as just one part of a strategy to boost export-led growth and development. In their view, the challenge is to find preference schemes that complement the domestic reforms that developing countries must undertake to improve the returns on their exports without stifling diversification and multilateral trade liberalization. They further observe that successful agribusiness can reduce trade deficit and contribute to income generation and economic development in the country. Further, Deb (2008) suggests that Bangladesh agriculture has potential for further diversification in its product lines. However, in order to achieve this, Bangladesh must invest in road infrastructure, strengthen and implement the WTO's health and quality standards, which are critical for agribusiness exports in global markets.

With respect to financing, Hossain and Bayes (2009) found that business activities in rural areas are mostly financed by own sources, and the role of the credit institutions, formal or informal, is minimal. They report that household's own savings meet about three-fourths each for the required initial (start-up) and investment capital with commercial banks supplying only 10 percent of the initial capital and nine percent of investment capital. The role of NGOs in this case has also been meager – only three and four percent, respectively. On the other hand, moneylenders and friends/relatives were found to supply one-tenth of the total credit needs in business. Before the crop is ready for harvesting/cutting, the farmer may not have any money to survive and hence become heavily dependent on informal sector high interest rate financing.

Current Status of Agribusiness in Bangladesh

As defined in the introduction, the scope of agribusiness could be quite broad and span across many sub-sectors and product lines within agriculture and agro-based processing industries at higher and higher value adding activities and services. In assessing the state of the agribusiness sector, this section will draw upon several studies done by other researchers in this area as well as the information collected and reported for this paper. As discussed earlier, several authors have shown that the agribusiness sector has made progress over the years, but the sector still lags

behind compared to its potential as elaborated below. This is so in spite of the initiation of the green revolution during the sixties to maximize the benefit of agricultural output and the governmental efforts through various public institutions such as the BADC (Bangladesh Agricultural Development Corporation), Krishi (Agricultural) Bank, rural extension services, agricultural subsidies, among others, to promote and support the sector since independence in 1971. In spite of all these efforts, the agribusiness development has remained much below expectations and surely much below its potential.

In an important study related to the status of agribusiness in Bangladesh, Deb and Zaman (2007) argued that agribusiness-related production in Bangladesh has substantially increased during the last 35 years. Production of crops, livestock and fisheries has increased significantly. They report that rice production has increased from 9.90 million metric tonnes in 1972/73 to 26.53 million metric tonnes in 2005/06. Similarly the production of many other crops including potato, maize, fruits, vegetables and other value creating activities have also increased. However, they report that production of wheat and sugarcane has decreased and the area under jute cultivation has declined though production increased slightly due to increased yield. Gani(2012) describes that Bangladesh produces 0.08 million ton domestically and import 1.3 million ton, mainly from India.

Zhu and Sur (2008) argued that the demand for food in Bangladesh and around the world is changing rapidly. Driven by economic growth, rising incomes, and urbanization, demand is shifting away from traditional staples toward high-value food commodities such as fruits, vegetables, spices, fish, and livestock products, many of which need processing before reaching the market.

Further, the milk production now is about five times while fish production is about 2.9 times of the production in 1972/73. Shrimp production has increased to 110 million tonnes in 2004/05. Thus, agricultural production system in Bangladesh has been gradually transformed from a subsistence oriented system to a commercially driven production system, which is very much responsive to prices, policies and trade liberalization.

According to the Bangladesh Board of Investment (BOI 2010), over 90 varieties of vegetables are grown in Bangladesh, yet for such a fertile land, there are huge gaps in local resources and under-utilization of the country's agricultural capacity. According to the BOI, these gaps present many opportunities for investors seeking to develop and process agricultural products to meet the rapidly growing local demand and for exports. Here are just some of the investment opportunities: building cold storage facilities to serve all stages of the supply chain; develop processing plants for local and foreign markets, increase production of fertilizers; developing new and improved seed varieties, develop eco-friendly jute and other agricultural production, increase shrimp farming; increase milk and dairy prod-

ucts; develop high value added foods for exports such as herbs, spices, nuts and pulses, among others (BOI 2010).

Talukder and Chile (2013) find that although all groups of rural households experienced a moderate to high increase in real income, non-farm households experienced a larger increase than farm households due to a large reduction in consumer price. Farm households gain from the increase in productivity but experienced losses from producer price reduction. The two opposite forces – increase in productivity and reduction in producer price – offset the effects of each other, thereby affecting the income growth of farm households. Amongst the farm households, large and medium farmers gain the most and small farmers gain the least from the growth in real income, indicating that rich households experienced a much higher increase in real income than poor households – thereby adversely affecting the distribution of income and widening the income gap between rich and poor households.

Bangladesh Agribusiness report(2014) states that while it comes from a low base, structural problems still plague the industry. In the medium term, for example, the frequent occurrences of strikes, or hartals and road bloackages will keep our optimism for the industry at bay as these often aggravate the logistical challenges of food transportation within the country, causing the biggest loss to the farmers. Industry estimates place last year 's damage to the poultry industry BDT 3.8 bn between October and December 2013, also causing 30% of farms to shut down. Over the long term, we believe that there is much more room for growth and improvement in sub-sectors such as grains and livestock. That said, as the agriculture sector in Bangladesh employs close to 70% of the working population but contributes to only 20% of the country's GDP, there is also an obvious need for improvement in efficiency of operations. Key Forecasts: Rice production growth to 2017/18: 9.0% to reach 37.7mn tonnes. Over the longer term, the introduction of an 'input distribution card' to 9 mn small farmers will very likely help them to obtain cash subsidies for these inputs and boost productivity; Wheat consumption growth to 2017/18: 12.7% growth to 4.9 mn tonnes. The main drivers of this growth will be increased per capita consumption and population growth, with the population of Bangladesh forecast to grow by 5.9% to 166.0 mn people in 2018, from 156.6 mn in 2013; Poultry production growth to 2017/18: 12.2% to 239,000 tonnes. Better economic conditions and higher disposable incomes will help to drive demand for meat. Better disease control is also expected to support the recovery of the sector(source: http://store.businessmonitor.com/bangladesh-agribusiness-report.html,access date:23.06.14).

One important development to note is that Bangladesh is gradually entering in external trade in agribusiness products. For example, Bangladesh is now exporting

frozen vegetables, frozen fish and fish products, and a number of other semi-processed and processed agribusiness type products in the European, Middle Eastern, Asian, and North American markets. This process opens new avenues to private sector investment in the areas of agricultural production of high value of crops and production of seeds.

Demonstrated for the two major product categories within Agribusiness for which long period time series data could be obtained are (1) food and (2) agricultural raw materials, which are shown in Figures 5 and 6.

**Figure 5: Share of Food and Agricultural Raw Materials in Total Exports: Bangladesh: 1977-2010**
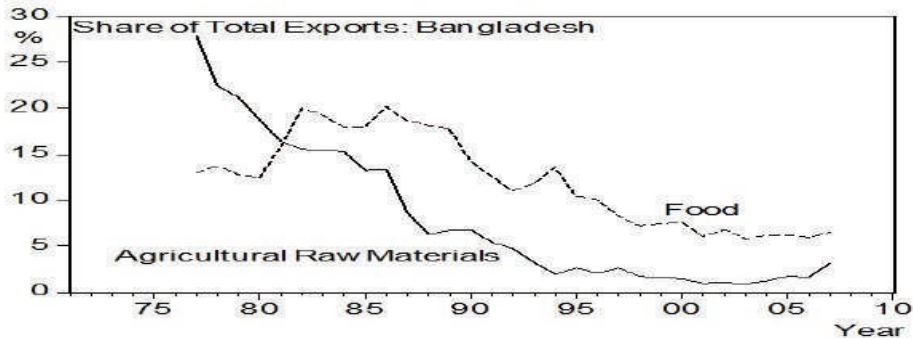
Source: World Bank (2012), World Development Indicators, Washington DC, USA, www.worldbank.org

In Figure 5, it is observed that the share of the two items separately for food and agricultural raw materials in total exports of the country over time from 1977 to 2008 have consistently declined until 2001 with a slight upward trend since then. The recent rise in the export performance is encouraging, but the rate of increase is quite slow as shown by the slow upward trend in the relevant curves in Figure 5.

The trend in the share of two agriculture related import categories, imports of food and agricultural raw materials, from overseas over time is shown in figure 6. The import share of these two product categories has declined over time until early to mid 1990s and it started to show upward trend since then. The rise in the import share of food is attributable to rising population in the country and rising income of the people with economic progress. Unfortunately, domestic production of food could not keep up with the rising population and income, resulting in the rise of the import share of food. In addition, the rise in the import share of agricultural raw materials is attributable to the growing industrialization of the country requiring much needed raw materials from abroad to support manufacturing sector growth and manufacturing exports. It is to be noted that if the agribusiness sector in the country developed faster and further, the need to import in these two areas could

have been reduced, thus helping to improving the country's perennial balance of payment deficits.

Figure 6: Share of Food and Agricultural Raw Materials in Total Imports in Bangladesh: 1977-2010
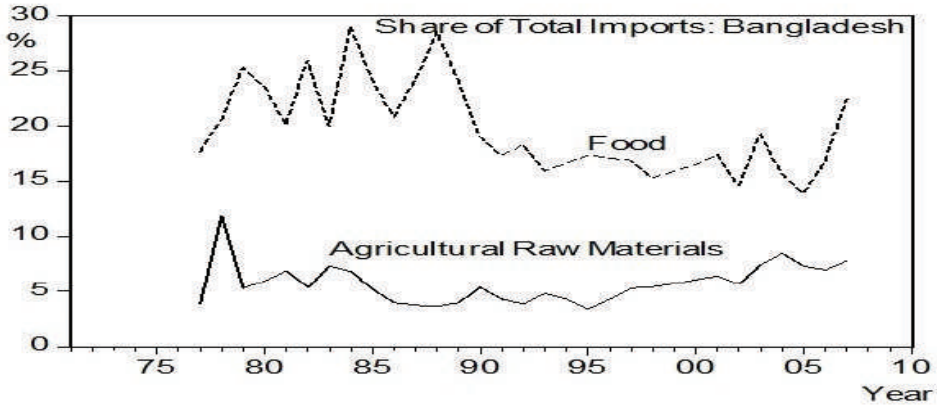
Source: World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org

4. Potentials for Agribusiness in Bangladesh

As already observed in discussions, the share of agriculture in Bangladesh is quite large and significant but the size of the agribusiness sector in the domestic economy is quite small and growing only slowly. Further, the share of agribusiness in country's total exports is also negligible. With a large current population of about 160 million people which is growing rapidly along with rising income and rapidly growing urbanization, it could be safely argued that the need for food and various other agricultural and agribusiness products in the country would rise rapidly. For similar reasons, the demand for food and agribusiness products would rise at the global stage, thus opening up more export opportunities for the country. In this context, a growing and vibrant agribusiness sector can help achieve food security, rural employment and income generation, poverty reduction, and thereby contribute to the commercialization of agriculture with concomitant industrialization and economic development of the country. In addition, Bangladesh can also exploit the global market place in exporting agribusiness products that can provide further contributions to economic development, including improving the country's balance of payments position and in reducing foreign exchange constraints. Thus, there are ample opportunities for the country in developing the agribusiness sector for domestic and export markets.

In response to this situation, some commercially oriented agribusinesses are taking roots in the country over the years to meet the growing home and foreign demand for agricultural and agribusiness products. However, this sector is quite small in both upstream (input supply) and downstream (production, processing, marketing

and distribution) markets and these provide ample room for growth and expansion. Further, breadth of products offered is very narrow, mostly in low processing and low-value adding activities and which are characterized by low productivity, low quality inputs, lack of modernized technology, inefficient product development, poorly developed supply chain and its management, inefficient transportation system and distribution networks, unacceptable level of product labeling and product standards, among others. Further, the industry is mired by various institutional and non-institutional weaknesses that are preventing the realization of its full potentials. The resulting progress of this industry is quite inadequate compared to the need of the time or its great potentials.

5. Institutional Weaknesses and Challenges Facing the Agribusiness Sector

As discussed in previous sections, the agribusiness sector of Bangladesh started to evolve, but it is still very weak and its contribution to the economy and to external trade is still very low to marginal at best. At the same time, this weak contribution indicates that there is ample opportunity for growth and development of this sector from its current nascent but emerging state. Currently, the sector's scope is very limited covering only narrow range of product lines. First, there is ample opportunity for different agribusiness-related product lines that can be developed over time. Second, the sectors where the value-adding agribusiness activities have already been emerging, productivity and efficiency needs to be improved to make them internationally competitive. Both of the above would lead the industry towards providing a broader product line with higher level of efficiency and productivity than before. But various institutional and non-institutional factors are hindering the industry to realize its full potential. Some of which are discussed below.

First, there are severe weaknesses from getting timely supply of critical and complementary inputs such as seed, fertilizer, gasoline, agricultural implements, and irrigation facilities, etc. at reasonable prices from the market as well as from the governmental institutions in charge of providing these critical inputs to the farmers. Weaknesses in this area tend to lower productivity, increase cost, and reduce profitability. Second, a critical problem for businesses is to market their products when there is the lack of good supportive infrastructure and extension services such as transportation and communication including roads, highways, storage facilities, distribution and marketing channels, among others. Weaknesses in this area tend to provide less revenues and profits for the agribusiness operators.

Third, lack of easy access to financing, especially from financial institutions (both public and private banks and specialized institutions) during harvesting and selling seasons causes serious setbacks to producers and operators to meet their financing their needs on a timely manner and at reasonable charges. This factor also affects

the productivity and profitability of the agribusiness operators. Some improvement has taken place in recent years with the advent of microfinance from some microfinance institutions such as the Grameen Bank, but this source of finance has not proven to be adequate to seriously mitigate the problem for majority of the farmers and agribusiness operators, many of whom would not qualify for the microfinance loans. Fourth, like many other institutions in Bangladesh, various publicly supported and sponsored financial institutions such as the Bangladesh Krishi (agricultural) Bank that were developed to provide institutional support towards promoting and developing agricultural and agribusiness activities has been mired by inefficiency, inflexibility and unresponsiveness, bureaucratic red tapes, rampant corruption, among others, thus rendering these institutions to be much less effective than what were intended or expected. As such, their contributions in helping the development of the agricultural sector in general and the agribusiness sector in particular had been very limited at best.

Fifth, the BADC (Bangladesh Agricultural Development Corporation), a government agency, put efforts to promote and develop the agricultural and the agribusiness sector since independence of the country. But it became crippled due to poor governance, inadequate funding, lack of political will and rampant corruption. Similar poor performance has been observed for other public projects, initiatives, and policies for the agricultural and the agribusiness sectors.

Sixth, an institutional environment and the related incentive structure is weak in encouraging and fostering private and public sector cooperation and partnership can improve this sector. It is also critical to take steps to improve technology and increase productivity. However, policy makers and businesses have to keep in mind that Bangladesh is a labor-abundant but land-scare economy and as such the type of technology chosen should be land-saving and labor-using type as much as possible. Public sector and public institutions should create an institutional environment where various critical inputs such as fertilizers, improved seed, irrigation facilities, financing, and other complementary inputs are made available at reasonable prices and on a timely basis.

Seventh, in a global context, weak institutions such as weak export capacity, lack of marketing and managerial skills to explore global markets, lack of a broad product lines for exports, weak or non-existence regulatory structure to enforce global health and quality standards for agribusiness exports, weak enforcement of property rights and contracts due to weak public policies and ineffective judicial systems that discourages much needed foreign investments and foreign cooperation in this sector, are hindering the realization of this sector's global potentials. Institutional reforms in the external policies leading to greater openness of the could bring much needed foreign investments in this sector along with modernized technology and global connections.

Further, in the global context, the country can develop closer relationship with the Bangladeshi expatriate communities across the world, who can provide networking opportunities with foreign companies and agents, invest their own remittances in the agribusiness sector, and help bring new technology and knowledge, and provide a market to buy and consume expatriate's home country agribusiness products, all these helping the growth and development of this sector, particularly in the foreign markets around the world. Such external linkages can increase exports of agribusiness products which will bring more foreign currencies, and thereby help reduce persistent and large trade imbalances of the country.

To summarize, a review of the extant literature in the previous section along with the discussion made in this study in previous sections points to a number of institutional, infrastructural, and policy weaknesses prevailing in the agricultural and agribusiness sub-sector of the country. These weaknesses range from weak physical, and technological infrastructure, lack of information and awareness of agribusiness potentials and efficient practices among various agents (farmers, consumers, intermediaries, and government officials), poor and inefficient input supply systems, inefficient production system involving small scale farming with a low a level of technological integration, poor distribution and marketing systems with inefficient and exploitative middlemen and their oligopolistic and cartel-type behavior, highly inadequate credit and financing system, poor governance with administrative and regulatory environment mired with red-tape and corruption, public policies that are highly ineffective and poorly implemented, lack of incentive structure to encourage entrepreneurship, innovation and investments in the sector, weak public and private sector partnership, poor export capacity with low level of exposure to foreign markets, weak or non-existence of health and quality standards and their enforcements, lack of diversified agribusiness products for exports, lack of foreign investments in this sector, among others.

Thus, for this sector to realize its full potential, a number of industry-supportive and enabling changes in both institutional and non-institutional areas need to take place. It is thus clear that much progress needs to be made in promoting and developing the agribusiness industry, if it is to contribute significantly to the economic development of the country. Reforming the current institutions, developing new institutions and policies, and making institutions and policies function better and more efficiently could be critical for the success of the agribusiness revolution.

Institutional Strategies and Policies for Agribusiness Development

The discussion in the previous section clearly shows the importance of the agricultural sector in Bangladesh in providing employment opportunities and contributing to the country's GDP. It is also clear from the literature review and discussions made above that agribusiness in Bangladesh is poorly developed and the country is far behind in realizing its full potential. The number of areas agribusiness is

currently conducted is very narrow and there is a lot of scope to widen the variety of products in which agribusiness potential exits. Further, the level of productivity in the current agribusiness production is quite low and there is room for further improvements. In addition, the external trade from the agribusiness sector is at a very low scale and hence there is strong potential for its development in the future. Again, institutional factors are weak and poor infrastructure remains a serious challenge. Also, various public support programs can be significantly improved to provide further impetus to the development of this sector.

Since institutions are important and critical for the development of an economy or industry as discussed earlier, the formulation and effective implementation of appropriate market-oriented and market-friendly public policies to encourage private sector investment and entrepreneurship along with the provision of institutional support in the upstream input markets (seed, fertilizer, energy, irrigation facilities, agribusiness extension services, credit and financing, etc) and downstream (production, processing, promotions and distribution networks) accompanied by infrastructure development (roads, highways, port system, telecommunication and information systems) by government would be critical to realize the potential of this sector. In addition, strategic management of agribusiness in the private sector is required so as to develop core competencies in this sector, which will require diversification to new product lines through creating various value-adding horizontal (product market expansion and development), vertical (upstream and downstream areas), and other linkages (such as credit and financing) within the framework of an efficient and dynamic supply chain and its management to meet the challenges of the agribusiness development of the country. Further, various weaknesses in institutional framework and policy formulation and implementation would go a long way in helping accelerate the development of this industry.

In developing and improving the institutional framework, there is need for improving and strengthening the "rules of the game" involving laws and regulatory structures (such as those dealing with quality and health standards), and their effective implementation. Further, the existing public institutions such as the BADC and the Krishi Bank, need to be made efficient, transparent, accountable, and responsive to the needs of this industry. In the making of reforms in public policy areas, a strong and effective incentive structure (such as those dealing with taxes, subsidies, and tariffs as appropriate, pricing and procurement policies, input supplies and their timely deliveries, availability of adequate financing from formal financial institutions such as public and private banks) needs to be developed to encourage private sector entrepreneurship, innovation, product development, and investments to promote the long-term sustainable growth of this industry to exploit potentials in both domestic and foreign markets.

In terms of infrastructure development, improvements in roads, bridges, highways, waterways, railways, airways, port facilities, and information technology infrastructure would improve shipping and transportation of agribusiness products throughout the country as well as to explore foreign markets could go a long way in developing this potential industry. Such infrastructure developments are, of course, highly expensive and time consuming. But proper government policies and initiatives can generate more funds from private investors at home and abroad, international institutions (such as the World Bank), and foreign governments having high investable surpluses and technologies (such as China, India, Malaysia, to name a few) that may complement significantly funds from government sources.

Further, to explore foreign market potentials, further institutional developments are needed to encourage export capacity expansion, coupled with trade policies to encourage exports of home exporters and developing market-friendly investment policies to encourage much needed foreign agribusiness-related investments at home that can bring both technology and foreign market connections and distribution channels. All these can promote agribusiness development of the country by bringing in more foreign currencies that can help reduce trade and payments imbalances, and also contribute to overall industrialization and development of the country. However, encouraging agribusiness-related foreign investments could have harmful effects on the country in terms of market power of these multinational agribusiness companies *vis-a-vis* home entrepreneurs (Wilkinson 2009) and appropriate regulatory and supervisory framework would be needed to deal with such investments to protect the interests of the country.

6. Concluding Remarks, Implications and future agenda for research

Traditionally, the agricultural activities in Bangladesh have been devoted primarily for home consumption as indicative of the subsistence nature of these activities characterized by low productivity and facing localized limited market size with very little scope for realizing scale economies (producing at a larger scale for a larger market that may reduce cost and improve efficiency) and scope economies (through expansion of product lines that may provide further opportunities for cost reductions) in production, processing, promotion and distribution. On the positive side, a gradual commercialization of these activities in the form of production for markets and profits beyond meeting home needs is taking roots. With appropriate institutional, structural, and policy reforms and infrastructure developments taking place as discussed above, the home market would be widening and even the global market opportunities could be explored.

The potential for expansion in an enlarged market with the possibilities of realizing scale economies and scope economies in production, processing, new product

developments, distribution, marketing, and supply chain management in both upstream and downstream markets is great and can be availed of. The gradual development of agribusiness in the country is a testimony to that effect. It is suggested in this exploratory paper that further and more accelerated development of the agribusiness sector to serve both local and foreign markets is not only possible, but is also critical for the realization of the country's need for food security, employment and income generation, poverty-reduction, mitigating trade imbalances, and overall industrialization and economic development of the country. The above-mentioned reforms and changes can unlock these possibilities for the country.

Finally, although the Green revolution was initiated in the country during the sixties to maximize the benefit of agricultural output, the impact of that revolution has now faded and hence a new revolution in agribusiness needs to be ushered in. However, one needs to keep in mind that such agribusiness revolutions may have significant adverse impacts in the global warming and climate change front facing the country. Given the well-documented vulnerability of the country to the adverse impacts of global warming and ecological imbalances, and many other vagaries of nature (floods, droughts, water-logging and salination, deforestation, among others), there is need for environment-friendly management of agribusiness so as to minimize the adverse impacts of the growth of this sector on further ecological imbalances and environmental degradation in the country.

Before concluding, however, a few limitations of the paper need to be mentioned as follows. First, given the exploratory nature of the study, the paper refrained from rigorous primary data collection and evaluation on the agribusiness sector. Second, the paper did not go into details on the analysis of any specific sub-sector within agribusiness, such as fisheries, poultry production, or fruit and vegetables processing. Third, the paper did not discuss and evaluate the status, effectiveness, and weaknesses of any specific agribusiness policy of the government. Fourth but not the least, the recommendations suggested in the paper remain at a very general level without going to recommend any specific policies and programs.

The authors hope that despite its weaknesses and limitations, the study should be useful in giving direction to and encourage further research by others in this area. As mentioned before, the level of current research on agribusiness in Bangladesh is limited at best. Much further research and detailed analysis and evaluation would be needed in order to understand this important sector. It is hoped that such research would be forthcoming in the future for the benefit of academics, researchers, practitioners, and policy-makers of the country.

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'Shut-Down Rule' vs 'Closure': Which one is relevant on closed garment factories of Bangladesh?

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Abstract: *Entry and exit of firms in a large industrial sector are a regular phenomenon, along with other players in domestic and external conditions that affect entry and exit of firms. Recently, Bangladesh Garments Manufactures & Exporters Association (BGMEA) informed about the closed down of over 200 factories, which it claims was due to various reform measures undertaken, along with the restructuring and failure to maintain compliance.*

Taking that into account CPD conducted a field survey of the closed factory units provided in the BGMEA list through a questionnaire. The objective was to examine the empirical evidence for the claims made by BGMEA for shut-down of large number of factories. Then the study examined whether there is a relationship between the closure of the factories and recent inspection for buyer's stringent stand on putting orders to certain kinds of factories. In addition, the research also inquired about the reasons behind closure of these factories and to what extent 'the shut-down principle' explains this closure. The study found that the shut-down is more relevant with the state of closure of factories. Hence, this paper puts forward suggestions regarding changes in primary support for entrepreneurship development in the RMG factories, in order to ensure a sustained and robust growth of entrepreneurship in the apparel sector.

1. Background:

Maintaining the compliance standards and labour rights in the RMG sector have been criticized for years until the largest tragedy in the industrial history of Bangladesh took place in 24 April, 2013: the collapse of Rana Plaza in Savar. A total of 1,134 workers died instantly in that incident and 2,436 workers were rescued from the collapsed building (CPD, 2014). Since then the western buyers faced stronger pressure to ensure the compliance conditions of the factories from where they buy the products. Thus, Accord, Alliance and BUET organized inspection teams to check the physical and other compliance issues of the RMG factories. However,

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this sudden step to maintain certain level of compliance has not been well received by many small and sub-contract RMG factories. BGMEA has provided two lists (one in May & other in September, 2014) named as "List of the closed factories due to Rana Plaza Tragedy" comprising the name of 176 factories first and later 209 factories (the current list), claiming that compliance inspections after the Rana Plaza Tragedy have resulted in the shutdown of these apparel units. Hence, BGMEA leaders asked for a comprehensive exit plan for those non-compliant apparel units (The Financial Express, 11 May 2014).

In the national newspapers, a number of claims by the BGMEA officials were reported as reasons of closure of these factories. BGMEA officials' major claim is that many of the apparel factories have been partly or fully closed because of the ongoing inspection to check compliance factors (The independent, 14 May 2014; The Financial Express, 11 May 2014). According to the Association, non-compliance, western retailer' audit, recent wage hike and workers' unrest had negative impact on orders, thus resulting in the shutdown of apparel units (The Financial Express, 11 May 2014). Moreover, Mr. Shahidullah Azim, Vice president of BGMEA said that buyers are no longer placing orders in apparel factories located in shared or rented buildings and thus many owners willingly closed their factories as they could not run their business. Hence, BGMEA published a list of 176 garment factories which had been closed due to the Rana plaza incident.

On the other hand, according to the report by The Daily Star (12 September, 2014), a total of 1,700 factories were inspected by Accord and Alliance. Besides, ILO and Bangladesh University of Engineering and Technology (BUET) inspected some 225 factories during April and June 2014. Hence, a total of 19 garment factories were closed by May, 2014 following the recommendations of Accord and Alliance (The Independent, 14 May, 2014). Among the 19 closed factories, the review panel instructed to shut down 16 factories in line with the recommendations of Accord and the other three were shut down according to the recommendations of Alliance. In September, 2014 BGMEA published the updated list of 209 factories that were closed due to Rana Plaza tragedy. Mr. Azim notified that small and medium factories set up in shared buildings, sub-contracting plants are closed as western retailers have cut orders from them in order to prevent further disasters. He also said many factory owners are struggling to pay the increased wage (27 September 2014, bd24live.com). Hence, some owners closed their plants as they were convinced that modifying to the compliance issues will not fix their problems. He then added that "lack of enough work orders, shared building, non-compliance issues, and workers' unrest were major issues behind closure of 209 factories" (DhakaTribune, September 4, 2014).

2. Research Objectives:

The paper intends to examine the claim made by the Association of RMG entrepre-

neurs (BGMEA) of closure of large number of factories due to reduced orders placed by buyers for failure to maintain strict compliance requirements after the tragic incidence of Rana plaza. The focus of this study is two-fold: 1a) Is there any relation between closure of the factory and recent inspection and buyer's stringent stand on putting orders to certain kinds of factories? 1b) If not, what are the reasons behind closure of those factories?, 2a) Can the closure of factories be explained by the shut down principle of economics? Or 2b) Is the policy intervention made by the government responsible for closure of factories? This paper investigates to what extent government should take responsibility of such factories if those factories are closed due to 'shut down' rule. More importantly, the paper examines and puts forward suggestions about what kind of support is needed for entrepreneurship development in the apparel sector in order to ensure a sustained and robust growth of entrepreneurship in the country.

Hence the research questions this study has sought to answer are:

i.   What are the major factors behind the closure of these factories?

ii. Whether these factories were shut down due to the introduction of the compliance issues?

iii. What is the economic theory behind the factory closure?

iv. In this context, what are the policy perspectives for these factors?

3. Methodology :

This study is an exploratory study to find out the reasons of closure of the factories listed by Bangladesh Garment Manufactures and Exporters Association (BGMEA). The first list published in May , 2014 was named as "List of closed factories due to Rana Plaza Targedy" and had names and addresses of 176 factories on it. Thus, the study first prepared a questionnaire to find out the answers of research objectives. The questionnaire consisted 28 questions and was divided in 4 broad sections. They are: a) Locational aspects, b) Labour related Issues, c) Accident History, and d) Owners' situation/ New entrepreneurial activities. It had both open ended and closed ended questions so that the reasons of closure and the situation of the closed factories are reflected from the survey.

Table 1: The summary of the factories in the survey

Response State	Frequency
Total number of closed factories in BGMEA's first list	176
Total number of factories traced in CPD's survey	159 (90.34%)
Total number of respondent factories	95 (59.75%)

However, in the field study, 159 factories were traced from the original list. Enumerators could only get data from 95 factories, as the other factories were not found in their respective addresses and some of the factory addresses given were incorrect (Table 1). A file was created listing the names and address of the factories from where enumerators sought to obtain data, and factories which were not found in their respective addresses.

Once the data of all the factories were entered in the computing system, the data analysis process started. Based on the newspaper reports, it was clear that the garment factories which had been closed had specific characteristics. Hence, first the study ascertained the state of the factories whether they were closed down or were still operating, and then obtained information about what was the location of these factories and in what sort of buildings they operated their business. The next phase of analysis was to list the reasons of closure mentioned by the interviewees. They were then listed under 15 broad categories. Based on the responses and literature review they were again separated in three specified categories as 1) Economic Issues, 2) Managerial Issues and 3) Other Issues.

After that the study found out when these factories were closed and whether these closed factories were examined by Accord/Alliance/BUET inspectors. Finally, the labour numbers, working hours and implementation of the new minimum wage of labours were recorded to identify whether there was a relation between the closure and labour condition. This study thus rigorously examined the nature and the condition of the surveyed factories and also identified the reasons for closing down operating units in the apparel industry

4. Findings:

The findings from the study are presented in seven parts. It starts by giving a summary of the state of the factories in the survey (4.1). It then describes the common nature of the closed factories found in the survey (4.2) and explains the social compliance status regarding wage and operational hour in those factories (4.3). After that, the survey shows how many factories were inspected among the respondent factories (4.4) and what were the closing years of these factories (4.5).Then, the reasons of closure mentioned by the respondents are discussed (4.6). Finally, the major reasons of closure are explained through the short run shut down decision of firms (4.7)

4.1 Balance Sheet of listed closed factories:

As stated earlier (Table 1), 95 factories answered the survey questionnaire. It was found that 75 factories were closed as stated in the list by BGMEA. However, not all of the factories that were stated to have been closed in the BGMEA list were

actually closed. The survey found that 16 of the listed factories are still in operation (Table 2). The survey also examined the major location of the surveyed factories. It was found that most of the factories were located within the Dhaka city (73.43%) and the other 26.57 % factories were located outside Dhaka. The factories were concentrated within Mirpur, Ramna, Mohammadpur, Tejgaon and Dhanmondi areas. Also, outside Dhaka Gazipur, Ashulia and Savar had higher concentrations of the surveyed factories.

Table 2: State of the respondent Factories

State of the respondent factories	Total Number
The number of closed factories among the respondents	75 (78.95%)
The number of factories still operating among the respondents	16 (16.84%)
Missing Responses	4 (4.2%)
Total number of respondent factories	95 (100%)

4.2 Nature of the respondent closed factories:

The findings of field survey suggest that there are some common characteristics among the closed factories. Most of the closed factories were established very recently (Table 3). They operated in shared buildings and were small and medium manufacturers (Table 4).

Table 3: Life span in respondent factories

Factory Establishment Date	Number of closed factories	Life span of factories (years)
1980 to 1985	7(9.59%)	25.1
1986 to 1990	4(5.48%)	18.25
1991 to 1995	9(12.33%)	11.5
1996 to 2000	23(31.51%)	9
2001 to 2005	18(24.66%)	5.1
2006 to 2011	12(16.44%)	4.3
Total responses	73(100%)	-

Table 3 shows that the majority of closed factories were established between 1996 and 2011. About 31.51% of the closed factories were established during 1996 to 2000, another 24.66% were established between 2001 and 2005, and 16.44 % were established after 2006. Hence, 53 respondent closed factories (72%) were established between 1996 and 2011, indicating that new established factories have shorter life span compared to earlier-established factories among the surveyed factories.

Moreover, it was found that about 57 % or 40 factories among the respondents had less than 500 people working within their premises (Table 5). About 20 % factories had 501 to 1000 workers and other 17 % had between 1001 to 2000 workers

within their premises (Table 5). These figures indicate that most of the small and medium RMG factories operating in shared buildings had been found closed in this survey. The survey reveals that as many as 73 percent of factories oprated in shared buildings (not shown in Table).

Table 4: Number of workers in the closed factories

Number of Workers	Number of closed factories among the respondents
Less or equal to 500 workers	40 (57%)
501 to 1000 workers	14(20%)
1001 to 2000 workers	12(17%)
More than 2000 workers	4(6%)
Total Response	70

4.3 Social compliance state among the respondent factories:

In this survey the wage payment and the operational hours of the surveyed RMG factories are considered as social compliance, considering the limitations of the survey[1]. Table 7 states that most of the factories (about 68%) were operating on normal working hours (equal or greater than 10 hours per day). Though it indicates that most of the workers in the surveyed factories had to work for longer hours, it also states that they had work orders to finish on time. However, this table also depicts that the other 22 factories (32%) were operating under the natural operational time. Therefore, these factories were going through lower work orders.

Table 5: Working Hours among the surveyed closed factories

Working hours	Responses of the closed factories
Less than 8 hours per day	4(5.8%)
8 hours per day	1(1.5%)
9 hours per day	16(23.2%)
10 hours per day	1(1.5%)
11 hours per day	16(23.2%)
12 hours per day	23(33.3%)
More than 12 hours per day	8(11.5%)
Total responses	69(100%)

[1] Note: Operational Time: In the RMG factories of Bangladesh 8 hours of normal working hours and an addition of 2 hours of overtime, in total 10 hours' work time per day is considered as normal operational hours.

When the condition of the wage payment in these closed factories was observed, it was found that only 36 (out of 95 factories) respondents answered the questions regarding wage. Among the responses 20 factories claimed that the wages were given according to law to their workers and the other 16 factories did not give wages according to law (Table 6). It was also observed that 17 factories (among the 20 factories that gave wages following the law) paid the new minimum wage (implemented from December, 2013). However, by close inspection it was found that among the factories that claimed that they gave wages according to the law and implemented the new minimum wage, 16 of them are still operating. On the other hand, among the closed factories only 4 were reported to give lawful wages to the workers and only one of them had implemented the new minimum wage.

Table 6: Payment of wages and the state of the respondent factories

State	Wages are not given according to Law	Wages are given according to Law	Total Responses
Factories that reported the wage payment	16	**20**	36
Operating factories among respondents	0	16	16
Closed Factories among the respondents	0	4	4

4.4 Inspection Status:

This study did not find strong evidence regarding the relationship between the closure of the surveyed factories with the recent inspection by Accord/Alliance or BUET officials, although it was reported that 19 factories (till May 2014) were shut down following the recommendations of Accord/Alliance (The independent, 14 May 2014). Moreover, among the surveyed factories only 14 factories (14.75 %) among the 95 respondents were inspected by Accord/Alliance or BUET officials. Conversely, 4 of the inspected factories were forced to close down for structural flaws.

4.5 Closure years of the respondent factories:

This study also reveals that contrary to the BGMEA's claim most factories were not closed after the Rana Plaza incident (April, 2013). In fact, only 19 factories were closed between 2013 and April, 2014 (Table 7). This empirical data is consistent with the figures published in the national daily newspaper (The Independent, 14 May, 2014; The Daily Star, 5 May, 2014). Most of the factories were closed between 2006 and 2010 (Table 7). It also points out that the garment factories closure have been occurring at a state over the years, specially after 2001 among

small and shared factories that were not investigated earlier. However, after the Rana plaza tragedy and strong inspections by the local and foreign agencies the closure scenario of the factories was highlighted publicly.

Table 7: The closing year of the factories

Year	Number of closed factories
Before 2001	1(1.45%)
2001 to 2005	16(23.18%)
2006 to 2010	20(28.98%)
2011	4(5.79%)
2012	9(13.06%)
2013	12(17.39%)
2014 (January to April)	7(10.15%)
Total Responses	69(100%)

Hence, it is clear that the closure of these factories cannot be explained singularly by the recent compliance inspection by the local and foreign agencies. There exist in-depth economic and entrepreneurial reasons behind this type of closure in this manufacturing industry.

4.6 The reasons of closure:

The reasons mentioned by the respondents as reasons of closure of their factories are analysed. This part of the questionnaire was open-ended in nature, so that the real reasons of the shut - down of the factories surface out in the study. There were a total of 51 reasons given by the respondents when asked about why their facto- ries were closed. However, they were then divided into 15 categories as most of the responses were similar in nature like labour mayhem, labour strike, problems among labours and the owner etc., that were put under the category of 'labour unrest'. This type of labeling was done to make the analysis more understandable.

The top three reasons behind closure that were mentioned by the respondents are fewer orders/buyers than before (26 responses), loss in business (23 responses) and mismanagement (20 responses). The top two reasons are closely linked with factory level economic issues. The other important reasons mentioned by the respondent factories were delivery failure, irregular wage payment and labour unrest. These responses are also divided into three broad categories to understand the nature of these reasons.

Table 8: Comparing the reasons of closure for RMG factories

Reasons for Closing	Total Responses
Less orders/buyers than before	26
Loss in business	23
Mismanagement	20
Lack of trust among the business partners	9
Shifting (to another place or to its own premise)	4
Delivery failure	8
Irregular wage payment	7
Labour unrest	7
Lack of Investment	3
Prohibitory Order from Accord	3
The rent contract of the building is finished	3
Theft	5
License cancelled	3
Increasing Cost	4
Other reasons	14
Total valid responses	139

A. Economic Issues (57 responses)
I. Fewer orders/buyers than before
II. Loss in Business
III. Lack of Investment
IV. Increasing Cost

B. Managerial Issues (43 responses)
I. Mismanagement
II. Lack of Trust among the business partners
III. Delivery Failure
IV. The rent contract of the building is finished
V. License Cancelled

C. Other Issues (19 responses)
I. Irregular Wage Payment
II. Labour Unrest
III. Prohibitory order from Accord

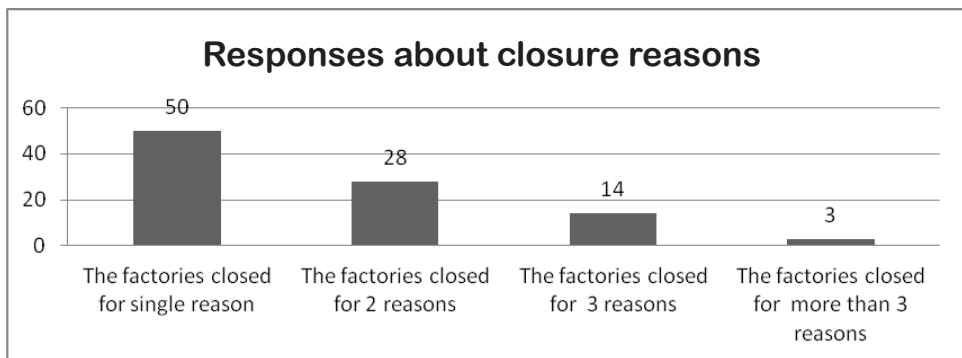*Figure 1: Multiple responses about reasons of closure*

Figure 1 indicates that many respondents identified more than one reason for their factory closure. Hence, there were a total of 139 responses from a total of 95 respondents. Interestingly, most of the respondents mentioned single reason (about

50 respondents) for closing of their units. The other 45 respondents gave multiple reasons for closing.

Also, comparison of the reasons for closure from Table 8 under the three broad categories indicates whether economic, managerial or other issues closely related to labour issues were mentioned as major reasons by the surveyed factories. This analysis portrays that obviously economic issues were hampering the production of these closed manufacturing units. Also, the managerial issues and other issues specially related to irregular wage payment and labour unrest already existed in some of these factories. However, the economic issues are dominant because of the recent stand on marinating the compliance. On the other hand, mismanagement or managerial issues and labour issues that were also important reasons of closure among these factories, were ignored for a long time because of the short term profit making perspective of the owners. These problems have been ignored so long that the addition of the recent inspection and the requirement to pay the compliance cost may have added to the ongoing economic issues of these factories and put so much burden on some these factories that they were forced to shut down (19 factories according to Table 7). However, it is also clear that if these factories dealt with the economic and managerial issues along with maintaining the compliance standard beforehand, these factories would have dealt with this recent compliance and less order issues more effectively.

4.7   The short run shut-down principle of firms:

The phenomenon of recent shut-downs can be explained by the microeconomic principle of short run shut-down decision of firms (Mankiw, 2014). According to this theory a firm depends on its average variable costs while deciding if it will shut down or not. The firm's fixed costs or sunk costs (like rent, purchase of equipment, installments of bank loans etc.) do not have any bearing on whether the firm decides to shut down. At the profit maximizing level of output if the firm's average variable costs are less than its marginal revenue, the firm will not shut down in the short-run. This is because the firm is better off continuing its operations as it can cover its variable costs and use any remaining revenues to pay off some of its fixed costs. The fact that the firm can pay its variable costs is very important in the short-run because the firm must pay its fixed costs regardless of whether or not it decides to shut down. Of course, the firm will not continue to incur losses indefinitely. In the long-run, a firm that is incurring losses will have to either shut down or reduce its fixed costs by changing its fixed factors of production in a manner that makes the firm's operations profitable.

However, generally a firm will shut down production whenever its average variable costs exceed its marginal revenue at the profit maximizing level of output. If this is not the case, the firm may continue its operations in the short-run, even though it may be experiencing losses.

By analyzing the data of this empirical study, the researchers believe that a major portion of the firms studied were operating where the marginal revenue was below the average total cost curve as there were some problems like entrepreneurial inefficiencies and other issues that need in-depth research from some time (since 2006 from Table 7) . However, they continued production until the recent compliance issues hampered some of them from getting sufficient orders from the buyers (according to BGMEA since 2013). In this situation, these factories had to shut down in the short-run because they were unable to cover their average variable costs as the revenue from the produced apparel unit could not even cover the average variable cost.

Nonetheless, the firms may continue the production in future once the situation improves and the marginal revenue would be able to cover the average variable cost of producing apparel products. The empirical data slightly supports this as 11 factory owners of the closed factories are planning to establish new garment factories (Table 9).

Table 9: Owners' plan of establishing new factories

Owners Plan	Closed Factories	Operating Factories
Owner establishing a new garment factory	11	5
Owner is not planning to establish new garment factory	59	11
Total Responses	70	16
Missing Values	5	4

The statistics about the factory growth in Bangladesh published by BGMEA (2014) also supports the establishment of factories at a higher rate in the recent years. For example, in 2012-2013 about 450 new factories were established that were enlisted under BGMEA. It indicates that the RMG industry has the capacity to set up new factories and thus the closure of the surveyed factories may fall under the shutdown principle of firms rather than recent reforms on compliance.

5. Conclusion:

The empirical findings from the survey prove that government's decision regarding labour rights like   minimum wage implemented in December , 2013 or inspecting compliance issues (Accord/Alliance initiative & other safety issues) are not solely or directly responsible for the closure of the factories interviewed in this study. In addition, BGMEA's claim that 176 factories were closed is wrong; the survey could interview only 95 factories from the list & among them 16 factories are still operating (as of June, 2014)

These factories had already had issues for a long time because of the characteristics of their manufacturing units. The study found out that most of the closed factories were newly set up (after 2001) and operated in rented shared buildings inside Dhaka city. Also, they were sub-contractors and had very small number of workers (500 or less). The labour rights were violated in these factories severely as most of the factories made workers work more than 10 hours per day and among the closed factories only 4 were reported to give lawful wages (Table 6). Hence, these factories were already struggling with managerial and labour issues and probably operating at a situation where their marginal cost was below the total variable cost. It was also reported by close circles that when workers demand their rightful wages some garment factory owners threatened to shut down the factories and about 300 factories were shut down for five consecutive days just to give the workers a lesson.

Recently, the strong initiative by foreign buyers and ILO in following safety standards, structural safety of the buildings and inspection of factories have added extra pressure on these units. The study found that there was lack of enough work orders in some of the factories due to retailers' unwillingness to give orders in factories working in shared spaces with risky structural, electrical and fire conditions. However, BGMEA's claim that all the factories in the list were closed because of reform in the garment industry like upgrading compliance & ensuring minimum wage could not be empirically established in this study.

Nonetheless, the study found that lack of orders from the buyers was one of major reasons for closing as it puts pressure in the vulnerable situation of these factories that were on the path of closure because of other past issues. Therefore, government 's role in planning exit proposal & setting necessary conditions for laying off workers will be inefficient in the long run, as these factories have internal management problems along with entrepreneurial inefficiency.

The findings from a study on Cambodian apparel factories suggested that there was little evidence that improving working conditions or compliance issues increase the probability of closure (Brown, Dehejia & Robertson, 2011). In fact according to the study some of those factories increased their probability of survival due to improvements in compliance issues. Ahmed, Greenleaf and Sacks (2014) mentioned that, apparel brands may choose to exit the Bangladeshi market for countries such as Cambodia and Sri Lanka, which have built reputations as destinations for ethical sourcing of readymade garment. Hence, in the long run the garment factories of Bangladesh have to learn to be complaint with international standards if they want to maintain their competitiveness in the world apparel market.

Therefore, training the owners of these factories to learn about the nature of the garment industry & how the consumer preference of the western buyers are moving would help them to be more competitive. Moreover, providing them skills to establish relationship with foreign buyers and learning how to maintain the minimum level of compliance and thus increase their orders would help them sustain in this business in the long run.

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