

**BANGLADESH  
JOURNAL  
OF  
POLITICAL  
ECONOMY**

**Bangladesh Economic Association**

**BANGLADESH JOURNAL OF  
POLITICAL ECONOMY**

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**Vol.7 No.1 A**

**Conference 1985**

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**PAPERS AND PROCEEDINGS  
OF THE  
Seventh Biennial Conference  
OF THE  
BANGLADESH ECONOMIC ASSOCIATION  
Jahangirnagar University, Savar, Dhaka  
December 17-19, 1985**

**MUHIUDDIN KHAN ALAMGIR  
WAHIDUDDIN MAHMUD  
Editors**

**DECEMBER 1986**

## THE BANGLADESH JOURNAL OF POLITICAL ECONOMY

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Vol. 7	Conference 1985	No 1A
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## (1986 & 1987)

\* Bangladesh Journal of Political Economy is published by the Bangladesh Economic Association. Mailing address: Bangladesh Economic Association, C/O Department of Economics, University of Dhaka, Dhaka-2.

\* The price of each part of the Conference issue is Taka 100.00 (domestic) and US \$ 10.00 (foreign). Correspondence for subscription may be sent to the Business Editor, Bangladesh Journal of Political Economy, C/O Department of Economics, University of Dhaka, Dhaka-2.

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\* Asia Foundation deserves special thanks for its generous financial support for the publication of this volume.

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## Editors' Introduction

This volume, which is published in two parts, contains the papers and proceedings of the seventh biennial conference of the Bangladesh Economic Association held during December 17 — 20, 1985. Most of the papers here are invited, not contributed; some of them had to be edited to improve content and style and satisfy space requirements. A few papers had to be excluded altogether to meet extreme space constraint and the publication deadline. We hope that, subject to the usual refereeing process, these excluded papers can be published in a regular issue of the journal.

The general theme of the conference was development planning in Bangladesh, with particular reference to the Third Five-Year Plan. Although the papers deal with a wide variety of topics related to different aspects of planned development, they have been arranged according to certain dominant themes. The ordering arrangement is not intended to reflect in any way the relative merits of the papers.

The editors gratefully acknowledge the help and advice received from many friends and colleagues. Professor Muzaffer Ahmad, President of the Association, has given encouragement and valuable guidance. Dr. Nazmul Bari has played a key role in the production of this volume. Dr. Mustafa Alam, Dr. Selim Jahan, Mr. Mosharraf Hossain Munir, Mr. Nazrul Islam and Ms. Shahnaz Perveen have helped in the editorial work. Valuable assistance has also been provided by Mr. Shafiqur Rahman, Ms. Shaheen Khan, Ms. Hamida ara Ahmed, Mr. Saiful Huda, Mr. Asghar Ali, Ms. Khaleda Akhter, Ms. Lutfunessa, Ms. Rebeca Sultana and Ms. Shaheda Alam.

Muhiuddin Khan Alamgir  
Wahiduddin Mahmud

## স্বাগত ভাষণ

প্রফেসর আ ফ ম কামালউদ্দিন \*

সম্মানিত প্রধান অতিথি, বাংলাদেশ অর্থনীতি সমিতির  
সভাপতি ও সদস্যবৃন্দ এবং সমবেত সুধীমন্ডলী,

বাংলাদেশ অর্থনীতি সমিতির সপ্তম দ্বি-বার্ষিক সম্মেলনের অভ্যর্থনা কমিটির পক্ষ থেকে আমি আপনাদের সকলকে স্বাগত জানাচ্ছি। দেশের তৃতীয় পঞ্চবার্ষিকী পরিকল্পনার মত গুরুত্বপূর্ণ বিষয় নিয়ে আয়োজিত এই মহতী সম্মেলনের স্থান হিসেবে জাহাঙ্গীরনগর বিশ্ববিদ্যালয় ক্যাম্পাসকে নির্বাচিত করায় আমি বাংলাদেশ অর্থনীতি সমিতিকে আন্তরিক ধন্যবাদ জানাই। এই নবীন বিশ্ববিদ্যালয়ের সুযোগ-সুবিধা অত্যন্ত সীমিত জেনেও যে আস্থার সাথে সম্মেলন অনুষ্ঠানের দায়িত্ব আমাদের উপর অর্পিত হয়েছে, তা অটুট রাখার জন্য আমরা যথাসাধ্য চেষ্টা করেছি। এই সম্মেলন সার্থক হোক, সফল হোক, এই আমার আন্তরিক কামনা।

মাননীয় প্রধান অতিথি এই সম্মেলন-উদ্বোধন করতে সম্মত হওয়ায় আমরা তাঁর কাছে বিশেষভাবে কৃতজ্ঞ। দেশের একজন প্রখ্যাত অর্থনীতিবিদ ও প্রবীণ চিন্তাবিদ হিসেবে এই অনুষ্ঠানে তাঁর উপস্থিতি নিঃসন্দেহে সম্মেলনের কার্যক্রমকে অনুপ্রাণিত করবে। আমি তাঁকে জানাই আন্তরিক মোবারকবাদ। আজকের এই অনুষ্ঠানে ঢাকা মহানগরী এবং দেশের প্রত্যন্ত অঞ্চল থেকে বিভিন্ন বৃত্তিতে নিয়োজিত অনেক অর্থনীতিবিদ উপস্থিত হতে পেরেছেন বিধায় আমরা অত্যন্ত আনন্দিত। আমাদের বিশ্ববিদ্যালয় দেশের এবং বিদেশের বহু প্রখ্যাত অর্থনীতিবিদকে আজ অতিথি হিসেবে পেয়ে গৌরবান্বিত হয়েছে। আমি দৃঢ়ভাবে বিশ্বাস করি আজকের এই সম্মেলন পারস্পরিক সৌহার্দ্য ও সহানুভূতির মধ্য দিয়ে আন্তর্জাতিক সহমর্মিতা গড়ে তুলতে সহায়ক হবে। বাংলাদেশের অর্থনৈতিক সমস্যা নিয়ে এই সম্মেলনের বিভিন্ন আলোচনা সভায় গুরুত্বপূর্ণ মত বিনিময় হবে এবং আমরা প্রচুর সময়োপযোগী তথ্য লাভ করবো। আমি এজন্য বিদেশাগত সম্মানিত অর্থনীতিবিদদের জাহাঙ্গীরনগর বিশ্ববিদ্যালয়ে সাদর সম্ভাষণ জানাচ্ছি।

চলতি মাসের ৭ ও ৮ তারিখে ঢাকায় দক্ষিণ এশিয়া আঞ্চলিক সহযোগিতা (সার্ক) ফোরাম শীর্ষ সম্মেলনের মাধ্যমে আনুষ্ঠানিকভাবে প্রতিষ্ঠিত হয়। আজকে যখন আমরা এই সম্মেলনে অংশগ্রহণ করছি তখনও সার্কের বিভিন্ন কর্মসূচী চলছে। আজ দক্ষিণ এশিয়ার সাতটি দেশের একে অপরের মধ্যে দ্বি-পাক্ষিক, আঞ্চলিক ও আন্তর্জাতিক প্রশ্নে সহযোগিতার সম্ভাবনা একশত কোটি মানুষের মনে বিরাট আগ্রহের সৃষ্টি করেছে। পৃথিবীর দরিদ্রতম ভৌগোলিক অঞ্চলগুলির অন্যতম দক্ষিণ এশিয়া। যদি সার্ক অর্থনৈতিক অনগ্রসরতা দূর করে অসংখ্য

\* ডাইস চ্যাম্পেলর, জাহাঙ্গীরনগর বিশ্ববিদ্যালয় ও চেয়ারম্যান, অভ্যর্থনা কমিটি।

সমস্যাভারে জর্জরিত এই অঞ্চলের মানুষের জীবনে কল্যাণমুখী পরিবর্তনের সূচনা ঘটাতে পারে, তবেই এর উদ্দেশ্য সার্থক হবে। আমাদের অর্থনীতিবিদগণ সার্ক ফোরামে তাঁদের অগ্রণী ভূমিকা পালনের সুযোগ গ্রহণ করবেন, এটা তাঁদের কাছে এই অঞ্চলের কোটি কোটি মানুষের প্রত্যাশা হয়ে থাকবে।

সুধীমন্ডলী, জাতি তার ইতিহাসে এক সন্ধিক্ষণ পেরিয়ে আজ যখন তৃতীয় পঞ্চবার্ষিকী পরিকল্পনা বাস্তবায়নের পদক্ষেপ গ্রহণ করছে সেই মুহূর্তে এই সম্মেলন অত্যন্ত সময়োপযোগী হয়েছে। এটা হ'য়তো সত্য, উন্নয়ন পরিকল্পনা এককভাবে পেশাদার অর্থনীতিবিদদের আওতাধীন বিষয়বস্তু নয়। তবুও উন্নয়নের নীতিপ্রণয়ন, দিক দর্শন এবং কলাকৌশল নির্ধারণে অর্থনীতিবিদদের একটি প্রধান ভূমিকা রয়েছে। পেশাগত শিক্ষা ও অভিজ্ঞতাকে এদেশের রূঢ় বাস্তবতার সাথে সমন্বয় সাধন করে যুগ ও সময়োপযোগী উন্নয়ন এবং বাস্তবধর্মী পদ্ধতির প্রেক্ষিতে সাহসিকতার সাথে আপনাদের বক্তব্য পেশ করবেন, এই প্রত্যাশা দেশবাসী করতে পারে। বিশেষ করে এদেশের অর্থনৈতিক চিন্তাধারার ভিত্তি সংস্থাপনে এবং পরবর্তী পর্যায়ে সেই চিন্তাধারা বাস্তবায়নে বিশিষ্ট অর্থনীতিবিদগণ এবং মূল সিদ্ধান্ত গ্রহণকারী বিশেষজ্ঞ ও বিশিষ্ট ব্যক্তিবর্গ আজকের এই সম্মেলনে উপস্থিত আছেন। তাঁদের উপস্থিতি এবং সম্মেলনের বিভিন্ন অধিবেশনে তাঁদের সক্রিয় অংশগ্রহণ এই সম্মেলনের উদ্দেশ্যকে সফল করতে সাহায্য করবে।

অসুস্থ এবং মিশ্র চিন্তাধারা অর্থনৈতিক পরিকল্পনার ভিত্তিতে আঘাত হানে একথা অনস্বীকার্য। স্বাধীনতার চৌদ্দ বৎসর পরেও আমাদের পরিকল্পনার দর্শন ও প্রশাসনিক কাঠামোর মধ্যে সংযোগ এবং সংহতির প্রচণ্ড অভাব পরিলক্ষিত হচ্ছে। এটা অত্যন্ত দুর্ভাগ্যের বিষয়। আমাদের রাজনৈতিক অর্থনীতি এখনও সুগঠিত হয়নি। অন্তর্দৃষ্টিতে সমাজতন্ত্র ও পুঁজিবাদী অর্থনীতির পরস্পর বিরোধী দর্শনে আমরা যখন দ্বিধা বিভক্ত, তখন এদেশে একটি সুসংগঠিত অর্থনৈতিক পরিকল্পনা প্রণয়ন অত্যন্ত কঠিন ও অবাস্তব বলে মনে হয়। বিশ্বাসের জগতে দৈন্য অবশ্যই পরিহার্য। দ্বন্দ্ব ও দ্বিধা মুক্ত হয়ে অর্থনীতিবিদদের দৃঢ় প্রত্যয় ও আত্মবিশ্বাসের জগতে প্রতিষ্ঠিত হতে হবে। পৃথিবীর মানচিত্রে দরিদ্রতম দেশের একটি হচ্ছে আমাদের বাংলাদেশ। কিন্তু আমাদের চেয়ে অনেক কম সম্পদশালী দেশ অর্থনৈতিক ক্ষেত্রে অগ্রগতির উন্নত শিখরে অরোহণ করেছে, এরূপ দৃষ্টান্তের অভাব নেই। স্বাধীন সংকল্পবদ্ধ জাতি হিসেবে জাপানের কথাই স্মরণ করা যেতে পারে। জাতীয় চেতনাবোধের সাথে ঐতিহ্য ও ধর্মবিশ্বাস আমাদের সত্ত্বায় নিবিষ্ট রয়েছে, যা দৈনন্দিন জীবনে আমাদের বেঁচে থাকার উদ্যমকে নিরন্তর সমর্থন দেয়।

আমাদের উপলব্ধি করতে হবে এদেশের প্রকৃতি, মৃত্তিকা, মানুষ, ধর্ম, কৃষ্টি, সংস্কৃতি আমাদের অতীত ও বর্তমানের অনন্য শক্তি। এ শক্তির সুষ্টু প্রয়োগের মধ্যেই নিহিত আছে বাংলাদেশের ভবিষ্যৎ। আজ আমাদের ইচ্ছা শক্তিকেই আমাদের সর্বশ্রেষ্ঠ সম্পদ রূপে প্রতিষ্ঠিত করতে হবে এবং সরলভাবে সর্বপ্রকার সমস্যার মোকাবিলা এবং কোন প্রকার ভয় ও উদ্বেগের আশ্রয় না দিয়ে সমস্ত বিপদের ঝুঁকি গ্রহণ করতে হবে। এদেশের বিপুল জনসমাজ ক্রমবর্ধমান সমৃদ্ধির অংশ লাভে সক্ষম না হলে আমাদের বিপ্লব এবং স্বাধীনতার মর্মবাণী বিফল হতে বাধ্য।

আজকের এই সম্মেলনে তৃতীয় পঞ্চবার্ষিকী পরিকল্পনার বিভিন্ন দিকের উপর বিশদভাবে আলোকপাত করা হবে। এটা অনস্বীকার্য যে, সকল দীর্ঘ মেয়াদী অর্থনৈতিক পরিকল্পনা জনসাধারণের কল্যাণমুখী অংগীকার এবং উজ্জ্বল অনাগত ভবিষ্যতের শুভকর ও দীপ্তিময় আশ্বাস বহন করে। আজকে এবং ভবিষ্যতের কোন এক সময়ে এই আশা এবং

প্রত্যাশার মূল্যায়ন করবেন এই দেশের অর্থনীতিবিদগণই। তবে একটি বিষয় আমরা সদা অনুধাবন করে থাকি যে গ্রামীণ কৃষিভিত্তিক এবং নদীমাতৃক জনাকীর্ণ এ দেশের পরিকল্পনার লক্ষ্য মাত্রায় কিছু স্বকীয়তা থাকা উচিত। নিয়ত পরিবর্তনশীল অসংখ্য নদী-নালায় গঠিত ও পুনর্গঠিত বিস্তীর্ণ গ্রাম অঞ্চলে কৃষির পরিপূর্ণ বিকাশ শিল্পায়নের সুদৃঢ় ভিত্তি স্থাপনে সক্ষম। এরূপ গ্রামভিত্তিক ও বাস্তবধর্মী পরিকল্পনা সমাজের দুর্বলতম অংশের দারিদ্রকে প্রশমিত করে দেশের আঞ্চলিক অগ্রগতির বৈষম্য বিলোপ করতে পারবে বলে আমার বিশ্বাস।

সামগ্রিক পরিস্থিতি বিবেচনায় পরিকল্পনার মূল বরাদ্দের অন্ততঃ তিন-চতুর্থাংশ গ্রামভিত্তিক উন্নয়ন প্রকল্পের জন্য নির্দিষ্ট রাখা উচিত। গ্রাম অঞ্চলে কোন মৌলিক সুযোগ-সুবিধা নেই। গ্রামকে প্রবেশ্য করতে হবে, বিপদ-সংকুল নদীপথ নিয়ন্ত্রণ করতে হবে, বন্যার কবল থেকে ফসলাদি রক্ষা করতে হবে। জলসেচের ব্যবস্থা এবং বিদ্যুৎ সরবরাহের নিশ্চয়তাদান করতে হবে, বিশুদ্ধ পানীয়-জল, স্বাস্থ্যকর পরিবেশ এবং গণশিক্ষার সুব্যবস্থা করতে হবে। বনজ, মৎস্য এবং গবাদি পশু গ্রামীণ অর্থনীতির মৌলিক ভিত্তি হিসেবে কৃষি এবং কুটির শিল্পের সাথে সংযুক্ত থাকা উচিত। মোট কথা, গ্রামের পরিকল্পনা গ্রাম শক্তি ও সম্পদের সাথে সামঞ্জস্যপূর্ণ হওয়া উচিত। এই দেশের শতকরা নব্বইজন লোক দেশের অর্থনীতিবিদদেরকে শহর থেকে গ্রামে গিয়ে পরিকল্পনার নীতিমালা প্রণয়ন করার জন্য আহ্বান জানাচ্ছে। এই দেশের আপামর জনসাধারণের সুদৃঢ় বিশ্বাস, আমাদের অর্থনীতিবিদগণ সমস্যার বাস্তবতা উপলব্ধি করে দেশকে অর্থনৈতিক বন্দ্যাত্ব থেকে মুক্তি দিতে পারেন।

দেশের শতকরা নব্বইজন লোকের ক্রয়ক্ষমতাকে পং গু করে রেখে শিল্পোন্নয়ন সম্ভব নয়। অন্যদিকে বিরাট আঞ্চলিক অর্থনৈতিক অনগ্রসরতা এবং বৈষম্য বজায় রেখে জাতীয় অগ্রগতির বাস্তবায়নও সম্ভবপর নয়। তাই অর্থনৈতিক আত্মনির্ভরশীলতা রাষ্ট্রীয় বিধোষিত নীতি হওয়া স্বত্ত্বেও বৈদেশিক সাহায্যের অকটোপাস থেকে আমরা নিষ্কৃতি পাবি। তৃতীয় পঞ্চবার্ষিকী পরিকল্পনায় মোট ৩৮,৬০০ কোটি টাকার মধ্যে ২১,০১৮ কোটি টাকা বৈদেশিক সাহায্য খাত থেকে সংস্থান করার আশা করা হচ্ছে। এইভাবে বৈদেশিক সাহায্য এবং বৈদেশিক বাজারের উপর নির্ভর করে এই দেশের অর্থনীতি, কৃষি ও শিল্পকে যে আত্মনির্ভরশীল করা যায় না তা এই সম্মেলন গুরুত্বসহকারে বিবেচনা করবে বলে আমি আশা করি।

সুধীমন্ডলী, জাতীয় স্বার্থে উন্নয়নের একটি বিশেষ দিকের প্রতি আপনাদের দৃষ্টি আকর্ষণ করে আমার বক্তব্য শেষ করতে চাই। আমি বিশ্ববিদ্যালয় পর্যায়ে শিক্ষা সম্প্রসারণ ও উন্নয়ন পরিকল্পনায় তৃতীয় পাঁচশালা পরিকল্পনার বরাদ্দ সম্পর্কে উল্লেখ করছি। ৩৮,৬০০ কোটি টাকার মধ্য থেকে মাত্র ১০০ কোটি টাকা বিশ্ববিদ্যালয় শিক্ষা খাতে বরাদ্দ করা হয়েছে। দশ কোটি লোকের জন্য রয়েছে ছয়টি বিশ্ববিদ্যালয়। প্ৰসংগক্রমে উল্লেখ করা যায়, ১৯৭১ সালে এদেশে ছয়টি বিশ্ববিদ্যালয় ছিল— পাকিস্তানেও ছিল ছয়টি বিশ্ববিদ্যালয়। আজকে পাকিস্তানে যখন ২২টি বিশ্ববিদ্যালয় তখন এ দেশে বিশ্ববিদ্যালয়ের সংখ্যার কোন পরিবর্তন সূচিত হয়নি। যদিও সম্প্রতি কয়েকটি নতুন বিশ্ববিদ্যালয় প্রতিষ্ঠার কথা সরকারীভাবে ঘোষণা করা হচ্ছে, কার্যকরীভাবে ১৯৭০ সালে প্রতিষ্ঠিত জাহাঙ্গীরনগর বিশ্ববিদ্যালয়ই এখনও দেশের নবীনতম বিশ্ববিদ্যালয়। গত পনের বছরে এ বিশ্ববিদ্যালয়ে ছাত্র সংখ্যা দাঁড়িয়েছে উনিশ শতে। গত বৎসর পর্যন্ত বিভাগ ছিল ১০টি। প্রকৃতপক্ষে গড়ে শুরুর থেকে বৎসরে মাত্র ১২৬ জন ছাত্র বৃদ্ধি পেয়েছে। ১৯৭৪ সাল থেকে ১৯৮৪ সাল পর্যন্ত এই

বিশ্ববিদ্যালয়ে মাত্র একটি বিভাগ খোলা সম্ভব হয়। এ সকল তথ্য পরিবেশনের উদ্দেশ্য হলে, আমার মতে উচ্চ শিক্ষার ক্ষেত্রে ব্যয় সংকোচন নীতি অনুসরণ করে দেশের অনাগত ভবিষ্যতের সুদৃঢ় বুনিন্যাদ প্রতিষ্ঠা কখনও সম্ভব নয়।

আপনারা নিশ্চয়ই একমত হবেন যে জাতীয় শিক্ষানীতির একটি সুনির্দিষ্ট দর্শন থাকা উচিত। উচ্চ শিক্ষার ক্ষেত্রে এরূপ নীতির প্রয়োজনীয়তা আরও অধিক। একথা সত্য যে, কোন বিশ্ববিদ্যালয় প্রত্যক্ষভাবে আয়মুখী প্রতিষ্ঠানরূপে বিবেচিত হতে পারে না। তবে মনস্তাত্ত্বিক প্রতিভার পরিপূর্ণ বিকাশ এবং বিজ্ঞান ও প্রযুক্তি উন্নয়নের ক্ষেত্রে বিশ্ববিদ্যালয় শিক্ষার কোন বিকল্প ব্যবস্থাও নেই। গ্রাম থেকে গ্রামান্তরে প্রশাসন ব্যবস্থাকে সম্প্রসারিত করার জন্য যে নীতি গ্রহণ করা হয়েছে তার জন্য প্রয়োজন বুদ্ধিমত্তা ও প্রশাসন-প্রজ্ঞা সম্পন্ন উচ্চ শিক্ষিত জনশক্তি। কৃষি ও শিল্পোন্নয়নের ক্ষেত্রে দ্রুত অগ্রগতি সাধন করতে হলেও বিজ্ঞানের সকল শাখাকে সমন্বয়ের মাধ্যমে সুসংহত এবং সমৃদ্ধ করতে হবে। প্রশাসনযন্ত্রকে তার যোগ্যতার অতিরিক্ত দায়িত্ব দেয়া যাবে না। পরিকল্পনা কাঠামো ও প্রশাসনযন্ত্রকে উপযুক্ত প্রশিক্ষণ দেয়া না হলে কোন পরিকল্পনাই পরিপূর্ণভাবে বাস্তবায়ন করা যাবে না। একমাত্র বিশ্ববিদ্যালয় শিক্ষার মাধ্যমেই এসব সম্ভব। এছাড়া জাতির প্রয়োজনে অনুসৃত উপযোগী উচ্চ শিক্ষা নীতি ক্রমান্বয়ে নিম্নপর্যায়ের শিক্ষণ ব্যবস্থার মান উন্নয়নেও সক্ষম হবে। সর্বস্তরের শিক্ষার ক্ষেত্রে মান উন্নয়নের আর কোন সহজ এবং সংক্ষিপ্ত পন্থা নেই। আমাদের উপলব্ধি থেকে এবং জাতির ভবিষ্যতের দিকে লক্ষ্য রেখে এই সত্য কথাগুলি উচ্চারণ করা হল। আমি একান্তভাবে বিশ্বাস করি, দেশ গড়ার প্রয়োজনে ভবিষ্যতের পরিকল্পনা স্বচ্ছ চিন্তাধারার উপর প্রতিষ্ঠিত হওয়া বাঞ্ছনীয়।

পরিশেষে, আমি স্মরণ করতে চাই পৃথিবীর মানচিত্রে ভৌগোলিক সত্ত্বা হিসেবে বাংলাদেশের অভ্যুদয় বহন করে '৭১- এর সেই আগুন করা দিনগুলি এবং মুক্তিযুদ্ধের গভীর ম্লত চিহ্নের প্রতীক। আজ ১৭ই ডিসেম্বর, বিজয় দিবসের পরবর্তী দিন। গত ১৪ই ডিসেম্বর ছিল শহীদ বুদ্ধিজীবী দিবস। সমগ্র জাতি শোকগ্রস্ত এবং শ্রদ্ধাবনত শিরে স্মরণ করেছে প্রাতঃস্মরণীয় শহীদ বুদ্ধিজীবীদের। মেধা, মনন ও সুস্থ চিন্তাধারা বিকাশের লক্ষ্যে আমাদের দেশের শহীদ বুদ্ধিজীবীদের মহান আত্মত্যাগ উত্তরসূরীদের চেতনায় সাহসিক মত প্রকাশের প্রত্যয় এনে দিয়েছে। তাই লাখে লাখে শহীদের অমর আত্মার প্রতি শ্রদ্ধা নিবেদন করে আশা করবো আমাদের সকল শ্রম ও জ্ঞান সাধনা দেশের রক্তাক্ত ধূলিকণা ও পরিবেশকে অধিকতর আত্মত্যাগ ও নির্ভীকতার মহিমায় স্নিগ্ধ ও গৌরবান্বিত করবে এবং দেশের রাজনৈতিক ও অর্থনৈতিক স্বাধীনতার পূর্ণতা আনয়নে সক্ষম হবে।

সম্মেলন অভ্যর্থনা কমিটির পক্ষ থেকে এবং ব্যক্তিগতভাবে আমি পুনরায় আপনাদের সকলকে স্বাগত জানাই। অর্থনীতি সমিতির সকল কর্মকর্তা ও সদস্যকে জানাই আন্তরিক ধন্যবাদ। জাহাঙ্গীরনগর বিশ্ববিদ্যালয়ের অর্থনীতি বিভাগের সকল শিক্ষক ও ছাত্র-ছাত্রী ষাঁদের অক্ষান্ত পরিশ্রমের ফলে এই সম্মেলনের সুষ্ঠু ব্যবস্থাপনা সম্ভব হয়েছে এবং এই সম্মেলন সফলভাবে অনুষ্ঠানের ব্যাপারে বিশ্ববিদ্যালয়ের যে সকল শিক্ষক, অফিসার এবং কর্মচারী নিরলস সাহায্য ও সহযোগিতা করেছেন তাঁদের সকলকে জানাই আমার আন্তরিক অভিনন্দন। এই সম্মেলন ফলপ্রসূ হোক, এই কামনা করি।

খোদা হাফেজ

বাংলাদেশ জিন্দাবাদ।

# INAUGURAL ADDRESS

By M. N. HUDA

**Mr. Chairman, Members of the Bangladesh Economic Association,  
Ladies and Gentlemen**

The sponsors of this Conference have shown me great kindness in inviting me to inaugurate this Conference, and for this I am very grateful. This Conference is a timely response on the part of the Bangladesh Economic Association to deliberate on many issues of great national importance at a time when the country's Third Five Year Plan is just being launched. A Five Year Plan is an official document recording the country's officially accepted policies and programmes, and the economics profession has a responsibility to scrutinise all its aspects carefully and bring the important issues into public debate.

Despite our efforts at planned development for now more than a decade, the economic scenario that obtains to-day is a dismal one. Although there has been some modest growth in overall productivity since the initial disastrous years following the liberation war, the average standard of living in Bangladesh still remains pitifully low. All the more disturbing is the evidence that there has been a worsening of the distribution of income. Given the extremely low level of our per capita income, even a small deterioration in the degree of inequality is likely to push a large number of people below the poverty line. The increase in impoverishment and pauperisation is a part of the dynamic processes linked to the pace and pattern of economic development in the country. The problem has to be posed therefore as to why, apart from the population growth, increasing number of people are joining the ranks of the poor and malnourished.

With the benefit of hindsight, it is easy to say now that the targets of our previous Plans were overly optimistic. Confronted with the socio-economic and political realities of Bangladesh, our planners have an unenviable choice between optimism and pragmatism. In setting the growth targets, there is little room for choice between the minimum that is acceptable on social and political grounds and the maximum that seems plausible on broad economic tests. A certain amount of optimism in a Plan is acceptable on the ground that it sets a challenging target which stimulates great efforts. However, an excessively ambitious Plan, unless supported by very determined efforts, soon loses its credibility and becomes non operational.

The consequences of this are all too familiar—decisions being taken on an ad hoc basis and the Annual Development Plans becoming a dismal affair of allocating too little funds among too many projects.

There have been too many missing links in our plan-making efforts. While setting the high growth targets, the underlying strategy was not adequately articulated in terms of concrete policy proposals. To the extent that the required policy reforms were identified, there was a lack of political commitment to carry them out. While the logical consistency of the Plan calculations were meticulously taken care of by our planning experts, the appropriate social framework for the Plan strategy was missing. There was a lack of feedback from the experience in the field to the formulation of policies at the national level. There were also large data gaps. At the macro-level there was little understanding, in terms of statistical evidence, of the complex interrelationship among the production process, unemployment rates and poverty levels. The planners lacked a clear idea of the process by which the purchasing power generated within the production structure was going to be transmitted to the lower income deciles of the population. Planning for basic needs has been, therefore, largely in the nature of a numbers game, with the planners failing to take cognizance of the real processes behind the numbers.

The logic of a Plan must come from its underlying development strategy. It is not easy to discuss in a few words what would be an appropriate development strategy for Bangladesh at her present stage of development. Leaving aside the obvious ideological controversies, there seems to be an emerging consensus among our economists and experts about the essential features of such a desirable development strategy. This strategy can best be characterised by its agricultural-rural-employment orientation. In the choice of technology, the objective would be to achieve maximum feasible employment growth by taking all realistic advantages of labour-saving technology. Achieving 'genuine' self-sufficiency in foodgrain production must be pursued as an overriding objective, not merely because it will help the balance of payments, but because of its likely contribution to employment expansion and poverty alleviation. This would imply an approach to agricultural development that is broad-based instead of being big-farmer-biased. Such a broad-based approach is essential not only from the point of view of income distribution, but also for ensuring the economic use of resources (e.g. the irrigation facilities that must be shared by the well-to-do farmer with his not so well-to-do neighbours). While the land question will continue to remain sensitive and intractable, we must think of some institutional framework that would permit the pooling of productive resources in the rural sector and their utilisation jointly by the entire rural population. And finally, a strategy for poverty alleviation within the overall resource constraint must entail not only a tackling of the poor but also a tackling of the non-poor. Measures to remove the undue urban-bias in

development, charging high tariffs on non-essentials and luxury items, curtailing wasteful public expenditures- all these would come under a true poverty alleviation programme.

Now, this of course is a tall order of things. It is an approach for social reorganisation around a core of economic targets. The capability of a regime for initiating any such process of social reorganisation would depend on whether there are the right kinds of social forces behind the regime. While this must be regarded as a relative matter, recommendations nonetheless must flow from the analytical basis of the issues at stake.

Ladies and gentlemen, I take great pleasure in declaring the Conference open and wish you all success in your deliberations.

# PRESIDENTIAL ADDRESS

## Planning for The Poor : The Role of the State in Bangladesh.

By REHMAN SOBHAN

### The background to the Third Five Year Plan

The launching of the Third Five Year Plan (TFYP) of Bangladesh comes at the time when the environment for national planning is fraught with uncertainty. There is a general recognition within the country that the development process in Bangladesh has after 14 years, still to generate sufficient momentum to be able to sustain itself autonomously. We remain as dependent today as we were at the outset of our independence on foreign aid to underwrite our development effort. This dependence is not a function of a few changes of percentage points up or down in the share of aid to GDP or as a percentage of the ADP but is derived from the current situation that without aid we could not sustain a development programme. This has given our principal aid donors an exceptional degree of leverage over our policy choices, investment priorities and technology options.

It is again generally recognised that this degree of external dependence has not made any significant contribution to the well-being of the population even though some people and some classes have prospered. Available evidence for what it is worth indicates that the number and proportion of the population below the poverty line was higher in 1984/85 at the terminal year of the Second Plan than it was in 1973/74 at the outset of the First Five Year Plan.

The compensatory expansion of productive forces which is usually preferred as the price of growing immiserisation and inequality of income at the outset of the development process is again not conspicuous. GDP growth in the SFYP period averaged 3.2% which was below half the average of 6.6% for the period 1972-80. In two of the five years of SFYP per capita income declined and in the last two years barely increased. Only in one year, 1981/82, did it average a significant rate and this was due to the effect of excellent weather on the crop output and the negative growth rate of the previous year. Foodgrain production whilst demonstrating some promise in the adaptation of HYV technology, spread of irrigation and offtake of fertiliser has barely kept pace with population growth. However, absolute expansion

of output in other crops, both cash and food not only appears to be negligible but in some cases such as jute and sugarcane, negative.

In the manufacturing sector growth rates in the Second Plan were well below those prevailing in the First Plan even though investment appears to have expanded. In two out of five years in the SFYP growth rates were negative with higher rates in the subsequent years largely registering because of the negative growth of the previous year. The poor performance in the manufacturing sector is characterised by low levels of capacity utilisation, declining productivity and poor repayment performance to the public Development Finance Institutions (DFI). The TFYP suggests that these lags owe to the continuing sensitivity of the manufacturing sector to levels of economic activity in agriculture and to the state of the global economy.

A environment of economic stagnation is compounded by continuing instability in the social and political parameters of the state. In this unsettled political environment it is hardly likely that any consensus would emerge on the parameters underlying national economic policy. Such issues as denationalisation and the role of the private sector, issues relating to land reform, foreign aid, allocative priorities, remain unresolved. This implies that neither a public enterprise nor a private investor can be sure whether they will retain control over their enterprise or the policy environment in which they will have to operate over the next decade.

Given the instability of the political parameters and the uncertainty governing economic policy it would be unreasonable to expect national planning to evolve as an effective instrument to allocate resources or influence policy. The planning process and its institutional persona, the Planning Commission have become a casualty of this environment and have faced a marginalisation of their role in the allocative and policy making process in the direction of the economy.

As yet no consensus has emerged as to whether planning is a necessity for ensuring prioritisation, consistency and discipline in the allocation of scarce resources or it is an expensive convenience to attract aid. It is somehow taken for granted that every five years or thereabout a Five Year Plan must emerge. It is expected by donors, as well as political leaders. Little attempt has however been made to relate this plan document to the subsequent allocation of resources in the Annual Development Plan or to design a set of supportive policies to effectivity realise the goals of the plan.

### **Constraints to national planning**

It is thus not surprising that the planning process has become the handmaiden of the aid process and divorced from prioritisation of the use of scarce resources. Since the formulation and execution of the ADP has now become a function of aid availability the Five Year Plan document becomes no more than a talking point with the donors. The development priorities

tend to be set by the amount of aid made available by the donors, the donor's sectoral priorities and the pace of aid disbursement by specific donors. These determinants of aid flows may only by coincidence resemble the priorities articulated in a Five Year Plan document.

The preparation of Five Year Plans thus from the outset becomes an academic exercise. Its very existence is predicated on aid commitments to be made by a heterogeneous collection of donors. Its analytical core, the Plan's macro-model remains a proforma academic exercise rather than a serious determinant of allocative priorities. Since the capacity of the models to seriously define either the macro-economic behavioural linkages between development expenditure and its impact on the economy or its incidence on the lives of the populace appears fraught with conceptual inadequacies and data deficiencies the Plan document neither determines the course of development or its outcome.

In this circumstances it would be an unfair expectation to treat the priorities in the Plan, its strategies and viability as an adequate reflection of the will of a government. The Five Year Plan is an academic document which lends itself to academic discussion and it is only appropriate that the primary interest in discussing its contents should be the perennial responsibility of academic economists.

There is no evidence of a serious national debate on any of the Five Year Plans nor any indication that top policymakers have any real interest in the plan as a strategic blueprint for executive action. Were this to be so not only would the plan be the subject of major political debate within the decision making hierarchy but also in the nation. But no one believes that any key decision will be causally derived from the plan or that their sectional or personal circumstances will be influenced by the plans.

Given the marginalisation of the Plan to the direction of the economy, it is unreasonable to assume that its formulation would be decisive to the fortunes of the poor in Bangladesh. It may however be useful to review the interior logic of the plan to see whether it has recognised the constraints which limit planned interventions on behalf of the poor of Bangladesh. To assess the role of the plan it may be useful to trace the trends in poverty in Bangladesh over the last two plan periods.

### **Estimating Trends in Poverty in Bangladesh**

Three successive five year plans in Bangladesh have committed the government reduce poverty. The record between 1974 and 1985 does not point to any evidence that these goals have been realised. Available evidence computed from Household Income and Expenditure Surveys (HIES) indicates that the absolute and relative proportion of households below the national poverty line has progressively increased between 1973/74 and 1981/82 [1]. The national nutrition surveys show that the

percentage of households below the minimum nutritional standard defined as the poverty line was 59% in 1975/76 and 76% in 1981/82 [2]. The TYFP document reports that as between 1981/82 and 1984/85 overall per capita calorie intake improved only imperceptibly from 1943 kcl to 1950 kcl but this was well below the intake in 1975/76 of 2094 kcl. Extrapolated figures for 1984/85 indicate that notwithstanding this improvement the percentage of households below the minimum nutrition standard in 1984/85 was 64% compared to 59% in 1975/76. As another measure of the conditions of the poor, in 1983/84 average daily real wages of unskilled agricultural labour was Tk. 6.15 compared to the wage of Tk. 6.69 in 1973/74 and far below the wage of Tk. 9.18 two decades ago in 1963/64. These measures of the trend in poverty all indicate that the condition of the poor continue to deteriorate.

Such conclusions would be greatly facilitated by more definitive and current information on trends in household income and expenditure in order to accurately estimate trends in poverty and income distribution. Notwithstanding the commitment to reduce poverty no government has been able to gear its statistical systems towards providing year to year measures of acceptable accuracy of trends in income and poverty. If poverty amelioration were to have become a priority concern government then along with their national income estimates we should every year be able to measure economic performance by the numbers and proportion of households which have risen or fallen below an agreed definition of the poverty line. Till a government can equip itself to know what is actually happening to the rural poor its claims to see an improvement in their conditions will face a credibility gap.

In the absence of official estimations of poverty this task is consigned to academic researchers who are in turn severely constrained by the time lags in processing HIES data and the lack of access to raw data during the processing stage. Furthermore there has been no check on the conceptual basis, consistency and accuracy of the HIES so that we can never be entirely certain that we are comparing the comparable. Academic researchers have themselves been deficient in analysing the dynamics of poverty determination. Neither have we developed a theoretical framework for this nor have we collected information which could provide us with a more definitive interpretation of the determinants of poverty. This exercise should be a major imperative for researchers and a government concerned with the outcome of its findings should commit its own resources to sustain such studies rather than to wait upon donor generosity to educate ourselves on the conditions of life of the people of Bangladesh.

#### **The TFYP anti-poverty strategy**

In the absence of any clearly articulated conceptual framework for estimating and interpreting poverty the SFYP and TFYP have fallen back on the tautology that if we increase overall employment, poverty will be

ameliorated. This in turn is to be realised by the truism that increased agricultural output will increase employment. This process of reasoning has led them to the proposition that the TFYP will increase employment by 5 million man years during the TFYP [2]. Of this 68% of the increase will be accounted for by increase in employment in the agricultural sector. This chain of causality therefore brings us to the conclusion that if we can project a growth rate in the agricultural sector of 4% per annum we will realise our employment objectives and will consequently reduce poverty.

It is not intended to go into the conceptual difficulties implicit in this assumption. The use of fixed coefficients between crop production and labour absorption appears central to this assumption. The notion that all incremental labour absorption will constitute net employment gains as opposed to increased employment for some households owning or having access to land and less for the landless wage labourer needs to be questioned. Furthermore the empirical basis of the coefficients and the validity of these estimates over time remain uncertain. It may here be appropriate to point out that this methodology was inherited from the SFYP as part of the work done for the Planning Commission by ARTEP/ILO in Bangkok. As it stands the SFYP registered a growth rate of 3.6% in agriculture. However, the TFYP reported unemployment rates in mid 1985 of 38% or 11 million man-years in the labour force. This does not suggest that 3.6% agricultural growth rate has significantly reduced unemployment. Here again unless we can derive a more accurate measure of what happened to employment during the SFYP we cannot satisfactorily validate the conceptual basis of our employment projections for the TFYP.

As it stands therefore the goal of 4% growth in agriculture remains largely speculative. Output trends during the SFYP for crop production showed that only 1981/82 was the growth rate at 6.1% above the quinquennial average of 3.5% whilst in 1982/83 the sectoral average of 3.5% was barely realised. However, in three years out of five of the SFYP the growth rate was well below the average and in two years 1980/81 and 1982/83 it was negative. This forecast of 1.4% for 1985/86 the first year of the TFYP Plan, does not augur well. The notion that the government can significantly influence the volume of crop production thus remains largely hypothetical.

In these circumstances, attempts to derive estimates of employment generation and hence amelioration of poverty seem open to question. In both these areas plans for public intervention remain largely indirect. Estimates of employment and income distribution are derived from certain behavioural assumptions of the economy related to the investment strategy in the Plan. These in turn are derived from the Social Accounting Matrix (SAM) developed by Dutch consultants, for the Planning Commission.

There is no indication that the government is likely to significantly increase

its capacity to generate employment during the TFYP. All its interventions remain heavily aid-intensive. The employment creating programme such as the Food for Work Programme, the Public Works Programme, the Rural Development Programmes and now the Employment Resource Centres (ERC) are all underwritten by the donors and indeed in the case of the ERCs designed by the World Bank and built around the mobilisation of non-governmental organisations (NGOs) to make the programmes viable. Needless to say such programmes will remain sensitive to the commitment of the donors and the way in which NGOs and government can interact in relation to the prevailing local power structure in each upazila to effectively generate productive employment for the poor. Here again the strategy for creating off-farm employment in the rural areas will have to first take account of why the existing rural based cottage industries have been stagnating for the last century and the bulk of its labour force remains underemployed, with lower rates of remuneration than agricultural labour and exposed to considerable attrition in the face of competition from both imports and domestic modern industry [3]. Before we make any significant headway in creating additional off-farm employment we will have to ensure full employment and capacity utilisation of those already engaged in this sector.

The present Plan document thus suffers from the disability that it will have difficulty in ensuring progress towards the alleviation of poverty. Even within its given assumptions it is conceivable that unemployment, poverty and inequality will increase during the plan period. This is because the plan does not address itself to questions of access to assets for the poor. Thus the social mechanisms which influence the access to and distribution of public expenditures may determine the outcome of plan allocations rather than the stated intentions of the donors and planners.

#### **The social basis of poverty**

It has been extensively argued in many research findings in Bangladesh that poverty is a social phenomenon [1]. Inequitable access to productive assets and public resources makes it possible for a small segment of the population to monopolise resources whilst a rising proportion of the population is marginalised from the production process. The original source of such inequality was land. The available evidence points to the phenomena of rising landlessness and greater concentration in the ownership of land. Here again the available evidence is not current but more recent micro-level studies point to the high levels of landlessness and the fact that many of those who own land do not have enough land to ensure their subsistence and must sell their labour on the market. Inadequacy of remunerative employment and the deterioration in the terms of trade for the small farmers means that more and more poor peasants are having to liquidate their assets and join the ranks of the landless.

**Strengthening the poor**

In these circumstances if this trend is to be arrested public intervention will have to be directed towards the redistribution of productive assets in the rural areas. This will have to be backed up by the provision of adequate credit and inputs to the rural poor to ensure productive utilisation of their small holdings. An institutional mechanism will have to be designed which can productively utilise the underemployed labour of the non-landowning households from a share of the surplus generated by the landowning households, for building the rural infrastructure and in off-farm employment. For this again the market mechanism will have to be managed to ensure that production from off-farm employment is absorbed within the rural economy without competition from the modern industrial sector and from imports. This concept of a more self-reliant village community presumes a degree of cooperation within the village community for the identification of investment priorities, the distribution of employment for the landless and a mechanism for efficient and equitable access to modernising inputs needed for raising land yields and labour productivity.

If we can ensure access to assets and inputs to self-cultivating farming households who can be ensured that the rewards for increased labour input on their own land will be largely retained by the household rather than be consumed by the landlord and mahajan, we can expect a quantum expansion of output in the agricultural sector even within the limits of the prevailing technology.

**The state as a source of wealth**

However as things stand today not only is there no question of a public intervention to redistribute productive assets but public policy is directed to enhancing the social power of those who actually command assets. The process of privatisation of inputs in the rural sector means that the monopoly over land is being reinforced by the monopoly over distribution of water, fertiliser and pesticides, the sources of future agricultural growth. It is apparent that in the days ahead the mere ownerships of land will be reduced in significance as an arbiter of power. The new class of waterlords and input dealers, who may also own land will reinforce their power in ways which were inconceivable to the former zamindars and jotedars who at best presided over land with little capacity to enhance its yield. The interlinking of the markets for land, capital and inputs will contribute to a polarisation in rural society.

This same class will be able to monopolise power at the upazilas and through an entente with the local bureaucracy, enhance their role as power brokers between the metropolis and the masses through their enhanced command over inputs.

In the 1960s the Basic Democracies system enhanced the power of the class of surplus farmers supplementing their command over land with control over public employment opportunities [4]. Now this same cadre can draw upon water, credit, inputs and the spin-offs from the public expenditures in the upazila headquarters. It should again be a subject of serious research as for public concern to understand how this emerging class is exercising its power to monopolise public resources and use it to strengthen their position in rural society.

To the extent that this new class establishes themselves as modernising capitalist farmers the trade off between growth and equity may have been debated. But if this class remains true to past form then land will continue to be cultivated by those who do not own it whilst the owners of land will prosper as rentiers of water and land, traders, moneylenders and power brokers. This is a recipe for economic stagnation and social upheaval. Injection of more aid financed resources into the rural areas thus carries the prospect of further polarising wealth and power in rural society. There is enough research findings available or underway to sustain this hypothesis but these all need to be put together by researchers to develop a more definitive analysis of the current trends which are transforming the structure of power and wealth in rural society.

Whilst public policy and expenditure reinforced and inherited power structure in the rural areas, in the urban sector it has virtually created a new class. The new rich in our cities are not people of inherited wealth and commercial skills. They are largely the children of the aid regime. A new class of indentors, contractors, importers, industrialists and consultants who have emerged since liberation through their access to aid finance or its spill off effects. Because access to such resources is mediated by the government the linkages of this class with the government have been critical to their emergence and growth as a class.

#### **The role of economists**

In this process the economics profession has not done too badly. Along with engineers and architects our profession has prospered from the access to aid financed consultancies which are liberally showered upon us. As with all such access to public largesse the incidence of benefits is highly skewed. But notwithstanding this there has been a selective flowering of opportunities to the point where economists have never been so busy in aid financed research and where their standards of living have become closely interlinked with the aid regime. Whilst we may be critical of this aid dependent system we should have no illusions that any significant run down in technical assistance programming which finance these consultancies would have significant repercussions on the livelihood of many economists. If it is any consolation this phenomenon is not unique to Bangladesh but has become endemic to most of the Third World whose

economists have now become one of the principal beneficiaries of the hundreds of millions of dollars being spent by the UN system and international financing agencies to 'understand' what is poverty and underdevelopment.

However unlike the purely parasitic growth from the aid regime it may be argued that economists have a genuine service to offer to the government and people of Bangladesh. Any policymaker of serious intent needs to draw upon systematic research and expert advice to guide it in its task. The main point of departure should be that this should emerge as a felt need rather than a demand induced either under pressure and/or financing from donors. Because the bulk of these services originate from the donors; the government machinery is neither inclined nor equipped to use the findings of these countless research and consultancy reports commissioned by them, as inputs into their decision making process.

It could be argued that if the policymakers could define their own needs, exclude recourse to foreign consultants of dubious quality who flourish in every nook and corner of Bangladesh under the patronage of various donors and can draw upon available domestic skills to meet their need for expert advice, the economics profession could prosper, albeit at less affluent levels, with dignity and a sense of service.

However we should not limit ourselves to being a service to a government. As a profession we have a wider role to play in educating the people of Bangladesh to the nature of their problems, to prepare plans for the rural areas and particularly the poor and to be their advocates amongst the decision makers. Such an investment of effort is not likely to be particularly remunerative and must seek its rewards from the longer term results of these labours.

But in the final analysis it is not reasonable to expect economists anymore than engineers or sugar traders to transcend their environment, forego the opportunities offered them by public policy and embark on some Gandhian crusade of self-denial in the service of the horijan or shorbohara. There will always be the visionary or idealist of high moral character who commits himself to such a role. They deserve our respect and support in their noble endeavour. But till such time as the direction of public policy changes towards channelising resources to the poor and dispossessed and denying it to the class of parasites who exploit access to state power to enhance their personal fortunes without benefit of productive service, the call to idealism will remain a cry in the wildness.

#### **The implications of sponsored affluence**

The donor sponsored policy of channelising public resources and assets to a privileged few has vitiated the entire structure of productive effort. A new class of intermediaries have gained affluence through access. They

have created a demand for aid in areas where it was not needed. The incomes they derive from aid are invested or spent abroad. Their incomes retained at home have fuelled a consumer boom for imported and luxury goods which has had a high opportunity cost in claims on public resources. Steel and cement which could be used to build the village economy, hospitals, schools are used to build houses, public buildings and widen roads in the metropolis for the explosion in the population of private cars. The structure of domestic production and imports, both legal and illicit is skewed to meet the consumption needs of this class.

Aspiring industrialists with access to aid financed loans saw this as easy money rather than a source for creating wealth. As a result a massive debt burden has accumulated with the DFIs with little sign of being repaid. The DFIs are paralysed. The donors have suspended further loan commitments and all those industrialists who could have entered the field with capital repaid to the banks remain in a state of arrested expectation. The surrender of public assets owned by 10 crores Bengalis to a handful of households at well below their market value has again created an expectation that public assets can be acquired at given away prices and with no obligation to liquidate their full purchase price.

In this environment it is not surprising that integrity in public life tends to erode and sectional interests will make collective efforts to seek a share of the pie. All transfers to these privileged beneficiaries of public largesse are mediated through government officials. It is this class who bear first hand witness to the transfer of public wealth to this class. It is this class which has direct evidence of the ways in which public resources are appropriated, deals transacted, loans defaulted, debts written off. It should again come as no surprise that they will want a piece of the action for themselves. As a class they see no reason why a person from a similar social background and possibly inferior qualifications could take a large commission from a deal and the official should get nothing out of this. Given the fact that all officials have faced a massive decline in their real incomes, the fact that so many remain motivated to their work is a tribute to the large number of public servants whose dedication goes unrewarded and unrecognised.

The trend towards functional categories grouping together to seek enhancement of their fortunes is yet another symptom whether they be economists, engineers, primary, madrasa or university teachers, departmental officials, village level workers or whether we have regional groupings, all feel that collective mobilisation can extract some benefit from the state.

In these circumstances the allocative mechanism in society is largely paralysed and resource allocation becomes a function less of nationally determined priorities but of private access and sectional power. The notion of some donors that somehow the market mechanism can be induced into

such an allocative environment would appear to be a dangerous illusion. In any case the imperfections in the market mechanism are such that it compounds rather than alleviates the arbitrary nature of the allocative process.

In these circumstances planning for the poor can at best be an incidental by product of diverting public resources for private gain. Once an affluent class has been created, which now has a symbiotic linkage with the dispensers of public resources they will exercise their claim on these resources both as direct beneficiaries and as secondary consumers. The nature and structure of the aid regime will tend to channel resources to big capital intensive projects where beneficiaries are more concentrated in number. Their claim on resources will have priority and resources for the poor remain residual claims on the public exchequer.

If a genuine commitment to alleviate poverty is to be made this will imply a massive redirection of public resources to the poor. This will imply for example that there will be no new construction work, private or public in Dhaka city for the near future. All resources will be channelled to building a capital infrastructure in the rural areas. It will imply that all investments in the health and education sectors will be channelled to the rural areas. It will imply that all DFI lending will go to small and cottage industries and poor farmers. The affluent classes should have to invest their own savings if they want to expand their asset base in the next five years.

These stark alternatives are presented to indicate that as a major dispenser of resources the government can make conscious allocative decisions in favour of the poor. The unresolved issue will be whether such choices are feasible. Can public resources be allocated to the poor by denying them to the rich? So far the rich get first claim and the poor get the left overs. Where in fact a part of public resources get to the poor it can at best reach only a few of them so that new disparities emerge between a small segment with access to public resources and the masses of the poor. Can such an allocation be realised in a society where state power is the monopoly of the affluent classes or those who hope to join them? If in fact alleviation of public resources reflects the balance of power in society then who will be able to stake a claim for the poor and dispossessed ?

The logical answer would be the poor themselves. Their collective strength would need to be mobilised to capture state power and to stake their claim to resources. Their cultural and social aspirations would drastically reduce Bangladesh's claim on external resources and ensure fuller utilisation of domestic resources. A corresponding reduction in external dependence would thus be a corollary of such a restructuring of power in society.

**Political economy of planning for the poor**

The socio-political premise of an allocative policy designed to empower the poor and dispossessed of Bangladesh implies that state power must be vested with the poor or those deriving their power from the masses. In its absence the prospect of well meaning middle class civil servants or economists with some social conscience emerging as intermediaries for the poor seems again rather fanciful. All we can do is count the cost of allocative strategies not just to society at large but to ourselves and then place them before the people. Whether this heightened consciousness about the costs to the poor of our prevailing allocative strategies will mobilise them to the point where they can stake their claim for resources is more debatable. For a more meaningful assessment we would need to analyse the linkage between our political parties and the masses, the power base of these parties and their consequential capacity to act on behalf of the impoverished majority in Bangladesh.

Under whatever social dispensation we have the abiding problem of Bangladesh will be the paucity of its resource base. Even if we mobilise our full potential in land, skills and capital, we will in the future have to share this amongst multiple claimants. Not all can have access to resources in the short run. We will therefore have to develop a social consensus on how to allocate scarce resources so that all people can be assured of the objectivity which underlies the distributive system. This allocative process must then demonstrate a capability to promote production, not contribute to extreme inequalities and hold out hope for those denied resources at this initial stage that they have a definite hope to share in the benefits of the public distributive regime of tomorrow.

A motivated or whimsical allocative mechanism masquerading as planned development or market allocations which objectively contribute to the creation of a highly affluent elite co-existing with growing immiserisation of the masses is a recipe for social chaos. The manifestation of this trend is the grouping together of functional categories and regional interests seeking to build collective strength to stake a claim on public resources. The potential for anarchy in the allocative process, leading to attrition in the development process is not that remote a prospect unless an underlying rationality, based on an acceptable notion of social justice is accepted by the majority of the people.

**Conclusion: The search for rationality with justice**

Our deliberations in the days ahead on the Third Five Year Plan may usefully keep in mind the distributive premise of all planning. The planning process is ultimately about evolving a social mandate for allocating scarce resources at the dispensation of the state. To be able to dispense these resources to those in society in most need of them the Bangladesh polity will need to acquire much greater sovereignty over the dispensation of these

resources than it possesses today and to have a machinery of state power which is representative of and responsive to the poor of Bangladesh. It may be the subject of yet further research what it will take for such a configuration of state power to emerge in Bangladesh.

To the extent that Bangladesh remains free to make its own allocative decisions we meanwhile can aspire to the more modest goal of gauging the TFYP's allocative biases and assess the distributives regime which will derive from the realisation of its investment strategy, policy proposals and philosophical premise. At the end of our academic deliberations on this academic document we may have gauged the social cost of the Plan and developed an agenda of research to compute this cost more definitively. To look beyond this goal would be to invest the role of planners and economists with a social relevance to which we may aspire but currently cannot claim.

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# MACRO ECONOMIC MODELLING AND DEVELOPMENT PLANNING

## Macro Model for the Third Five Year Plan

By A. H. SAHADAT ULLAH \*

Bangladesh has by now acquired quite a long history of development planning. Its basis was first laid down in 1968 in the form of a regional planning model [1] and its core was defined by a multi-sectoral input-output relationship. The economy was broken down into 29 commodity and service sectors to establish their relationships in respect of both current output and capacity expansion. Such a planning model, generally known as a consistency model, has its primary objective in growth and emphasis on material balances. The model continued to weave through the First and the Second Five Year Plans with the number of sectors expanded to 33 and 47 respectively.

### Experience of Planned Development

2. Paradoxically, Bangladesh has also a history of ever-deteriorating state of poverty. The proportion of households in the rural areas below the minimum calorie need increased from 53 per cent in 1962-64 to 59 per cent in 1975/76 and further to 76 per cent in 1981/82. Though the latter increase is partly attributable to the crop failure, the trend was undoubtedly on the increase despite that foodgrain import more than compensated the loss of crop and per capita availability of food grain increased by 6 per cent over 1980/81, from 15 oz. a day to 15.9 oz. Against this increase in per capita availability of food, the increase in the proportion of households below the prescribed calorie intake indicates the working of a complex set of socio-economic forces which have come to deny adequate food to an ever increasing proportion of households. Access to income and employment is undoubtedly necessary for access to food but it itself is not adequate for probably three times as much man-days of employment was created in 1981/82 than in 1975/76 through the Food For Works Programme which has come to constitute the fulcrum of rural employment since the 1974 famine.

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\* Member, Planning Commission.

3. The deteriorating poverty situation against planned efforts is likely to strengthen the heresy about planned growth. In fact, growing poverty in the Third World led to reawakening of planners in 1970s and new ideas like equitable growth and basic needs flourished. But it will be wrong to think that growth and equity considerations were ever-divorced from each other though there have been here and there some pharisees who profess 'growth first, distribution later' [2]. 1970's revulsion was in fact an over-reaction to inhibition that growth modeling fell into as a result of its practices over a long period. It will be wrong to suggest that growth could have any meaning in a developing country other than for poverty alleviation [3;26] or that it ever suffered a Kafakaesque transformation, not in Bangladesh where poverty has remained a continued theme of development and growth has been considered as a necessary condition for poverty alleviation.

4. The real question in issue is not whether growth is divorced of poverty in planning but why they coexist in reality in spite of planned efforts for poverty alleviation. One can find an easy answer in the celebrated Kuznets's hypothesis which postulates a U-shape income distribution curve as growth proceeds [4;1-28]. This U-curve hypothesis tested by Prof. Kuznets and others both on time series and cross-section data tells that income inequality grows in the early stage of development but it does not explain why the poor become poorer in the process of growth though their relative position worsens. The question is hence one of Pareto efficiency in economic development. As the malady lies not in relative poverty but in deteriorating status of poor households the answer must be found in the growth process. The experiences of other countries point at two plausible answers. First, that some countries with high growth rate have been able to substantially reduce poverty in absolute sense though inequality has increased leads to the conjecture that a high growth may lead to poverty reduction as it helps quickly approach the threshold income along the U-shape curve. The example in point is South Korea where continued high growth rate raised the real wage and standard of living of the common man. If this were the only way then for Bangladesh and many other countries in the Third World the prospect of overcoming poverty will be bleak because of limited growth possibility in a highly differentiated world economy. Luckily, experiences also tell that high growth is not the only way of reducing poverty. This alternative possibility is indicated by the experiences of Sri Lanka in the last 3 decades. During this period index of physical quality of life increased from 65 to 80.1 [5;237], though her GDP growth rate was around 4.5 per cent a year between 1960 and 1982, about half of that of South Korea. This experience of Sri Lanka and those of centrally planned economies hold the hope that at relatively low level of income poverty can be meaningfully overcome through institutional developments beyond the market mechanism.

5. It is this realisation in Bangladesh that led to the target group approach during the second half of the last decade along with the emphasis on the development of rural institutions. Though it is only over a short period that the experiment is in existence to allow any serious evaluation of this approach, yet deteriorating poverty situation cannot stop a critical reflection on the approach as an instrument of development under the Third Plan. As it is this issue that led to the formulation of the technical framework of the Third Plan, I would like to reflect on this for a while.

#### **I-O Model and Its Limitations**

6. To recall, the technical framework of the earlier plans was cast in the mould of the Input-Output (I-O) model. As this model is based on technological relationship with autonomous decisions about growth and some essential targets, such a model will be utterly inadequate for various reasons even though it is strapped with poverty-oriented programmes. First, an input-output model is basically an investment-output model. It cannot itself directly address the distribution problem except in terms of output vector. The classical case of such output-oriented development plan is the Sen's celebrated concept of boom-famine [6]. It has been already mentioned that in spite of increase in per capita availability of food in 1981/82 proportion of rural households below the minimum standard of calorie intake increased. In a way, from the point of view of distribution the I-O model subsumes wicksellian distribution system though the case of a poor, developing country is the mirror image of J. S. Mill's Stationary State where desired distribution is institutionally achieved [7]. Secondly, because of its thrust on growth the I-O model collapses the market into the material balance equation. There are obvious reasons for exclusion of market mechanism. as an allocative process. Because of the concern of growth of real income prices have no role to play in the I-O model as incremental demand follows from incremental income and incremental output has the constant production coefficient in terms of both intermediate and primary inputs. Given such static input-output model prices remain invariant and income going to any factor will thus depend on the volume of such factor use. With surplus labour constraint of capital thus not only constraints growth but also the level of labour income. So I-O model cannot explain declining inequality in income distribution, except for the population growth. The model is in fact a comparative static model and assumes that the market will be in continuous equilibrium. This is a very strong assumption for a mixed economy, particularly with factor supply imbalances in the labour and capital markets. Exchange market cannot be simply subsumed in the constant technical relationships in a mixed economy. The I-O model has no exchange market for the final demands. Finally, such a model is extremely weak from policy planning point of view. The only instrument that it has to affect distribution is the transfer mechanism through taxes. This together with its emphasis on institutions makes the I-O

model rely on what may be called a 'transfer market' in substitution of an 'exchange market'.

#### **Alternative Model for The Third Plan**

7. It is in the context of these limitations of the traditional I-O model that the Third Plan has adopted an alternative approach. The model used for the Third Plan belongs to the class of General Equilibrium Model. It focuses on the micro-economic principles within an economy-wide mathematical simulation model. The cornerstone of this model is therefore the concept of economic agents who express their economic preferences given their initial endowments—land, labour and capital. The behaviour of an agent is looked on as the outcome of conscious considerations of alternatives to satisfy his preferences, not just as statistical relationship. In planning, as abstraction of reality, each agent representing a socio-economic group is taken as more or less homogeneous in terms of some dominant characteristics. Since most households are located in rural areas depending overwhelmingly on land, the rural households have been divided into 8 socio-economic groups and urban households into two groups, giving altogether 10 socio-economic groups. In addition to these 10 socio-economic groups acting as economic agents, there is one more important actor in the economy i. e. the government. Thus, there are 11 actors in the economy who have preferences and resources. In this simplified set-up the functioning of the economy as a whole could in theory be looked at as the outcome of a complicated network of all bilateral interactions between the socio-economic groups and the government. The organising concept underlying this complicated network is the concept of equilibrium. Instead of specifying the network, certain laws of nature such as commodity balances are imposed on the system, thus determining the level of variables to which individual actors react but cannot set on his own. This brings in the price formation process in the model. Although the model is called macro model it has 39 commodity and service sectors and describes their supply, demand and price formation. Because of the overwhelming agrarian character of the economy and the existence of growth potential; 18 of the 39 sectors are located in the agriculture, 12 in industries and the rest 9 sectors consist of construction, utilities and services. The focus is over-whelmingly on food reflecting the concern for basic needs.

8. The main problem with such general equilibrium model is that all agents and all commodities must be incorporated in some way to ensure commodity and financial balances. It thus requires a comprehensive account for each agent (socio-economic group) of all income and expenditure. This system of accounts is represented in the Third Plan macro-framework as a Social Accounting Matrix (SAM), which serves as the data base to initialise the general equilibrium model. For the Third Plan, a SAM for the fiscal 1977 was initially developed and then updated for

1984/85. It is recognised that there is severe data limitation on developing a reliable SAM.

9. The ten socio-economic groups are :

**(a) Farming Groups:**

- (i) Landless agricultural works
- (ii) Small farm holding below 1.5 acres
- (iii) Medium farmers (owner-cum-tenants) between 1.5 acres and 5 acres
- (iv) Medium farmers (owners) between 1.5 acres and 5 acres
- (v) Large farmers between 5 acres and 10 acres
- (vi) Very large farmers, above 10 acres

**(b) Nonfarming Groups:**

- (vii) Rural informal defined as poorest 60% of the households in areas of less than 5000 people
- (viii) Rural formal defined as the upper 40% in the same areas
- (ix) Urban formal defined as the poorest 60% in areas of over 5000 inhabitants
- (x) Urban formal defined as the richest 40% in the above areas.

**Model Character**

10. The model is broadly divided into two components, a supply component and an exchange component. The model is solved sequentially every year. Supply is generated at the national level and a distinction made between commodities and factors. There is a supply function for factors such as labour and capital and each commodity is produced under constant returns to scale in which the producer minimises the unit costs. As a consequence all product prices can be expressed as function of factor prices. But the quantities are determined on the demand side. For given levels of factor prices the income of each socio-economic group is determined. As commodity prices have been determined on the supply side, commodity demand as well as derived demand for factors also become determined. Factor prices are then adjusted until factor demand equals factor supply. In the presence of factor price rigidities such as wage the level of factor employment will be affected. The general equilibrium approach thus permits inclusion of supply constrained and demand constrained sectors in one consistent model. Import-export switches have been allowed to make the model open. When a commodity is imported its price directly depends on the border price and determines import volume. When the import volume reaches zero level, the price becomes disconnected from the border price and varies to clear the domestic market while net import is fixed at zero level. If the price drops until it reaches the export price the commodity will be exported. Thus market switches indicate change in effective constraints. Similar switches occur when production reaches a capacity constraint (e. g. food) when buffer stock is depleted or when imports reach a quota.

**Demand and Price Adjustment**

11. The macro model is a dynamic simulation model with a year time lag between supply and demand. Because of this time lag the model has two components, namely the supply and exchange component. The supply component describes how at given prices production and investment plans are made in the economy. Given these plans, at the end of gestation period production capacity is generated. The exchange component describes what happens then. Thus the supply component contains the lagged relations of the model while the exchange component describes the economic interactions within the year. The owners of the commodities and of production capacities are the ten socio-economic groups plus the government. Each agent buys consumption and investment goods which vary with income (or taxes) earned and prices of commodities. The excess (or deficit) of demand over supply is imported (or exported) as long as it is permitted and profitable for the trader. This is the case for imports as long as the retail price can cover the cost of import, tariff and transportation. The reverse holds in case of export. If neither export nor import is profitable, an autarky is established in which a price adjustment takes place to restore the balance between demand and supply. Such price adjustment in turn affects the revenue of the socio-economic groups and the government. The exchange component leads to the final outcomes of consumer demand, nutrition, investment and government revenue and expenditure.

**Supply Capacity**

12. Supply capacity is the main determinant of long term growth. In the short run growth can be stimulated by a rise in effective demand. When the supply capacity reaches the upper bound because of lack of capacity, then the price will rise. Such a constrained short-run supply adjustment to effective demand has been specified for domestic non-agricultural commodities which are not tradeable internationally. Such commodities have been defined as input-output commodities requiring an input of internationally tradeable commodity. Thus, any demand stimulus for domestic goods has its cost in terms of foreign exchange. This combination of supply constrained and demand constrained regimes into one single market makes it possible to explore the scope of macro-economic stabilisation policies through effective demand management.

**Government Policies**

13. The model does not limit itself to the macro-economic stabilisation policies. It also represents government operation on commodity markets and income distribution policies. On the commodity markets, quota on international trade can be imposed and buffer stocks kept for selected commodities. These market policies are strongly related to redistributive policies, since most of these serve the purpose of effecting income distribution. Besides these and public sector investment allocation food

rationing, subsidies, exchange bonus, taxes and foreign aid etc. are few important policy instrument which will be available to the government for effecting the desired changes in the income distribution.

#### **Use of National Resources**

14. The Plan recognises that the growth prospect in Bangladesh is severely constrained by the limited availability of land and water and of skilled labour. Land and labour are also the two primary resources of the country and the economic growth will crucially depend on the increased productivity of these two resources: both land and labour quality needs to be improved. This will involve increased investment in land (and water) development, education and health. As land absorbs the main labour force, an investment in land will lead to higher productivity and higher real wage, while an investment in health and education is also needed for higher labour productivity. The present level of poverty is in fact the result of low investment, inferior technology and low productivity. This trap cannot be broken unless the level of technology in both farm and non-farm sectors improved and corresponding skill is formed.

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# The Macro-models for the Five Year Plans of Bangladesh—A Review

By WAHIDUDDIN MAHMUD \*

Macro-economic exercises are an essential part of formulating a medium-run development plan. One must start the preparation of a plan with a systematic review of the whole field (which helps to get the broad orders of magnitude right) and an overall assessment of the development alternatives available to the economy. While it is possible to derive important partial results from individual sector studies, these do not represent a co-ordinated view of the economy in respect of sectoral interdependence and the overall growth strategy. It is in this respect that a macro-model can play an essential part in Plan-making; it provides a systematic conceptual framework for the policy-makers to appreciate the logic of development planning in its entirety, however, much they may consider that the problems of real life have been over-simplified to make this possible.

## The Structure of the macro-models

The formal structure of the macro-models used in the formulation of both the First and the Second Five Year Plans are basically similar; both are based on the familiar input-output system of balance equations used for consistent projections.<sup>1</sup> The approach is comparative-static in so far as the balance between supply and demand in each sector of the economy is considered only for the terminal year of the Plan. However, the demand for investment is built into the model to ensure transition from the benchmark circumstances to those in the terminal year.

The background macro-model used for the Third Five Year Plan represents a significant departure from the previous model-building

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1. The results of the First Plan macro-model are available only in the form of an unpublished preliminary report; see Planning Commission (1973). The results of the Second Plan model are available in more details from a published document of the Planning Commission (1980). The number of sectors in the two models are 33 and 47 respectively.

exercises. Without going into the details, we can bring out its main features by contrasting it with the previous Plan models. To start with, it uses a general equilibrium framework, which explicitly incorporates price formation for each commodity; it also takes into account all material and financial balances in the economy by distinguishing not only between producing sectors (or commodities) but also between social classes.<sup>2</sup> In contrast to the comparative-static approach of the previous Plan models, it is also a dynamic model, tracing the equilibrium for each successive years of the plan.

The economic logic underlying the Third Plan model also differs significantly from that of its predecessors. The previous models work 'backward' from final objectives to the tasks which must be performed to achieve them. Thus, given some target end-year GDP (or a target consumption sector), it works out the required sectoral output expansion and investment allocation during the Plan. The approach of the present model is exactly the opposite; it works 'forward' starting with the initial situation and tracing the effect of a given pattern of investment allocation on the macro-economic equilibrium for each year upto the end of the Plan. While both the approaches yield consistent projections, the underlying assumptions regarding the characteristics of the economy and the implied growth constraints are not the same. Among other things, the earlier approach is liable to produce more ambitious Plans (often implying a break from the past) while the latter approach is more likely to lead to cautious and pragmatic projections (thus ensuring continuity with the past).

The treatment of international trade is one area where the two approaches are widely divergent. In the earlier Plan models, the supply of imported complementary goods (e.g. the so-called non-competitive imports as defined in the Chenery-type two-gap models) was considered a major growth constraint as distinct from the savings problem. The possibility of import-substitution (i.e. changes in the sectoral import coefficients) as well as the possible growth of exports were exogenously specified. The sectoral output growth rates as yielded by the solution of the model were those which would keep the export-import gap to the minimum, so that there would be no demand for imports other than non-competitive imports. The requirement of foreign aid was thus primarily determined by the size of the export-import gap, the savings requirement being determined residually as the difference between investment demand and net foreign capital inflow.

The basic version of the Third Plan model has quite the opposite approach; by assuming that a sector can freely shift between the alternative regimes of import, self-sufficiency or export, it imposes no a priori restriction on the pattern of domestic output growth (and, hence, on the pattern of sectoral

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2. There are 42 sectors and 10 household classes in the model.

allocation)<sup>3</sup>. This has two important implications: First, the requirement of net foreign capital inflow arises in the model primarily because of the savings-investment gap and not because of the so-called export-import gap.<sup>4</sup> There is thus no in-built mechanism in the model to ensure that the complementary imported items will not be in short supply. Second, since sectoral capacity expansion determines the pattern of foreign trade (and not the other way round as in the previous Plan models), it is difficult to establish a rationale for investment allocation without invoking the law of comparative advantage in some form. This the present model cannot do, being essentially a simulation model without an explicit optimising criterion.

### **Basic needs and poverty**

Any Plan-making exercise in Bangladesh must cope with one overriding concern - how to alleviate poverty and satisfy the basic needs of the people within the overall growth constraint. In the First Plan model, the targets for the increase in the per capita consumption of certain consumer essentials (e.g. foodgrains, cloth, etc.) were fixed on the basis of the criterion of a 'desirable' minimum; these were not the same as the estimates obtained on the basis of historically measured expenditure elasticities of demand. The Second Plan model had a more articulated basic needs approach which was based on the following postulates :

- (i) The projected income growth along with the redistribution of income would be such as to ensure that the per capita demand for consumer essentials would attain certain 'normative' consumption standards.
- (ii) The supply of consumer essentials must be so ensured as to prevent any inflationary increase in their prices.
- (iii) The requirement of savings generation would be met by restraining the growth of aggregate consumption by means of higher taxes on richer classes and relative non-essentials.

In order to obtain results which reflected the implications of the above postulates, the Second Plan model had some innovative features, e. g. estimating the increase in the demand for consumer essentials from a 'basic needs sub-model' and treating total non-basic-needs consumption as an endogenously determined variable which adjusts so as to generate the required savings. The major flaw in this approach is, of course, that a simple Leontief System cannot explicitly take into account the inter-relationship among the structure of production, the distribution of household income

3. Foreign trade is thus treated as the outcome of a market-clearing process with domestic prices being linked to international prices.

4. The model does in fact incorporate a balance of payments constraints; but it is defined in terms of maximum permissible increase in foreign debt liability and has nothing to do with the problem of non-competitive imports.

and the pattern of consumer demand. While it was assumed that the proposed rural-agricultural-employment orientation of the Plan would go some way in reducing the incidence of poverty, the specific links between anti-poverty measures and the desired changes in income distribution could not be rigorously explored.

In this regard, the Social Accounting Matrix (SAM) frame-work adopted in the present model is potentially a much superior approach, since it allows to see how the purchasing power generated from the production process is distributed among household classes.<sup>5</sup> Much of the usefulness of this approach would however depend on the level of disaggregation (in respect of types of income and the number of household classes), the reliability of the estimates, and the ability on the part of the model-builders to predict how the income distributional parameters would change over time. A SAM-based model has to cope with formidable data problems, and the fact that all the answers emerge so nicely and neatly from a computer is liable to give them more 'authority' than they really have.

The data available from the various nation-wide surveys in Bangladesh (e. g. Manpower Surveys, Agricultural Censuses, Household Expenditure Surveys) do not allow any detailed income-occupation cross-classification, which is an essential building block for a SAM-based model. Many important entries in the present SAM are therefore either in the nature of informed guesses or are based on fragmentary evidence. The model does not also deal with the problem of how income formation is affected by expansion in wage employment or by asset redistribution (for example, by an increasing number of people joining the ranks of the landless). This is, however, not to underrate in any way the value of the research efforts that must have gone into the estimation of the model (for which the model-builders definitely deserve our congratulations), but to point to the major data gaps that at present limit our understanding, in quantitative terms, of the various socio-economic correlates of poverty and income distribution.

It is not known whether the implications of setting certain 'normative' targets for poverty alleviation or basic needs satisfaction are explored in the present macro-modelling exercise. The Draft Third Five Year Plan (Planning Commission, 1985) does not mention any per capita consumption targets for essential items (although the output targets for some of these items are shown). There is also no indication given in quantitative terms as to how the relative economic position of the different social classes will change over the Plan period. The macro-model must have yielded certain figures in this

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<sup>5</sup> Another advantage of the Third Plan model is that it allows endogenous price formation so that the effects of a change in price, say, of foodgrains, can be fully traced. This versatility of the general equilibrium approach is, however, somewhat compromised in the present model by treating foreign trade as a market-clearing device, thus linking domestic prices to international prices.

respect and the discussion on income distribution in the Draft Plan does seem to imply that there is some 'desired' economic status for the different social classes [3;11].

### **Growth targets and the policy package**

In the case of both the First and the Second Plans, the respective macro—models were solved for several alternatively specified growth targets (with variations in foodgrain production target, degree of import substitution, etc.), thus generating not a single 'plan', but several plan variants. A comparative analysis of these plan variants helped to specify the development alternatives available during the Plan period in the context of the major macro-economic constraints, namely, the external deficit, the resource gap and the skill constraint.<sup>6</sup> Ideally, starting with the initial set of solutions, it should be possible to move to a feasible and desirable plan variant through iterative adjustment of targets vis-a-vis resource requirements. As it happened, in the case of each of the previous Plans, the then political regimes opted for targets which were based on overly optimistic views of the growth possibilities. Depending on how one would judge the nature of these successive regimes, the targets officially adopted in the Plans could therefore either be taken as mere political slogans or as nothing short of a commitment to bring about a social revolution.

The optimism underlying the Plan targets went into the Plan making exercise at different stages. In the case of the First Plan, the results of the macro-model were derived for four alternative levels of final year GDP target of these, the highest was actually adopted in the Plan. Although this implied a modest GDP growth rate of 5.5 percent annually compared to 'benchmark' GDP, the benchmark itself was taken to be substantially higher than the estimated actual (so that the actual GDP growth rate would be nearly 9 percent annually)<sup>7</sup>. The higher benchmark estimate was based on the assumption that the economy could go back to the pre-liberation level of production without further capacity expansion—an assumption which later proved to be quite unrealistic. Again, the projected size of development outlay in the First Plan was substantially lower (nearly by 20 percent) compared to the estimate derived from the macro-model for the same GDP growth target. It is not known how this adjustment was made, but it implied very optimistic assumptions regarding the incremental capital—output ratios (particularly since the macro – model itself used rather high estimates of sectoral capital productivity).

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<sup>6</sup> The skill constraint relates to the problem of how rapidly investment activities can be expanded without loss of efficiency.

<sup>7</sup> Both in the macro—model and in the actual Plan, the benchmark GDP was taken to be nearly 20 percent higher than the estimated GDP of the base year, i. e. 1972-73.

In the case of the Second Plan, the published results of the macro—modelling exercise had two plan variants, corresponding to the alternative GDP growth rates of 6.2 percent and 7.2 percent annually. It was evident from these results that achieving a GDP growth target in this range would require heroic efforts on many fronts ; e. g. in mobilising external and domestic resources, in accelerating the scale of investment activities, and in ensuring efficient utilisation of existing and new capacities. [2; 13-19]. In presenting the results of the macro-exercise, the model-builders evidently took a cautious approach. About the foodgrain production target, for example, this caution was expressed in the following words :

“The incorporation of the ‘political’ objective of achieving foodgrain self-sufficiency and of meeting the ‘basic needs’ in the macro-model leads inevitably to a high annual growth rate of foodgrain output..... However, one must consider both what rate of increase really is plausible and how the matter should be presented in the final Plan so that it can carry conviction ..... In the light of realistic assumptions about what could be done in the field of agriculture (and rural institutions) in the next five years’ time, a lower target will have to be chosen in the final Plan version”. [2;18].

In the end, however, it was the plan variant with the higher GDP growth rate of 7.2 percent annually which was adopted for the Draft Second Plan. Compared to the results of the macro-model, the only major adjustment was in respect of the projected inflow of foreign aid which was taken to be much higher in the Draft Plan, thus making the domestic savings figure look more plausible. As it turned out, it was the lower projection of the macro-model which came anywhere near the actual aid inflow during the Second Plan period.<sup>8</sup>

Planners in Bangladesh face a dilemma in choosing between optimism and pragmatism, given the objective conditions that they must take into account in their plan—making exercises. In setting a growth target, there is little room for choice between the minimum that is acceptable on social and political grounds and the maximum that would seem plausible on broad tests, e. g. by assessing the major growth constraints. A certain amount of optimism in a Plan is perhaps acceptable on the ground that it sets a challenging target which stimulates great efforts, this applies particularly when one is dealing with key sectors like foodgrains, so that if ‘excessive’ efforts are made there, one will not be diverting resources from more important programmes. Where the plan-making exercise went wrong was not so much in the matter of setting targets as in defining in concrete terms

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8.Of the two alternative projections of aid inflow in the macro—model, the lower one was US \$ 7089 million compared to the actual aid inflow of \$ 6433 million at constant 1979-80 prices, as estimated by the Planning Commission (1985).

the policies that would ensure the realisation of the targets. The model-builders were fully aware of the need for devising a 'policy package' corresponding to the 'physical' plan obtained from the macro-exercises. Unfortunately, once the planning authorities decided on a particular plan variant, there was little enthusiasm left for continuing the work on the policy package.

The Third Plan model has an advantage in this respect since it allows the interplay of targets with a wide range of policy instruments such as the rates of income and excise taxes, the level of public consumption, the extent of food subsidy, etc. It is not clear how the particular targets of the Draft Third Plan (e. g. the GDP growth rate of 5.4 percent annually) have been arrived at and what bounds of the policy variables have been considered. Presumably there is more work to be done to identify the policies and programmes in more concrete terms, so that model-building can gradually merge into operational planning. The underlying assumption is of course that the political leadership will have the will and the ability to do the tasks required. Given the past record, the planners may not feel confident about that assumption even with such a modest set of targets as adopted for the Draft Third Plan. If so, they might follow the example of the TV Weatherman who announced : The forecast for the weekend is clear and fairer, with an eighty percent chance that we are wrong.

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# **The Applied General Equilibrium Model for the Third Five Year Plan of Bangladesh \***

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## **I. INTRODUCTION**

Plan formulation has become universally based on macroeconomic system of different types. Policy parameters, plan targets and objectives, international prices and capital flows constitute some of the exogenous variables within which the model-builders have to prepare consistent forecasts of sectoral production, prices, income levels and other relevant variables. For Bangladesh it is often argued that over-ambitious targets of the earlier plans may have biased investment allocations into sectors which have not adequately supported growth and income creation. The general equilibrium model for the Third Five Year Plan has been developed to stimulate the implications of various policy-scenarios and assess their consistency with targets and objectives.

It may be worthwhile at the outset of this paper to emphasise that application of the general equilibrium model for policy-analysis in Bangladesh has features which are distinctly different from econometric and input-output models. The applied general equilibrium model focuses on the representation of micro-economic principles within an economy-wide mathematical model with emphasis on 'actors' who express preferences, own resources and whose behaviour is the outcome of a decision-making process based on conscious consideration of alternatives along with relevant constraints. The approach integrates this behaviour into one economic process by imposing constraints on the system as a whole [1]. The separate formulation of supply and demand generates a set of endogenous prices which clear each of the markets, but this does not automatically imply that all relative prices are determined with the model.

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\*This paper draws extensively on the three volume-report prepared under the UNDP Project BGD/83/029, "The Macro-Model for the Third Five Year Plan" Vol. I to III, (draft), (Dhaka 1984, 1985).

Price intervention by the government to fix certain relative prices (e.g., ration price, procurement relative to farmgate prices) are explicitly introduced as policy-parameters and the equilibrium solution is constrained by it. Similarly, certain import and export volumes can be treated as committed and may take place irrespective of cost functions of domestic production.

In a large number of respects the use of an applied general equilibrium (AGE) model constitutes a break away of the tradition of input-output analysis as consistency basis of plan formulation. The explicit treatment of the demand side, price endogeneity and constraints are already mentioned. Moreover, in the agricultural sectors it is no longer assumed that proportional relation between input and output prevail. If yields improve in these sectors, the input required (per acre) tend to rise more than proportionately.

The model also analyses the expenditure decisions of ten different socio-economic classes which are defined in terms of land holdings and income position. These ten classes, along with the government, are the 'actors' in the model. For each of these classes the share of value added per sector which accrues to them is estimated on the basis of review of the literature on land rents, tenurial rights, capital and labour remuneration in industry and other sectors.

The choice of representing the Bangladesh economy in an applied general equilibrium model, as mentioned above, allows a large number of constraints and balances, evaluated at market prices, to be analysed within a consistent framework. Most important are the budget constraints of the Government and of each of the socio-economic classes which constrain the expenditures undertaken by them. Secondly, for every sector in the model commodity balances are maintained and total demand (including stock changes) is identical to supply from domestic production and net imports. Further, as a representation of the scarcity of land, land balances are maintained for aus, aman and rabi seasons separately. Improvement of land to allow changes in production technologies with higher yields involves certain costs and the overall scale of such improvement is determined by budgetary constraints of both public and private sectors. It is this analysis in conjunction with the features mentioned above, which constitutes the starting point for evaluating the consequences of macro-economic and sectoral policies with respect to socio-economic objectives.

## **II. MAIN FEATURES OF THE MODEL**

In the model, two main component can be distinguished—the supply component and the exchange component. The supply component formulates, at base-year prices, production as well as investment plans for the economy. The exchange component describes the economic interactions within the year and on basis of the state of demand, calculates a set of prices at which all product markets clear.

The producers of commodities are subdivided into ten social classes, covering the entire Bangladesh population. The choice of the social classification is guided by the income position of rural and urban groups in the society. Each of the ten socio-economic groups as well as government is seen as an actor with certain own resources (i.e., land or labour), certain objectives and preferences and knowledge of the economic environment. In the application of the general equilibrium model the ten social classes, which are taken to be homogeneous, as well as the government, try to satisfy their preferences, given the resource constraints and the type of activities which they perform. The household groups are distinguished on the basis of primary economic activity (farm, non-farm). Farm households are further sub-divided according to land ownership and non-farm households according to income.

(a) Farmers

1. Landless agricultural workers
2. Small farmers (0.0–1.5 acres)
3. Medium farmers (owner-cum-tenant) (1.5–5.0 acres)
4. Medium farmers (owner cultivators) (1.5–5.0 acres)
5. Large farmers (5.0–10.0 acres)
6. Very large farmers (above 10.0 acres)

(b) Non-farmers

7. Rural informal (poorest 60% in municipalities of less than 5000 inhabitants)
8. Rural formal (richest 40% in municipalities of less than 5000 inhabitants)
9. Urban informal (poorest 60% in municipalities of more than 5000 inhabitants)
10. Urban formal (richest 40% in municipalities of more than 5000 inhabitants).

The actor classification refers to base-year characteristics of the people.

The main aim of the model is to analyse the income position of the social classes under alternative policy runs.

## **II.1 Private Demand and Demand System**

Each class buys consumption and investment goods determined by its income and the relative price of the commodities. Given prices of internationally tradable goods any excess of demand over supply is imported as long as this import is permitted by the government and profitable for the trader. This is the case only if the retail price covers the cost of import including tariffs, trade margins and transport costs. Likewise exports are profitable only if the cost of bringing the commodity to the border is less than or equal to the price received at the border. If neither exports nor imports are profitable, there is a situation of autarky in which domestic prices adjust as to maintain the balance between supply and demand. By this mechanism

we can distinguish for each internationally tradable commodity separately three 'regimes' of price determination i.e., import price competitiveness, domestic price adjustment and export price competitiveness. It depends on international prices and domestic cost functions in which 'regime' a sector is at a certain time. Price formation for commodities not internationally traded (primarily construction and services) is determined very differently. Such commodities are in the model only produced by sectors with constant returns to scale and a constant mark-up over variable costs (henceforth referred to as IO sectors). For IO sectors the effective demand determines the level of supply and the capacity (and hence its utilisation) is lagged endogenous depending on past investment (see section II.5 and III.5 below). The price determination in turn affects the revenue of the classes which produce the commodity and thereby their purchasing power. The exchange component shows the final outcomes of these linkages on consumer demand and investment for each social class as well as on government revenue and expenditure.

For social classes, a demand system for the commodities is specified in terms of a two level Almost Ideal Demand System [2:312-325,3; Appendix-V.4] —(i) the first level distinguishes broad aggregate commodity groups (grains, livestock, other food and non-agriculture); and (ii) the second level disaggregates within a group i. e., rice, wheat etc. Goods which are not consumed directly such as traditional energy, protein, feeds, jute, cotton and hides are excluded. The demand system is estimated based on data of total expenditures by social classes derived from Household Expenditure Survey and relative prices of the commodities (for details see Appendix V).

## **II.2 Public Demand**

The government undertakes current expenditure for creation of public goods as well as expansion of capacities in various sectors of the economy. The public consumption activities of a sector financed through government is a policy variable in the model and targets are set exogenously. These targets may themselves be adjusted, according to some priority ranking (as discussed in section III.11) depending on the availability of resources in the economy. This target growth rate of public demand categories is translated into the demand for various commodities through flow matrices. These matrices are constructed from government accounts and show the requirement for various commodities if activities in various public demand categories are undertaken.

Intermediate demand for domestic production by IO sector is determined on the basis of 'Leontief' technology that is by fixed input requirements per unit of output, as described through the input output table. Such intermediate demand includes demand processing and trade services from farmgate to retail but it excludes processing and trade from border to retail for exports and vice versa for imports, which are separately described (see section III.7).

### II.3 The Analysis of Agricultural Supply

In the TFYP model, a formulation of agricultural supply was adopted in which the allocation of land to any crop depends on the net revenue for that crop relative to the net revenue of the major competing crop. The equation which was estimated on basis of time series can in its simplest form be written as

$$\frac{A_i}{A_j} = f\left(\frac{NR_i, t-1}{NR_j, t-1}\right) \quad I=i, j, \dots, n \quad (1)$$

Where the subscripts  $i$  and  $j$  are different competing crops, the symbol  $A$  and  $NR$  are for Acreage and Net Revenue and the subscript  $t$  denotes time: the allocation of land responds to net revenues with a lag of one year<sup>1</sup>. In principle a more complicated lag-structure may be assumed (e. g., a distributed lag over various years) but in order not to reduce the already very limited number of degrees of freedom of the estimates this has not been implemented. The equation describes the relative allocation of land to a certain crop; in order to expand this to a full production analysis at least two additional information have to be generated by the model: the land availability per season suitable for specific crop use for each year and the yield changes for each of the crop sectors over time.

Total land available for agriculture is used for seasonal crops as well as for all season-crops such as sugarcane, tea, fruits and certain vegetables. The land allocated to all-season-crops has historically been nearly stationary and was estimated by a simple time trend with a very small positive coefficient. The increase of land available in the plan period for seasonal crops is a direct function of the nature and intensity of land improvement activities. Five different types of land were distinguished<sup>2</sup> and for each of

1. This approach has been implemented for rabi-season substitution and aus-jute substitution. It can not be applied if for a certain crop no immediate substitute exists or if the growing period extends over various seasons. Tea and sugarcane provide examples of the latter situation. Aman local varieties are typically grown on land which floods 3 feet or more in a normal year and substitution to high yielding varieties requires irrigation and drainage investment and thus no immediate substitute exists. In such cases acreage allocation is determined by the land available in the particular year (initial acreage and increase or reduction due to land improvement) or by time trends [23].

2. Flooding in a 'normal' year is the criteria to distinguish

high land (above flood level or flooded for less than one foot)	: 5.54 mln acres
medium high land (flooding 1-3 feet)	: 7.98 mln acres
medium low land (flooding 3-6 feet)	: 3.55 mln acres
low land (flooding 6-12 feet)	: 2.17 mln acres
bottom land (flooding more than 12 feet)	: 0.93 mln acres

This distribution is based on [18].

these land types irrigation and drainage 'projects' are described which improve their crop growing capacities. These projects are a stylised representation of current ongoing flood control and drainage schemes in the country and execution of such projects allows for a higher cropping intensity and a shift towards high yielding varieties. Each of the stylised projects is characterised by a cost-function per acre and a gestation period and within the budget constraints policy-choices determine which type of projects are first undertaken<sup>3</sup>. This results in an annual update of the land available for cultivation with or without adequate water control.

Yields per acre are the second set of data which the model generates in order to calculate the value added (or net revenue) per acre for each of the crop sectors. In a transitional economy the actual yields for each crop (sub) sector are much below the potential ones and the rapidity with which yield improvement takes place is determined by institutional constraints as well as by input prices. Institutional constraints such as tenurial rights or limits on the availability of credit are not likely to change rapidly and yields are not foreseen to deviate much from historical trends<sup>4</sup> (see Appendix II)

With these three sets of data agricultural supply can be calculated by the TFYP model: starting with base-year prices of inputs and outputs the net revenue of all crops are determined. On basis of behavioural patterns of substitution between major crops the acreages destined for production in the next year are calculated and multiplied by next year yields per acre to generate the production volumes supplied in the markets<sup>5</sup>. These data, jointly with the supply data of the manufacturing, construction and service sector enter into the general equilibrium procedure.

#### **II.4 The Supply Process for Manufacturing Industry, Construction and Services**

For the manufacturing industry, the supply describes how a set of prices, result in production and investment plans for the economy. Production capacity is generated, at the end of the gestation period, as a result of net investment in capital equipment by each socio-economic class and by government. Once capacity has been created the producer can make decisions on utilization of capacity. It is assumed that the producer in

3. The list of projects, their costs and gestation is adapted from [24], for detail see [17].

4. The average yields per crop exhibit considerable variability over time and econometric estimates were not used because of rather low R-squares. This is particularly important because yields per acre enter multiplicatively and total production estimates are very sensitive to them. Yields are instead updated with an interpolation technique which makes the rapidity of its improvement depend on the historical trend as well as the extent to which potential yields are already realised. See Appendix II.

5. For expositional convenience we omit here discussion of the transport, trade and processing margins (see section III.7).

manufacturing industry will maximise the rate of capacity utilisation as long as price exceeds variable cost. This degree of capacity utilisation is largely technologically determined. However, it is the experience in Bangladesh that due to power failures, management and maintenance problems capacity will be underutilised. To this extent various government policies may indirectly affect capacity utilisation through secure supply of energy, management training etc.

The adjustment of supply, in trade services, housing services, transportation, food processing, is different from manufacturing industry. These activities are not tradable internationally and do not produce something which can be kept in stock. The technology of these activities is such that production only takes place at the moment when demand must be satisfied. The producer is assumed to set prices and adjust supply to existing demand within constraints on available capacity. When the supply capacity reaches an upper bound for him and his competitors, the price will rise above the predetermined level so that supply-demand adjustment takes place. Such a constrained short-run supply adjustment to effective demand has been specified only for non-tradable non-agricultural commodities.

Thus, the combination of supply constrained and demand constrained regimes in a single model, make it possible to explore the scope for macro-economic stabilisation policies through effective demand management. Whether markets behave in a 'Keynesian' and 'Classical' fashion is determined by the concrete situation. If a service sector is producing below its capacity upper bound demand will determine the volume supplied. At a price bound (i. e., international prices) or quantity bound (capacity) the effects of demand management will 'switch'. For the non-IO sectors (agriculture and manufacturing) supply is determined by installed capacity and its utilisation.

## **II.5 The Representation of Government Policies**

In addition to exploring the scope from macro-economic stabilisation policies through effective demand management, the model also represents government operations on commodity markets as well as income redistribution policies. On the commodity markets, quota and tariffs on international trade can be imposed and buffer stocks kept for selected commodities and the financial implications analysed. The food rationing schemes are an important component of income redistribution policies. There are also other transfers such as wage earner premia on remittances and interest payments. On the receipt side, foreign aid plays a crucial role. Aid is mainly given in kind and thus falls to a large extent outside the government financial sphere, except food aid which through resale yields government revenue. Further sources of government finance are provided by taxes on foreign trade domestic sales and income and other direct taxes.

In order to perform policy analysis, adjustment rules have been introduced which permit to set bounds on the variation of some key endogenous variables in the model related to financial policy. As soon as a bound is hit, the policy is "interrupted" and adjustment of some policy parameter takes place. Various political choices of the government are reflected in the model through target and bounds on policy variables and in order to satisfy the constraints of the model through a priority ranking between them. Such variables include the extent of flexible rationing, the rate of income tax, the rate of excise tax, trade deficit, public investment and public consumption. To increase the usefulness of the TFYP model for the purpose of policy analysis the possibility of endogenising specific targets has been introduced. For instance, if a target is specified that the real income of the economy has to grow by 4% annually then the model is able to answer question such as what adjustment must be made in associated variables (i.e., public investment) in order to achieve the target and see whether that is feasible in budgetary and dynamic terms. This formulation of government policies fits well in a computable linkable general equilibrium model. Some of the advantages are [5,6]:

- the priorities and targets can be discussed with policy makers.
- the model has a solution even in the presence of conflicting targets.
- inequalities can be introduced in an easy way.

### III. MATHEMATICAL SPECIFICATION OF THE TFYP MODEL

The commodity-, sector and subsector classifications have been listed in Appendix III below. We consider these classifications as sets to which we associate, for notational convenience, index sets. For example, the index set  $J = \{1, 2, \dots, 11\}$  of 10 social classes and government. We denote an individual of  $J$  element by the subscript  $J$ . Thus  $j = 2$  points to the second social class, i.e. to the small farmers. Similarly let  $I$  denote the commodity index set with subscript  $i$  associated to it and let  $H$  denote the index set of sectors. Each sector produces one commodity. Each commodity is produced by one or more sectors. Sectors can be subdivided into IO and non-IO sectors. IO sectors produce (at least) one commodity which is not traded internationally (with unit-cost minimisation under a constant returns-to-scale technology and a proportional degree of mark-up of price over cost.) Non-IO sector,  $h \in N$  produce with a one period lag. Non-IO sectors are subdivided into agricultural ( $h \in A$ ) and non-agricultural sectors ( $h \in (N-A)$ ). Agricultural sectors are subdivided into farm sectors and processing sub-sectors. Figure 1 summarises these definitions. A commodity which is produced by an IO-sector (and possibly also by another sectors, is called IO-commodity. The symbol will be used to denote the set of non-IO commodities.

The model in this section is specified in terms of actors, commodities and sectors. Subsectors only appear inside the agricultural supply module as described in Appendix II.

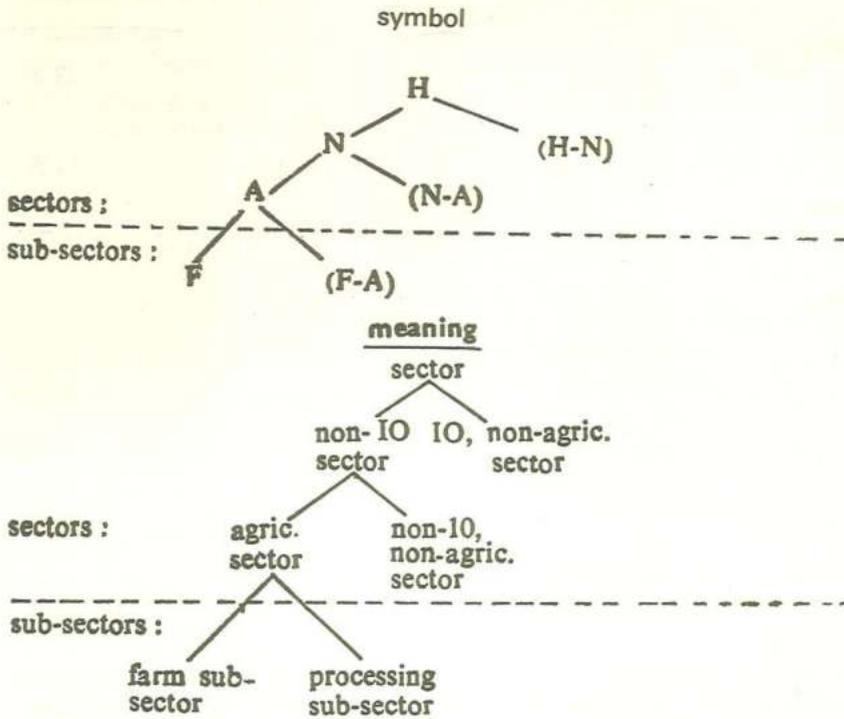


Fig.1  
Tree structure of the sector classification

## SPECIFICATION OF THE MODEL

### 3.1 Private demand by socio-economic group

Consumption follows an expenditure system<sup>6</sup> (described in appendix V), in which the value of consumption of commodity  $i$  by socio-economic class  $j$  is a function of (total consumption) expenditure and prices. Expenditure equals income minus savings and direct taxes on income and property. This is described in equations (3.1)–(3.4).

6. An = sign above a variable indicates exogeneity. Unless indicated otherwise, the subscripts  $h, i, j$  will refer to all elements of  $H, I, J$  respectively and  $\sum_i x_i$  will denote  $\sum_{i \in I} x_i$ . For the complete list of variables used in the model, see Appendix IV.

$$P_i c_{ij} = F_{ij}(m'_j, (p_k)_{k \in I}) \quad (3.1)$$

Expenditure :

$$m'_j = m_j - s_j - f_j \quad (3.2)$$

Savings :

$$s_j = \sigma_j(m_j, f_j, p) \quad (3.3)$$

Income tax :

$$f_j = \lambda \bar{f}_j m_j \quad (3.4)$$

where

$c$	consumption (volume)
$\bar{f}$	direct tax rate
$f$	direct tax
$m$	income (in Taka)
$m$	total expenditure
$p$	retail price
$s$	savings
$\sigma$	savings function
$x$	degree of adjustment of direct tax.

The second element of private demand deals with commodities from capital supplying sectors and depends on the capacity expansion in each sector undertaken by the social classes. The expansion of capacity (by class  $j$ ) depends on the share of total disposable income invested and on the current cost of expansion in sector  $h$ .

Volume of private investment (capacity expansion) by class  $j$  into sector  $h$  :

$$e_{hj} = \bar{\psi}_{hj} (m_j - f_j) / \sum_i (p_i \bar{K}_{ih}) \quad (3.5)$$

Volume of demand for commodity  $i$  related to investment by class  $j$ :

$$i_{ij} = \sum_h \bar{K}_{ih} e_{hj}$$

where

$e$	capacity expansion
$i$	investment, demand (volume)
$\bar{K}_{ih}$	investment requirement (for commodity, $i$ , per unit of expansion of sector $h$ )
$\bar{\psi}$	average investment rate.

### 3.2 Public demand

Public demand consists of public consumption and public investment. Let  $G$  denote the index-set of public consumption activities  $c_g^p$  (see appendix III) with subscript  $g$ , and let  $e_h^p$  denote the expansion of sector  $h$  financed through public investment. Then the public demand can be defined as :

$$d_i^p = (\sum_g G_{ig}^c c_g^p) + (\sum_h \bar{e}_{ih}^e e_h^p) \quad (3.7)$$

Targets on  $c_g^p$  and  $e_h^p$  are set exogenously. For the determination of realisations, see section (3.11.3) below.

### 3.3 Determination of production capacity

Production capacity<sup>7</sup> is determined as :

$$\bar{\Delta} q_h = \sum_j (e_{hj}^p, t - r_h + e_h^p, t - r_h - \bar{\delta}_h q_h, t-1) \quad (3.8)$$

where

- $r_h$  is the gestation lag for investment
- $\bar{\delta}_h$  the rate of depreciation
- $\bar{\Delta} q_h$  change in production capacity from one year to the next
- $q_h$  production

We observe that a more general specification would treat  $r_h$  as a distribution instead of a single parameter. However, information was lacking to specify this distribution. The specification of depreciation is such that capacity only depreciates when it is used. Thus, it is assumed that unused capacity can be 'mothballed'.

### 3.4 Supply of agricultural commodities

For agricultural sectors production is described through a farm-supply system constrained by processing capacity.

$$q_h = \min [G_h((\bar{p}_{k,t-1}, p_{k,t-1})_k A, \bar{q}_h)]; h \in A \quad (3.9)$$

where

- $\bar{q}$  processing capacity
- $p, \bar{p}$  retail and final product price

7. Production capacity in agriculture is defined here as the (non-agricultural) capacity available to process, transport and store etc. agricultural output from farm-gate to retail level. The capacity on the farm is reflected in eq. (3.9). Due to this fact it is understood that investment in agricultural processing (including e.g. oil pressing) also adds to professional & other services capacity (sector 39, the  $n$ -th commodity) since the processing service is actually provided by that sector.

The internal structure of eq. (3.9) is explained in Appendix II. (Land resources could also be looked at as explanatory variables in (3.9) but are treated here as variables which are internal within  $G_h$ ),

### 3.5 Capacity utilisation and supply in non-agriculture

For domestic sectors (i.e. sectors which produce commodities or services not traded internationally) capacity utilisation adjust to demand, within bounds :

$$0 \leq q_h \leq \bar{q}_h \quad h \in H-N \quad (3.10)$$

For the other sectors the degree of capacity utilisation,  $\bar{u}_h$  is exogenously given :

$$q_h = \bar{u}_h \bar{q}_h \quad h \in (N-A) \quad (3.11)$$

Supply of commodities is obtained as :

$$y_i = \sum_h \bar{B}_{ih} q_h \quad (3.12)$$

where  $\bar{B}_{ih}$  is the amount of commodity  $i$  per unit of production by sector  $h$ .

### 3.6 Intermediate demand for domestic production

Intermediate demand for domestic production,  $u_i^D$ , is determined on the basis of a Leontief-technology:

$$u_i^D = \sum_h \bar{A}_{ih} q_h \quad (3.13)$$

where  $\bar{A}_{ih}$  is the input-output coefficient. Intermediate demand includes demand for processing and trade services from farmgate to retail but it excludes processing and trade from border to retail and from retail to border.

### 3.7. Intermediate demand for trade processing

Since international trade of non-IO commodities is not predetermined but is rather the outcome of the market clearing process, the production activities related to trade cannot be treated as predetermined variables either. Assuming that all these activities require a fixed amount of the  $\ell$ -th commodities ( $\ell = 34, 39$ ) (transportation and trade services) per unit of processed product, the total intermediate demand for processing can be determined as :

$$\left. \begin{aligned} u_\ell^B &= 0 \quad \ell \neq 34, 39 \\ u_\ell^B &= \sum_{i \in N} (\bar{k}_{i\ell}^+ z_i^+ + \bar{k}_{i\ell}^- z_i^-), \quad \ell = 34, 39 \end{aligned} \right\} (3.14)$$

where

$u_i^B$	intermediate demand for trade, transportation and processing of imports and exports
$z_i^+$	import volume
$z_i^-$	export volume
$\bar{z}_{i\ell}^+, \bar{z}_{i\ell}^-$	(fixed) input requirement for transportation and processing, $\ell=34, 39$

### 3.8 Price relations

As a consequence of trade processing, the price at the border will differ from retail price  $p$ .

$$\begin{aligned}
 p_i^{B+} &= p_i - \sum_{\ell=34,39} \bar{z}_{i\ell}^+ p_{\ell} \quad \text{border price of import} \\
 p_i^{B-} &= p_i + \sum_{\ell=34,39} \bar{z}_{i\ell}^- p_{\ell} \quad \text{border price of export} \quad i \in \tilde{N} \quad (3.15)
 \end{aligned}$$

An adjustment rule has to be introduced which represents what is shown in figure 2. As long as the border price of import is below  $p_i^{B+}$  no foreign trader will be willing to sell. As long as border price of export is above  $p_i^{B-}$  no foreign trader will be willing to buy. When both import and export are unprofitable, the market is in autarky, in the sense that net import ( $z_i$ ) is equal to committed import ( $\bar{z}_i$ ) and thus fixed, while the border price adjusts.

This can be written as :

$$\begin{aligned}
 \bar{z}_i^+ + \textcircled{=} & p_i^{B+} \\
 \bar{z}_i^- - \textcircled{=} & p_i^{B-} \quad i \in \tilde{N} \quad (3.16)
 \end{aligned}$$

where

$$\bar{z}_i^+ = \max(0, z_i - \bar{z}_i); \quad z_i^+ = \bar{z}_i^+ + \max(0, \bar{z}_i)$$

$$\bar{z}_i^- = -\min(0, z_i - \bar{z}_i); \quad z_i^- = \bar{z}_i^- - \min(0, \bar{z}_i)$$

$z_i^+$  : variable import,  $\bar{z}_i^-$  : variable export, and  $z_i$  : net import,

$z_i^+$  : gross import,  $\bar{z}_i^-$  : gross export

Observe that it is possible to extend this formulation with import-or export-quota. This is shown in figure 2.

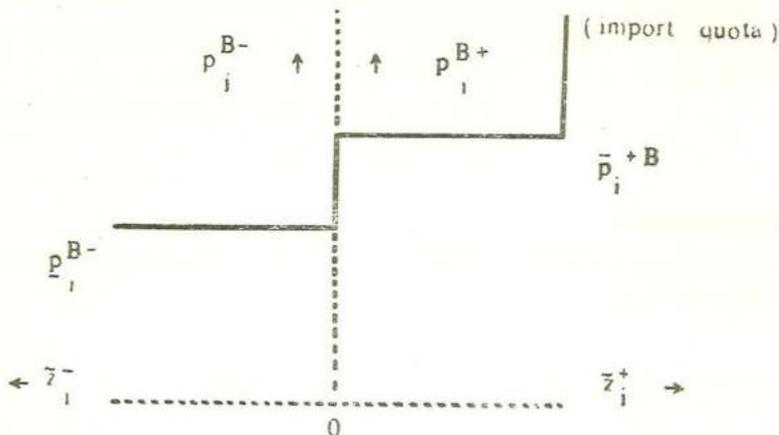


Figure 2.

Adjustment rules for border price

Now that for non-IO commodities the relations between border and retail price have been specified it is necessary to formulate the relation between retail and final product price

— First, there is an excise tax relating retail to final product price. Let  $t_i$  be the rate of excise tax. Then final product prices  $\tilde{p}_i$  (i.e. the retail prices less excise tax) are :

$$\tilde{p}_i = p_i (1 - t_i)$$

where

$$1 + t_i = (1 + t_i^0) \phi + t_i^1$$

$\phi$  is the degree of adjustment of indirect tax

$t_i^0$  coefficient corresponding to the adjusting component of indirect tax, and

$t_i^1$  is its fixed component.

Thus, the rate of excise is exogenous and depends on the target for  $t_i^0$ , and  $t_i^1$  as well as the adjustment  $\phi$  which may be required in order to satisfy a budgetary constraint (cf. (3.29) below).

— Second, for all private sectors there is the relation between retail prices and net revenue per unit:

$$r_h = \sum_i \tilde{p}_i \bar{B}_{ih} - \sum_i p_i \bar{A}_{ih}$$

— Third, for IO-sectors a mark-up over cost is imposed to cover the factor costs:

$$\sum_i \bar{p}_i \bar{B}_{ih} = \sum_i p_i \bar{A}_{ih} (1 + \tau_h), \quad h \in H-N \quad (3.19)$$

— This degree of mark-up is at an exogenously predetermined level as long as supply is not at bound, otherwise it adjusts. This can, using the notation introduced earlier be written as:

$$\tau_h + \textcircled{\Rightarrow} q_h, \quad h \in H-N \quad (3.20)$$

One may observe that in this formulation the share of value added in gross production remains constant as long as bounds for capacity are not binding. Thus the IO-sectors are assumed to be in a position to impose a fixed mark-up rate. For non-IO sectors it is assumed that this is not the case because these sectors cannot adjust their supply in the short-run. Nevertheless it is conceivable that sectors ask government to adjust tariffs on international trade in order to protect their mark-up. This means that instead of a supply adjustment regime one may find a tariff adjusting regime for non-IO sectors (see eq. 3.24).

### 3.9 Private income formation

To close the private income-expenditure cycle the income equation must be defined.

#### (a) Private income formation from production

Aggregate, commodity specific, factor revenue from sector production is distributed to social class according to fixed shares  $\bar{n}_{hj}$ . Thus private income from value-added distribution is

$$\sum_{h \in H} \bar{n}_{hj} r_h q_h$$

#### (b) Income from abroad

Transfer of income from abroad is specified as an exogenously given amount, indexed as a commodity basket

$$\sum_j p_j \bar{b}_{ij}^w$$

The wage-earner scheme subsidy rate  $\bar{\xi}$  is then superimposed on it.

#### (c) Domestic transfers

Domestic transfers  $\sum_i p_i \bar{b}_{ij}$  from other households and from government ( $\sum_i \sum_j p_i \bar{b}_{ij}$ : net government transfers to households).

(d) Income from food ration

This is implicit income from food ration allowance. Let  $p_i^a$  be the ration price of food where  $p_i^a = p_i \bar{\beta}_i$  and  $\bar{a}_{ij}^c$  the exogenously given committed ration and  $\bar{a}_{ij}^f$  the flexible ration which adjusts at a rate  $\zeta$ . The implicit

income from the ration allowance is then  $\sum_{i \in I} (p_i - p_i^a) (\bar{a}_{ij}^c + \zeta \bar{a}_{ij}^f)$  where  $I$  is the subset of commodities included in the food ration system.

Hence, the total income received by income group  $j$  is:

$$m_j = \sum_h \bar{n}_{hj} r_h q_h + \sum_i p_i \bar{b}_{ij} + (1 + \bar{\epsilon}) \sum_i p_i \bar{b}_{ij}^w + \sum_{i \in I} (p_i - p_i^a) (\bar{a}_{ij}^c + \zeta \bar{a}_{ij}^f) \quad (3.21)$$

### 3.10 Balance equations

Now that all supply and demand have been specified a commodity balance (at border level) can be imposed:

$$y_j + z_j = \sum_i (c_{ij} + i_{ij}) + d_i^p \quad u_i^D + u_i^B \quad \text{for } i \in I$$

where

$$z_i = 0, \text{ for } i \in (I - \tilde{N}) \quad (3.22)$$

supply + net imports = private final demand + public demand + intermediate demand.

The trade deficit,  $\lambda_0$  can also be calculated:

$$\lambda_0 = \sum_i (p_i^{w+} z_i^+ - p_i^{w-} z_i^-) \quad (3.23)$$

where

$z_i^+, z_i^- (\geq 0)$  export and import quantity

$p_i^{w-}, p_i^{w+} (\geq 0)$  export and import price in US\$  
( $p_i^{w+}, p_i^{w-}$  exogenous)

$\lambda_0$  balance of trade deficit (policy variable) measured in US\$

### 3.11 Policy variables

Several policy variables have already been introduced. These were:

- public demand (3.7)
- income tax (3.4)
- excise-tax (3.17)
- subsidy on wage earners scheme (3.21b)
- net government transfers to households (3.21c)
- committed and flexible food rationing (ration price and ration distribution (3.21d))

One way to perform policy analysis is to fix the policy variables at alternative levels and then solve the model. This may lead to very unrealistic policies. Therefore, adjustment rules have been introduced, which permit to set bounds on the variation of some key endogenous variables in the model. As soon as a bound is hit, the policy is 'interrupted' and adjustment of some policy parameter takes place. This will be shown below. First policy variables which are still missing in the list above must be introduced.

### 3.11.1 Tariff policies

Bangladesh Government operates a complex system of trade policies. In order to facilitate policy simulations all these trade policies are expressed in the model through their tariff equivalent.

Thus a commodity specific tariff is imposed on imports and exports of commodities :

$$p_i^{B+} = \bar{n} p_i^{W+} (1 + \bar{\theta}_i^+)$$

$$\text{where } p_i^{B-} = \bar{n} p_i^{W-} / (1 + \bar{\theta}_i^-) \quad \} \quad (3.24)$$

$\bar{p}^{B+}$ ,  $\bar{p}^{B-}$  maximum/minimum border price of imports/exports

$\bar{n}$  exchange rate (Taka/US\$)

$p^{W+}$ ,  $p^{W-}$  price of imports/exports (exogenous)

$\bar{\theta}^+$ ,  $\bar{\theta}^-$  import/export tariff rate.

### 3.11.2 Balance of payments constraint.

Balance of payment considerations impose severe constraints on policy. The following balance equation shows the main elements of the balance of payments as represented in the model:

increase in commercial foreign debt =  
trade deficit

+ amortisation on foreign debt

+ net interest payments on outstanding foreign debt

— increase in aid loans

— aid grants

— remittances from abroad

(3.25)

The concept of commercial foreign debt refers to 'hard-term borrowing' and includes suppliers credits. There exists a severe constraints on the capability (and the desirability!) to increase the commercial foreign debt. The following constraint reflects this:

future (yearly) amortisation and interest payment on increase in commercial foreign debt  $\leq$  maximum debt service ratio to GDP -  
amortisation and interest payment on outstanding foreign debt.

(3.26)

This inequality can be seen as a constraint on the increase in commercial foreign debt, depending on the maximum debt-service ratio and the terms of borrowing. Remittances, amortisation and interest payments are by their very nature fixed in the short run. Thus, only aid grants, aid loans and the trade deficit can accommodate for the constraint.

There are three types of aid, each type being split into grants and loans.

- (a) food-aid
- (b) aid in kind (commodity-aid) and cash
- (c) project aid.

For each type of aid an exogenous trend value is specified. Thus an upper bound on the remaining adjustment variable, trade deficit is generated:

$$\lambda_0 \leq \bar{\lambda}_0 \quad (3.27)$$

However, if the debt service ratio has no upper-bound, the trade deficit is not constrained. This may result in a rapid accumulation of future liabilities to the economy.

### 3.11.3 Policy adjustments

In order to satisfy the constraints of the model government still can make various (political) choices. These choices are reflected in the model through target and bounds on policy variables and through a priority ranking between them. The variables to be set in this connection are :

- the extent of flexible rationing,  $\zeta$
- the rate of income tax, (adjustment)  $x$
- the rate of excise tax, (adjustment)  $\phi$
- trade deficit,  $\lambda_0$
- public investment,  $\lambda_1$  ( scaling variable )
- public consumption,  $\lambda_2$  ( scaling variable )

For notational convenience we therefore, write (expenditure categories have a negative sign):

$$\lambda_K = \begin{cases} -\zeta & \text{for } k = -3 \text{ (flexible rationing)} \\ x & \text{for } k = -2 \text{ (income tax)} \\ \phi & \text{for } k = -1 \text{ (excise tax)} \\ \lambda_0 & \text{for } k = 0 \text{ (trade deficit)} \end{cases} \quad (3.28a)$$

and define a priority ordering  $K(\ell)$  such that  $k(1)$  receives a higher priority than  $K(2)$ ; etc.

$$\lambda_{K(1)} + \Rightarrow \lambda_{K(2)} \dots \dots \text{etc.} \quad (3.29)^8$$

where for each k, a target  $\hat{\lambda}_K$ , an upper bound  $\bar{\lambda}_K$  and a lower bound  $\underline{\lambda}_K$  are given. Thus, realised public investment and consumption are set as

$$c_g^D = \lambda_2 c_g^D; e_h^D = \lambda_1 e_h^D.$$

### 3.12 Growth target

Targets and bounds on policy variables can be taken as exogenous variables. However, in order to enhance the usefulness of the model as a policy analysis tool the option of endogenisation of specific targets has been introduced. Suppose that a (scalar) policy target, say overall growth  $\omega$  of real income has been specified, the question to be answered then is whether by adjusting one associated variable, say public investment, this target can be reached (or not). This option is introduced as follows:

$$\hat{\lambda}_K = \begin{cases} \omega & \text{for } K = 1 \text{ (investment)} \\ 1 & \text{for } K = 2 \\ -\zeta, \hat{x}, \hat{\phi} & \text{for } K = -3, -2, -1 \end{cases} \quad (3.30)$$

and given  $\hat{\zeta}, \hat{x}, \hat{\phi}, \hat{q}_h$  where  $\omega$  is a scaling variable on public investment with  $\hat{\omega} = 1$  as a target

$$\alpha - \Rightarrow \omega \quad (3.31)$$

If upper and lower bounds  $\underline{\omega}, \bar{\omega}$  are set in a narrow range the policy target is supported only to a limited extent. On the other hand, if these bounds are set wide enough the target may still be out of reach but  $\omega$  will at least adjust until all relevant variables are at their respective bounds. Clearly certain growth targets are not feasible, even if associated variables may adjust freely, due to constraints which domestic policy cannot overcome. In such situations the scaling variable  $\omega$  will reach a bound.

8. In the simulation presented in this paper the ordering is

$$\lambda_{-3} + \Rightarrow \lambda_{-2} + \Rightarrow \lambda_{-1} + \Rightarrow \lambda_2 - \Rightarrow \lambda_1 - \Rightarrow \lambda_0$$

Thus all public investments would be scaled proportionally when trade balance reaches a bound, subsequently public consumption, taxes and rationing subsidies, etc. However, in the base-run of the model the bounds on trade deficit are set at a level where they are not constraining in order to allow calculation of aid requirements.

#### **IV. THE DATA BASE FOR THE TFYP MODEL**

The TFYP model, being described in this paper, distinguishes markets for goods and services in which producers, consumers and government interact. The general equilibrium approach requires complete accounting of production, income formation, demand and price formation. Producers, consumers and government interact in various markets, offering and demanding goods and services within constraints imposed on them by their initial endowments and their income. National Income is constrained by the balance of payments because of limits on credit available and the interest payments associated to export credit and foreign borrowing.

A Social Accounting Matrix brings together the data sets needed for a model of this type. This framework is designed to trace the flows of goods and services, linking income formation and spending to productive and redistributive activities.

##### **IV.1 The Social Accounting Matrix**

The major sections in this social accounting framework are briefly described below :

(1) Macro Economic Accounts: The Social Accounting Matrix (SAM) is a rather detailed presentation of national accounts and can be reduced to the traditional presentation of national income and expenditures (UNSNA 1968). The detailed presentation is useful for the Development Plan being made at the macro level as emphasis is given to income and tax transfers to and from government.

(2) Commodity Accounts : A close look is taken at the flow of commodities from production and trade to final use. In this part the treatment of processing plays a significant role, as commodities are not consumed in the shape and form in which these are produced. Transformation of goods within a sector poses certain issues with respect to price and quantity accounting in the sector for which input output analysis with fixed coefficients does not provide adequate solutions.

(3) Accounts by Socio-Economic Classes : A close look is also taken at the accounts of the socio-economic classes which are distinguished here. These accounts describe both income formation and expenditures. Government accounts are included here in disaggregated form. Apart from government transfers and other inter-class transfers, the income levels of each class are determined by incomes earned in production. In the model, such incomes of various classes are estimated in terms of the shares of the different classes in the value added for each of the production sectors. This is done on basis of the following considerations: the production process, in utilising factor services, gives rise to payments to the owners or providers of these as wages, crop income and rent of land owners; profits, dividends and

interest payments to the owners of real and financial capital, and mixed income to the self-employed. According to the distribution of ownership of the factor services employed, the distribution of income among classes is generated [7]. At present no data source provides anything approaching comprehensive information on this and the accounts by socio-economic classes tried to derive maximum advantage from available data. However, work is going on to conceptualise the distribution process. The main objective is to breakdown value added in each sector into its constituent categories of factor income, identified by the institutional status of recipient, and through information on their size distribution, allocate the incomes received among the appropriate classes.

Another way of organising the data is to analyse economic activities. The Social Accounting Matrix describes consumption, investment, trade and production in terms of socio-economic classes for each of these activities and in terms of the commodities concerned. Savings per socio-economic class are also discussed here calculating private saving surpluses and deficits. In order to determine the participation of each socio-economic class in investment in a particular sector, the shares of each socio-economic group has been estimated on the basis of asset distribution [8, 9]. This has been done on basis of an analysis of investment portfolio behaviour and past investment behaviour of different socio-economic classes. Several micro studies undertaken by BIDS, BSCIC, IBA have been consulted to determine indirectly the investment portfolio behaviour of different groups.

Another essential component is the distribution matrix of various commodities for the purpose of public consumption and public investment over different public demand category. Such a matrix has been built after reconciling several data sources from BBS, Ministry of Finance and analysing the past behaviour of the ministries of the government [10].

Figure 3 : A SAM, related to a general equilibrium model

<sup>10</sup> from	Commodities ( 1....39 )	Households Current ( 1....10 )	Factors	Government current	Households capital ( 1....10 )	Government capital	Borrowing	Foreign
Commodities	Processing ( domestic + traded )	Private consumption + intermediate demand		Public consumption	Private investment + stock increase	Public investment + stock increase		Exports (f.o.b.)
Households current	Gross production valued at producer prices		Receipts for factor services (wages, land rent...)	Transfers received from government				Private current receipts from abroad
Factors		Payments for factor services (wages, land rent...)						
Government current	Indirect taxes and tariffs	Direct taxes and transfers paid to government						Public current receipts from abroad
Households capital		Private savings					Private borrowing	Private borrowing abroad
Government capital				Public savings			Public borrowing	Public borrowing abroad
Lending					Private lending	Public lending		
Foreign	Import ( c. i. f. )	Private current payments abroad		Public current payment abroad	Private lending abroad*	Government lending abroad*		

\* May also include amortisation and net increase in foreign exchange reserves.

Figure 3 presents the general features of the SAM underlying the model used for the preparation of the Third Five Year Plan. The basis for the accounts of the model were provided by the SAM developed by the Centre for World Food Studies for the year 1976/77 for the Bangladesh Agricultural Model (BAM) [II; 82-121, 12]. An update of the framework was performed to 1980/81. Unfortunately neither the Household Expenditure Survey, the complete Agricultural Census nor the revised Input Output table were available for any year after 1976/77. Data on exogenous and lagged endogenous variables of the model have been collected from the period 1976/77-1984/85 (if available). At the same time the Input Output Table of 1976/77 has been updated to 1984/85 and was checked for consistency. These have been fed into the model to restart in 1984/85. Account is also taken of some shifts which the model would not have been able to generate by itself (notably in wheat HYV, energy prices and in livestock prices). The consistency requirements of the model have provided a useful check on the import and input-output data.

## IV.2 Production Parameters of the Non-Agricultural Sectors

Growth in the economy depends critically on the efficiency in utilising the resources. The TFYP model represents this efficiency in each of non-agricultural sectors through the Incremental Capital Output Ratio (ICOR), the gestation lags and the annual depreciation (see III.3 above). Efficiency increases in the economy can be reflected through a reduction of either input or capital requirements per unit of output, through a shorter gestation for projects or through a longer lifetime of equipments. The estimates of the parameters describing this have immediate impact on the dynamics and growth which the model forecast.

The incremental capital output ratio (ICOR) ( $\Delta k / \Delta y$  in discrete time) (for each sector) has been widely used in plan models for the short and medium term time horizon, despite its obvious shortcomings<sup>9</sup>. Estimation of its value can be made 'ex ante' or 'ex post': the former is based on the data of investment projects planned or currently undertaken in the economy and the latter analyses to what extent past investment has created increases in output and capacity. Earlier plan formulation in Bangladesh has exclusively drawn on the 'ex ante' method [15] and for the TFYP model for the first time estimates were prepared using both methods.

For the 'ex post' estimation time series of past investment and production levels are prerequisite. In a resource constrained economy with many informal and subsistence activities the collection of investment data can only be approximation and the approach taken here concentrated on disbursement by source. Investment undertaken by Government was established from the (revised) Annual Development Plans<sup>10</sup> whereas investment undertaken by private enterprises was estimated on basis of disbursement data from the Bangladesh Krishi Bank (BKB), Bangladesh Shilpa Bank (BSB) and Bangladesh Shilpa Rin Shangstha (BSRS) sources, which were reconciled to the aggregate private investment estimates. Investment and output time series were compiled for the years 1974/75 to 1983/84. Finally a set of sectoral gestation and depreciation parameters were constructed utilising the information of sector specialists of the Public Financial Institutions as well as Planning Commission.

This set of parameters was tested for internal consistency by means of numerical simulation of the production equation, treating the gestation and depreciation as 'hard' parameters and comparing the resulting ICOR (at constant prices) to the values from the Input-Output study made for the

9. The most important objection concerns the inability of a constant ICOR to portray capital saving technological progress over time. A second main problem is that price controls (or subsidies) do not facilitate evaluation of the capital investment and output [13 ; 14].

10. The projects were classified to model sectors and investment shares of total expenditures were estimated on basis of a sample of project proposals [16].

Second Five Year Plan. If the simulated output deviated from the historical levels adjustments of the estimates were undertaken. Finally exogenous investment scenario's were simulated to ascertain whether the medium and long run dynamics behaved according to historical characteristics of the sector. For the industrial sector Table IV.1 summarises the parameters:

**TABLE IV.1 Structural Coefficients of Some Industrial Sectors**

<u>Sector</u>	<u>Depreciation<sup>11</sup></u>	<u>Gestation<sup>12</sup></u>	<u>ICOR<sup>13</sup></u>
Cotton Yarn	5	3	0.66
Cloth Millmade	6	1	0.33
Jute Textile	3	2	0.58
Paper & Pulp	6	3	1.19
Fertiliser	7	5	1.31
Steel & basic Metals	5	1	1.30
Met. Prod & Machineries	4	2	1.08
Other Industries	7	1	0.48

Note : The programming of the model allows sensitivity analysis with different values; these are base-run values.

## V. RESULTS OF TFYP MODEL RUNS

### V.1 Date Reporting of the Model

The model described above generates a substantial number of different results and, within the constraints set by the availability of base-year and bench-mark data it is possible to project values and volumes of all sectoral production variables as well as income formation by social class. The reporting of the model includes the following variables or each of the plan years 1985/86 to 1989/90:

Balance of payment utilising exogenous international prices to derive the surplus (deficit) on current account (see sections III.10 and III 11.2 above).

International liabilities and reserves distinguished by 'soft' and 'commercial' terms (section III.11.2)

National Accounts with Household and Government receipt and payment including a breakdown of subsidies and taxes at market prices.

11. Linear depreciation per year (%)

12. Years between initial investment and first production

13. In 1984/85 at current prices.

Sector Allocations in aggregate and disaggregate form containing value added at factor cost, private and public investment allocations.

Public Consumption by activities based on exogenous growth targets.  
Income by Social Class and Per Capita (using exogenous population growth parameters) in real per capita terms with class-specific deflators (see section III).

Food Demand by Social Class based on expenditure pattern and income (see section III) which also includes nutritional indicators based on group specific commodity demands and commodity characteristics in terms of calories and protein.

Commodity Accounts in volume and value terms including input cost and endogenously edogenously derived sectoral prices.

Employment by sector (in man-years) on basis of historical relation between value added and labour demand.

Irrigation and Drainage Projects which reports on basis of cost functions and the available land (distinguished by type) the newly irrigated areas by technologies (see Appendix II.)

Production, Income and Expenditure by Social Class including a breakdown of taxes and subsidies, allowing calculation of after tax incomes by class and per capita.

## V.2 Initialisation of the TFYP Model

The applied general equilibrium model as described above is executed by an elaborate simulation programme. Its execution requires initialisation of all exogenous parameters and lagged variables. Three types of initialising data can be distinguished: constants, forecasts and policy-parameters<sup>14</sup>. The first two are based on observations and reflect, technical and structural characteristics of the economy. Examples of 'constants' are the input-output coefficients and the share of value added in sector *h* accruing to class *j*. In many cases a 'forecasted' value would be superior to a 'constant' but the paucity of adequate data and supporting research provides a serious constraint to the model builders. The initialisation of policy-parameters is of a different nature as any 'scenario' may be analysed. The economic scenarios represent hypotheses which are to be tested and are always debatable.

In the following table we represent a number of the important policy-parameters with which we have initialised the model for the purpose of the sensitivity analysis reported here.

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14. See the list of variables in Appendix IV for description of types of parameters.

TABLE V.I INITIALISATION OF POLICY-PARAMETERS

Name	Symbol	Value	Equation Appendix
			A,3
1. Direct tax rate	$\tau$	+1.5% p.a. for rural and 5.8% for urban formal	3.4
2. Target rate of excise tax	$\tau_i^0, \tau_i^1$	adjustment $\phi = 1, \tau_i = \tau_i^0$	3.17
3. Subsidy in wage earner scheme(%)	$\tau_i^+$	constant	3.21
4. Import quota	$Z^+$	not binding	
Import tariff rate	$\theta^+$	reduced for petroleum	3.24
5. Export quota	$Z^-$	not binding	3.24
Export tariff rate	$\theta^-$		
6. Committed rationing	$a^c$	-5% p. a	3.21
7. Flexible rationing	$a^f$	+25% s p. a.	3.21
8. Target on flexible rationing	$\tau^f$	= 1	3.21
9. Bounds on flexible rationing	$\zeta, \bar{\zeta}$	(0.2)	3.21
10. Ration prices/ retail price of previous year	$\beta_i$	constant	
11. Bound on trade deficit	$\lambda$	0	3.30
12. Adjustment of macro stabilisation policy	$w$	not binding $w = \bar{w} = \bar{w}$ (no adjustment)	3.30

In addition to these parameters important assumptions are :

(1) Import and export prices are expressed in "real dollars" and are kept at the 1984/85 levels. The dollar inflation is assumed to be 4.5%. For rice and jute specific forecasts of international prices were applied.

(2) Capacity utilisation is to increase as a result of government policies by 2% per year, if below 80% in the initial year. Further we assumed capacity which has not been utilised for the last five year to be written off, leading to a more realistic assessment of capacity utilisation in the base year.

(3) Agricultural yields will not deteriorate further and those of HYV's will improve slightly due to adequate extension and credit supply.

(4) Population growth is an exogenous parameter and the reduction of population increases is achieved with the available fundings and within the limited time span.

(5) The inflow of foreign aid and soft loans (disbursed) are to increase at a level of 3% (real terms) whereas foreign remittances will increase by 1.5% over the (high) 1984/85 level.

Within these exogenous 'constraints' the model calculates feasible solutions with respect to bounds set on key endogenous variables such as public investment. With these runs we focus on the following types of problems in the economy in the medium term (1985-90):

(1) the price formation for major foodgrains given the state of demand in the economy

(2) the developments of income (before tax) of the household and government sector and different social classes in the medium term

(3) the balance of payment consequences of various scenarios' (see below).

### V.3 Scenarios and Results of TFYP Model Runs

The evaluation of results of the general equilibrium model with a large number of sectors and multitude of constraints is not as easy as it may seem. The results are the consequence of the complex interaction between policy instruments, structural characteristics of the economy and the initial achievements. The feasible growth rate of the economy which the model forecasts is itself constrained by policy choices with respect to priorities of objectives and sectoral allocations. Whether the growth rate is actually the highest possible (or not feasible at all) depends on the set of assumptions underlying the policy-interventions. Below we present the results of the Baserun, initialised as described in the previous section. In order to illustrate the working of the model, we also present the results of two sets of sensitivity analyses with the model. The first set of runs attempts to analyse the effects in short and medium run of efficiency increases in the productive sphere of the economy. The second set analyses the impact of a successful attempt to keep the trade deficit fixed at a target level. The analysis is taken one step further by adding an assumption of simultaneous reduction of foreign aid; finally the assumption of fixed trade deficit is changed and the deficit reduces at an exogenously specified rate of 4% per year. Thus, the Baserun is the central scenario and additional assumptions differentiate the efficiency scenarios and those focussing on the external sector (see Fig.4 )

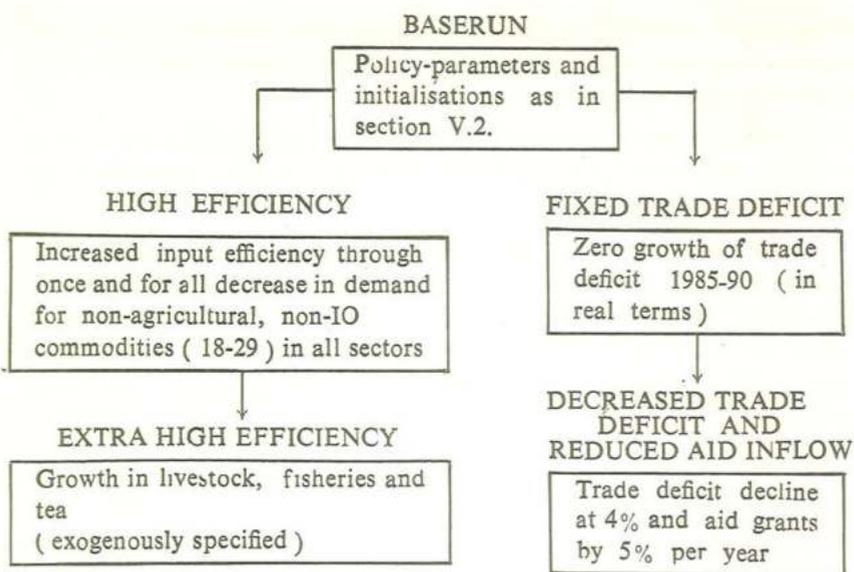


Fig 4

### TREE STRUCTURE OF SCENARIOS WITH SUMMARY DESCRIPTION OF ASSUMPTIONS

#### V.3.1 Results of the Baserun Scenario

It may be emphasised that the policies proposed for the Baserun imply a substantial effort on part of the government with respect to public investment, land improvement, domestic resource mobilisation and other areas, as may be seen from table V.1.

One of the main results of all scenarios we analysed is that a substantial increase in rice production (e.g. at a level of 17.5 mln tons in the terminal year of the plan) will be accompanied by a downward pressure on prices<sup>15</sup> (disregarding monetary inflation). The expansion in rice production exceeds increases in consumption, resulting in lower rice prices. This slower increase in rice consumption is partially caused by the circumstance that Bangladesh has received large amount of food aid which mainly consist of wheat. Therefore, at the margin, the share of wheat in total foodgrain consumption augmented sharply. With a production-structure oriented towards rice and consumption oriented away from rice an increase in rice production (per capita) may induce a fall in the price per unit.

Rice production generates more than 90% of the value added in the foodgrain sector and nearly 60% of all agricultural production (average of 1985-90). Due to this predominant role of price in the national economy,

15. The prices of commodities would be mentioned henceforth disregarding monetary inflation.

such a fall in prices is likely to have far-reaching macro-economic consequences. The immediate effect of a fall in the price of rice will be to reduce agricultural income growth. This will in turn depress the demand for rice as well as the effective demand for agro-related services such as transport and processing. In these sectors (IO-sectors, where demand determines the output levels) the depressing effects of such a fall in the price are clearly manifested.

The fall in the rice price causes an increase in real income outside agriculture, but for various reasons this does not counter the signs of contraction which the economy shows when self-sufficiency in rice has been reached. First, outside agriculture the marginal propensity to consume rice is lower than that of farmers themselves, as the income is somewhat higher. Second, the multiplier effect on the services sectors negatively affects income in particular for the informal classes and this income-effect tends to dominate the grains because of the lower prices. For these classes real income growth requires adequate support policy.

It is, therefore, that in the Baserun scenario (see table V.1 above) as well as in other scenarios the necessity of effective demand management policies is well manifested. Such policies aim to slow down the fall in the rice prices and its adverse impact on the economy. The necessity of the policies follow from the structural characteristics of the agricultural economy of Bangladesh; farmers can especially in the summer season hardly substitute for paddy-production as no substantial alternative use for land and labour exists.

In the formulation of the Baserun alternative initialisations with respect to rationing policies were considered: one in which committed rationing and flexible rationing increase by 0.8% and 35.7% annually (HIGH-RATIONING) and another in which rationing increases only by 1% (committed) and 4% (flexible) (LOW RATIONING; percentages in value terms). The Table V.2 shows that production-effects are limited but that the fall in prices is considerably slowed down by such effective demand management.

**TABLE V.2 PRODUCTION AND PRICE OF RICE 1989/90**

Scenario	Volume (mln ton) *	Price **
BASERUN	17.27	0.925
HIGH RATIONING	17.29	0.940
LOW RATIONING	17.25	0.906

\* Gross Production, including seed and waste

\*\* 1984/85 retail price = 1.000† disregarding monetary inflation

In order to illustrate the distributional impact of policies such as rationing we present some figures of growth of per capita real income for the different classes. All the farming classes and the rural informal class obtain a somewhat higher growth in per capita real income in the 'high' rather than the 'low' rationing scenario. These results show the effectiveness of (flexible) rationing in bridging the gap between the farming and non-farming, the rural and the urban classes. At the same time poorer farming classes have a somewhat faster growth in income than richer ones.

**TABLE V.3 AVERAGE ANNUAL RATE OF GROWTH OF PER CAPITA REAL INCOME PER SOCIO-ECONOMIC CLASS (1984-85 TO 1989/90)**

	BASERUN			LOW	HIGH
	Population (mln)	Real income 1984/85 Tk.	% %	Rationing %	Rationing %
Landless	20.13	2245	1.85	0.95	2.51
Small farmer	11.55	2582	1.02	0.90	1.11
Medium farmer owner	11.99	2940	0.82	0.80	0.84
Medium farmer tenant	13.04	3367	0.80	0.72	0.86
Large farmer	10.22	4101	0.78	0.73	0.82
Largest farmer	4.21	5950	0.69	0.58	0.78
Farmer	71.15	3109	1.04	0.79	1.22
Rural informal	10.55	2412	2.57	2.19	2.85
Rural formal	7.04	5448	1.09	1.20	1.00
Urban informal	7.02	2785	3.45	3.60	3.35
Urban formal	4.66	7152	4.69	4.84	4.58
BANGLADESH	100.41	3364	2.84	2.87	2.82

### V.3.2 Sensitivity Analysis with varying Efficiency Assumptions

We proceed to discuss the results of the Baserun through comparison with various alternative scenarios as outlined above (see figure 4). The main results of the Baserun and the various efficiency scenarios are presented in Tables V.4 and V.5. It is quite clear that measures for increasing efficiency certainly lead to a higher growth in real GDP. But differences among the various runs suggest that the marginal gain from efficiency measures is not very high. In fact the nature and extent of efficiency improvement required to achieve a growth in the economy higher than 5%, is such that it almost seems unachievable.

A common feature of the runs is that a higher growth of the economy cannot be achieved without substantial growth in the two largest sectors of food-grains production and the services.

**TABLE V. 4 STRUCTURE AND GROWTH OF GDP**  
(constant 1984/85 prices)

	1984/85 Value Added % Share	(Annual average rate of growth 1984/85 to 1989/90 EXTRA		
		BASE	HIGH	HIGH
Foodgrains	28.1	3.51	3.49	3.50
Other Agriculture	18.2	3.02	3.06	3.70
Manufacturing	11.0	7.31	7.35	7.38
Electricity and Gas	0.8	4.87	4.98	5.02
Transport	5.6	1.72	2.09	3.28
Housing Service	3.2	4.06	5.47	5.80
Construction	2.5	4.72	5.34	5.70
Other Services	30.6	4.04	4.32	5.20
ALL SECTORS	100.0	3.99	4.18	4.66

TABLE V.5 MACRO-ECONOMIC INDICATORS FOR PUBLIC AND PRIVATE SECTOR

	1984/85 Base Year Values (bln Tk.)	EFFICIENCY ASSUMPTIONS (real average annual growth)		
		1984/85 to 1989/90		EXTRA
		BASE %	HIGH %	HIGH %
<b>Household Receipts</b>	337.8	3.95	4.07	4.50
GDP at Factor Costs	319.1	3.91	4.03	4.50
Subsidies and Transfers from Govt.	7.0	6.92	6.98	7.07*
Remittances from Abroad	11.7	1.2	1.2	1.3**
<b>Household Payments</b>	337.8	(see above)		
Consumption	297.7	3.04	3.15	3.54
Investment	23.7	2.71	2.82	3.13
Private Savings Surplus Income, Property and Irrigation Taxes	12.8	6.16	6.53	8.33
<b>Government Receipts</b>	76.4	7.30	6.38	6.02
Taxes on Foreign Trade	15.4	1.70	1.53	2.23
Taxes on Domestic Sales	8.3	5.48	5.14	4.98
Private Savings Surplus Income, Property & Irrigation Taxes	12.8	(see above)		
	3.7	(see above)		
<b>Government Payments</b>	76.4	(see above)		
Public Consumption	31.2	4.49	3.37	2.98
Public Investment	36.3	8.91	8.45	8.27
Subsidies & Domestic Transfers	7.0	(see above)		
Interest on External Debt	1.9	12.77	4.92	1.19
Budget Deficit=Foreign Savings	36.2	3.66	1.62	3.03

\* Resulting from various policy-parameters, see Table V.1

\*\* Exogenous parameter

An analysis of macro-economic indicators for various scenarios show that higher rates of growth in the economy are accomplished by faster growth in investment than consumption, both private and public. However, the growth of private investment remains consistently below the rate of growth of private consumption. The growth in private consumption, investment and direct tax payments in relation to household receipts is such

that the private savings surplus, available for financial intermediation still consistently grows with the growth in the economy, which will require development and management of the financial institutions.

Table V.6 presents the balance of payments implications of the various scenarios. Specialisation in domestic sectors with high shares of gross value accruing to primary factor of production, input reductions in physical terms with its repercussions on import demand and support for export oriented sectors allows the trade deficit to be reduced. Interest payments fall and no necessity arises to engage into new borrowing on commercial terms. However, the High efficiency scenario (characterised by increased input efficiency) shows substantial improvements of export values compared to the Baserun, but neither allow the current account deficit to be reduced and new borrowing is required. The average debt service payments to be made in the Baserun scenario are expected to increase to a level well above the base year. In the High efficiency scenario the average debt service remains at its 1984/85 level and only a growth of GDP exceeding 4.5% annually with export supporting and import reducing policies tends to reverse the increases in the current account deficit. The Extra High Efficiency scenario, which assumes faster yield improvements in rice, wheat, sugarcane and productivity increases in exportables such as fish and tea shows which fall in debt service payments may result.

**TABLE V.6 BALANCE OF PAYMENTS UNDER VARIOUS SETS OF EFFICIENCY ASSUMPTIONS<sup>16</sup>**

	1984/85 (real annual growth 1984/85 Value in to 1989/90)			
	(bln. Tk.)	BASERUN	HIGH	EXTRA HIGH
Export Value	23.8	3.78	5.40	9.07
Trade Surplus*	-45.9	1.71	0.47	-0.58
Current Account Surplus**	-36.0	2.49	0.39	-1.22
Financed through				
(1) Aid Grants	20.7	3.78	3.78	3.78
(2) Net New Soft Loans	15.5	1.81	1.81	1.81
(3) Net New Commercial Loans***	-0.2	positive	positive	negative
Average Debt Service as % of Export and Remittances (84/85 to 89/90)	15.00	21.00	15.00	13.00

\* TRADE SURPLUS=EXPORT VALUE minus IMPORT VALUE

\*\* CURRENT ACCOUNT SURPLUS+TRADE SURPLUS=REMITTANCES+ INTEREST RECEIPTS  
(see table V.5 above for values of remittances and interests on external debts)

\*\*\* Growth rates not given because of low base year value

16. To enhance comparison the exchange rate used for projection purpose is fixed at 1 \$ =Tk.26.00 throughout the period.

The distributional consequences of higher growth under different scenarios are given in Table V.7. The policy instruments are designed in such a way that all the socio-economic classes have real per capita gains. However, due to a fall in the price of rice, the income effects for the farmers and agricultural labourers are decisively below those of non-farming classes in all the scenarios. But as the economy achieves a higher rate of growth of GDP, the farming classes achieve a higher gain in terms of rate of growth of per capita income than the non-farming classes. Among the non-farming classes the rural formal and informal classes benefit slightly more from higher growth than the urban class. Thus, higher rate of growth supported by appropriate policy measures in the economy tends to bridge the gap between farming and non-farming classes as well as between rural and urban non-farming classes.

**TABLE V.7**  
**PER CAPITA INCOME EFFECTS OF EFFICIENCY**

(Average growth rate '85-90 of real income per capita with class specific deflator)

	BASERUN	HIGH	EXTRA HIGH
Landless farmer	1.85	2.00	2.42
Small farmer	1.02	0.90	1.42
Medium farmer tenant	0.82	0.65	1.28
Medium farmer own	0.80	0.75	1.35
Large farmer	0.78	0.85	1.48
Largest farmer	0.69	0.97	1.65
ALL FARM	1.04	1.06	1.63
Rural informal	2.57	3.25	3.54
Rural formal	1.09	1.15	1.51
Urban informal	3.45	3.69	3.43
Urban formal	4.69	4.99	4.92
NON-FARM	2.84	3.13	3.23
BANGLADESH	1.66	1.77	2.17

### V.3.3 Sensitivity Analysis with Varying Assumptions about the External Sector.

The development efforts in Bangladesh are heavily dependent on foreign capital inflows. Currently, there is an extensive discussion in the literature on how the external dependence of Bangladesh could be reduced and the purpose of this section is to contribute to that discussion. As such sensitivity analysis of the Baserun have been executed with respect to varying assumption about trade and aid.

In the first scenario the growth of trade deficit has been reduced to zero, while the growth of aid is the same as in the baserun. In the second scenario, both the trade deficit and aid are assumed to decline. The former declines at an average annual rate of 4% and the latter by 5%. The policy-adjustment which take place in response to these follow the same priorities as those of the Baserun (see section 3.11.3 above). As may be expected, the reduction of the growth in trade deficit is accompanied by a downward adjustment of investment. The average annual growth rate of public investment is reduced from 8.91% to 5.82% (Table V.9)

**TABLE V.9 MACRO-ECONOMIC INDICATORS FOR PUBLIC AND PRIVATE SECTORS UNDER VARYING ASSUMPTIONS ABOUT TRADE AND AID.**

	(average annual growth rate)		Target decrease in
	Base %	Fixed Trade Deficit %	Trade Deficit And Aid %
All variables are at 1984/85 prices			
<b>Household Receipts</b>	3.95	3.85	3.57
GDP at factor cost	3.91	3.80	3.49
<b>Household Payments</b>	3.95	3.85	3.57
Consumption	3.04	2.94	2.72
Private savings surplus	6.16	5.70	4.17
Investment	2.71	2.62	2.36
Income, property tax	28.20	34.98	34.72
<b>Government Receipts</b>	7.30	5.74	2.92
Taxes on foreign trade	1.70	0.30	-4.05
Taxes on domestic sales	5.48	5.59	5.41
Private savings surplus	6.16	5.70	4.17
Income, property tax	28.20	34.98	34.72
<b>Government Payments</b>	7.30	5.74	2.92
Public consumption	4.49	4.57	4.47
Public investment	8.91	5.82	-0.02
Interest on external debt	12.77	-1.68	7.37
Budget deficit=Foreign savings	3.66	0.71	-4.17
Domestic savings	15.13	14.70	10.34
Total private and public investment	5.47	5.07	0.94

As it can be seen this results in a (small) fall in the growth in GDP at market prices. Growth rate of most of the macro-economic indicators falls. The rate of growth of taxes on foreign trade, a large part of domestic resources, falls and this may only partly be compensated by a further increase in the growth rate of direct taxes. The rate of growth of foreign savings (=Budget deficit) falls and the average debt services is lower than in the Baserun (Table V.10). This reduction in debt service burden results not only from reduction in the growth of investment but also from an effort to increase export.

**TABLE V.10 BALANCE OF PAYMENTS UNDER VARYING ASSUMPTIONS ABOUT TRADE AND AID.**

	Base	Fixed Trade Deficit	Target reduction in Trade deficit and Aid
Export value	3.78	4.28	5.14
Current Account Surplus	2.49	-0.54	-5.36
Trade Deficit	1.71	0.00	-4.00
Financed through			
(1) Aid grants	3.78	3.78	-5.00
(2) Net new Soft Loans	1.81	2.59	-6.86
Average Debt Service as % of Export and Remittances (84/85 to 89/90)	1.00	13.00	17.00

In the second scenario the reduction in growth of both trade deficit and aid is accompanied by a substantial downward adjustment of the growth rate of public investment. In fact in this run there is a negative real growth of public investment. This results in a further fall in the growth rate of GDP. There is a decline in growth rate of most macro-economic indicators and this decline is most vividly seen in the government accounts. The rate of government receipts from foreign trade, income and property taxes falls, only the growth rate of domestic sales tax receipts rises. There is a substantial fall in debt service burden as a percentage of export and remittances. A part of this reduction is due to the higher growth rate of exports.

As far as sectoral growth is concerned, the growth rates of all the sectors except non-food agriculture in the two scenarios mentioned above are below those in the base run. Significant reduction takes place in the construction sectors. In fact, in the second scenario, where the growth rates of both aid and trade deficit are negative the construction sector grows at a negative rate (Table V.11) indicating the multiplier effect.

TABLE V. 11 SECTORAL GROWTH OF GDP

	<u>Base</u>	<u>Fixed Trade Deficit</u>	<u>Target decrease in Trade Deficit and Aid</u>
Foodgrains	3.51	3.49	3.29
Other Agriculture	3.02	3.02	3.00
Manufacturing	7.31	7.21	7.02
Electricity and Gas	4.87	4.76	4.63
Transport	1.72	1.49	1.00
Housing Service	4.06	3.89	3.48
Construction	4.72	3.07	-0.57
Other Services	4.04	3.88	3.51
All Sectors	3.99	3.86	3.55

As far as the distributional consequences are concerned, the pattern is similar among various scenarios. Though the consequence of reduction in trade deficit and aid is shared among various groups, the landless and non-farming groups take the lesser of the brunt (Table V.12).

TABLE V.12 PER CAPITA INCOME EFFECTS OF DIFFERENT EXTERNAL SECTOR ASSUMPTION.( Average Annual Rate 1985 to 1990)

	<u>Base</u>	<u>Fixed Trade Deficit</u>	<u>Target decrease in Trade Deficit with Target reduction in Aid</u>
Landless	1.85	1.74	1.55
Small farmer	1.02	0.87	0.57
Medium farmer tenant	0.82	0.62	0.29
Medium farmer owner	0.80	0.61	0.32
Large farmer	0.78	0.61	0.33
Largest farmer	0.69	0.62	0.31
Farmer	1.04	0.87	0.61
Rural informal	2.57	2.43	2.08
Rural formal	1.09	1.09	0.85
Urban informal	3.45	3.43	3.05
Urban formal	4.69	4.88	4.51
Non-farmers	2.84	2.85	2.53
Bangladesh	1.66	1.56	1.27

But in all the scenarios, the growth rates of per capita real income of non-farming groups are substantially higher than the farming groups. Among the non-farming groups it is the urban groups whose per capita income growth rates decline faster than the rural groups as a consequence of adjustments in trade deficit and aid. The policy of resource mobilisation through direct taxation on income and property has redistributive consequences if applied selectively to the higher income classes and non-farming groups.

## **VI. CONCLUSION**

The paper has described in depth the applied general equilibrium model used for preparation of the Third Five Year Plan of Bangladesh. The detailed specification in section III (as well as in the supporting Appendices below) in conjunction with the main features, data and summary results of various runs offer a transparent guide to the TFYP model and its applications. Therefore, we will here conclude with only a comment on possible future use of the TFYP model.

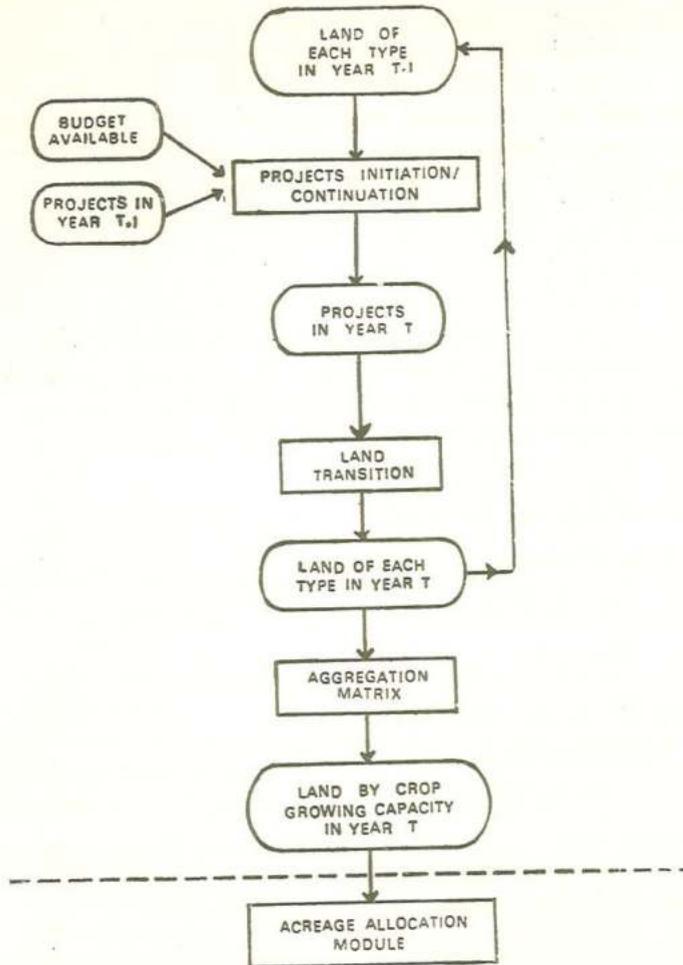
The model is designed to allow easy recomputation with different sets of policy parameters and data-initialisations. Consequently a large number of different policy-scenarios dealing with for example international prices and terms of trade, aid and trade regimes, taxation and income-transfer by the government or a reduction of population growth can be simulated, analysing macro-economic and distributional consequences. The simulation model thus could be an analytical tool for policy-analysis through special studies. Moreover, it could be used for monitoring from year to year the short and medium-term achievements during the plan period and the possible policy-responses.

Long-term analysis and perspective planning can be undertaken with the current model after reformulation of certain features of the model. Further to that incorporation of new data from Educational and Manpower Survey Agricultural and Economic Census and, most crucial, a recent Household Expenditure Survey and Input-Output table are required to establish trends and structural changes in the economy with respect to issues such as landholding patterns, value added and expenditure by social classes, and input-output relations.

Finally, the complete accounting by sectors and classes through a SAM required for the model has provided a useful check on the available data-basis and studies undertaken over the last decade. The exercise has generated rather precise knowledge about the consistency and adequacy of the empirical information on the Bangladesh economy. It is beyond this paper to detail such evaluation, but it could be useful to indicate some priority areas of research. Such would include saving and investment in the aggregate and by social classes, the yield response to various input and investment-intensities in agriculture and production in the small scale manufacturing sector.

## Appendix 1. THE LAND DEVELOPMENT MODULE (ldm) [17]

A schematic summary of the structure of the ldm is given in figure 1.



We shall briefly explain the figure, The ldm distinguishes a number of land types of different quality. Also a number of projects are defined. By carrying out a project, land of, say, type  $u$  is transformed into land of, say, type  $v$ , where  $v$  has a greater crop growing capacity than  $u$ . Government is the (only) actor who can decide which projects are carried out and at what level. The main determinants in the decision process are (i) total available private and public budget and, because many projects have a time-span of more than one year, (ii) the level of projects in the pipeline. Land types that have the same crop growing capacity are thereupon aggregated. The aggregated land types serve as input for the yield and acreage component of the model.

Mathematically this can be stated as follows :

Let  $P$  be the index-set for projects, with subscript  $p$  ( $p = 1, 2, \dots, m$ ); Let  $L$  be the index-set for land types with subscript  $l$  ( $l = 1, 2, \dots, n$ ); further, we use  $t$  as a time-subscript, thus  $l_t$  denotes the availability of land type  $l$  during period  $t$ . The (column-)vector consisting of all elements  $l_t$  is written as  $l_t$ . Thus, if we define a row vector  $e = (1, 1, \dots)$ ,  $e l_t$  is the total area of Bangladesh potentially available for agricultural purposes. Projects  $p$  are described by  $l \times n$  column-vectors. Elements  $T_{pl}$  denote the physical input (—) respectively output (+) quantities of land types  $l$  if project  $p$  is carried out at unit intensity. Projects whose duration is longer than one year are broken down into sub-projects that have a length of one year. A consequence of the latter is that a number of intermediary or 'pipeline' land types have to be introduced. The set of all (sub-)projects can then be described by an  $n \times m$  matrix  $T$ ,  $n$  being the number of land types and  $m$  being the number of (sub-)projects. The level at which (sub-)projects  $p$  is carried out in year  $t$  is written as  $x_{pt}$ . The land transition equation can now be described as:

$$l_{t+1} = T x_t + l_t \quad (2.1)$$

The policy variable has to satisfy :

(i) the laws of nature :

$$(a) \quad x_t \geq 0 \quad (2.2)$$

$$(b) \quad T^l x_t + l_t \geq 0$$

where  $T^l$  is the  $l$ -th row of  $T$  and

(ii) the budget constraint :

$$c_t x_t = k_t \quad (2.3)$$

where elements  $c_{pt}$  of  $c_t$  denote the costs per unit (acre) of (sub-)project  $p$  carried out in year  $t$  and (scalar)  $k_t$  is the total budget available for land improvement projects.

Costs are of two different kinds: costs made in Bangladesh, so-called local costs, and costs made outside Bangladesh, so-called foreign costs. Because the latter have direct consequences for the balance of payment, separate book keepings are held. Thus,

$$c_{pt} = c_{pt}^g + c_{pt}^f \quad (2.4)$$

where  $g$  and  $f$  refer to local and foreign respectively.

Given conditions (i) and (ii) the policy maker is free to choose whatever values for  $x_t$  he prefers. It is however, plausible to assume that projects that have been initiated in a previous year (i.e. 'pipeline' projects) will receive priority over new projects. And also that new projects are initiated in a 'balanced' way (see section 3B below). For

example in proportion to the quantities of 'basic' land types. By the latter we mean land types that can be upgraded and are not in the pipeline. Before  $\ell_{t+1}$  is used as input in the yield and acreage allocation module, land types that have the same crop growing capacity are aggregated, i.e.,

$$\bar{\ell}_t = F\ell_t \quad (2.5)$$

where  $F$  is a  $b \times n$  aggregation matrix and  $\bar{\ell}_t$  a  $b \times 1$  vector.  $\bar{\ell}_t$  is the input-vector for the yield and acreage component. In the yield and acreage allocation module it is assumed that all land that can be used will be used. However, in the use of some land types operation and maintenance costs are involved. The total of the latter ( $v_t$ ) is calculated as:

$$v_t = d_t \ell_t \quad (2.6)$$

where  $d_t$  is a  $1 \times n$  vector, element  $d_{\ell t}$  denoting the operation maintenance costs per unit (acre) of  $\ell_t$  in year  $t$ . Again a distinction is made between local and foreign costs. Thus:

$$d_{\ell t} = d_{\ell t}^g + d_{\ell t}^f \quad (2.7)$$

where  $g$  and  $f$  refer, as before, to local and foreign respectively.

The empirical elaboration of the land development module requires information on :

- projects: types, duration, physical input-output relations and local +foreign costs,
- land types : availability, operation and maintenance costs and crop growing capacities, and
- a function which generates the project levels.

The main source of information for (a) and the operation and maintenance costs was the National Water Plan Project (MPO, second interim report, June 1984, volumes IX and X). Data on land availability and crop growing capacities have been extracted from the BAM-lp. A function that generates the project level is constructed after consulting Bangladesh experts. The actual data that are used in the ldm will be discussed and, in case they are non-trivial, presented in this section.

### 3.A (BASIC) LAND TYPES AND PROJECTS

Total area of Bangladesh amounts to  $35.28 \times 10^6$  acres. Of this,  $12.689 \times 10^6$  acres are not available for cultivation (forests, water, cities, etc),  $2.413 \times 10^6$  acres are used as homestead area and the remainder, i.e.  $20.179 \times 10^6$  acres, is cultivated. Depending on the depth of flooding five basic land types are distinguished in the latter [18;3,19].

- Highland, i.e. land which lies either above flood level or is flooded in a normal year for less than one foot.  $5,544 \times 10^6$  acres fall in this class.

- (b) Medium highland, i.e. land which is shallow flooded for several weeks in the kharif season. Flooding is normally only 1–3 feet deep. Total area in this class is  $7.983 \times 10^6$  acres.
- (c) Medium lowland, i.e. land which is flooded 3-6 feet in the kharif season. Total medium lowland area is  $3.548 \times 10^6$  acres belong to this class.
- (d) Lowland, i.e. land which is flooded 6-12 feet in the kharif season.  $2.173 \times 10^6$  acres belong to this class.
- (e) Bottom land, i.e. land which is normally flooded deeper than 12 feet. Total area in this class is  $.931 \times 10^6$  acres.

Apart from these basic land types, land is also divided according to its crop growing capacity, which is determined by the degree of water control and, again, by the depth of flooding. The following categories are distinguished :

#### **Kharif season**

- A, optimal drained and irrigated
- B, floods less than 1 foot
- C, floods between 1-3 feet
- D, floods between 3-6 feet
- E, floods between 6-12 feet
- F, floods more than 12 feet.

#### **Rabi season**

- I, irrigated, optimal water control
- II, non-irrigated, a rabi crop can be grown
- III, non-irrigated no crop can grown.

Thus, as long as no projects have been carried out, highland belongs to crop growing capacity class B; medium highland to crop growing capacity class C, etc. If a project is carried out, the crop growing capacity class changes. For example, if medium highland is drained, medium highland C becomes medium highland B, etc. Altogether 15 projects are distinguished: 9 large-scale and 6 small-scale. We will give a brief description and the main characteristics for each of them.

**TABLE 1 LAND IMPROVEMENT THROUGH PROJECTS OF VARIOUS TYPES**

Project Type	Initial Land type	Project Length (Years)	Final land types
1 FC and GD	MH (C)	2	MH (0.975 B+0.025 Non-Ag.)
2FC and GD	ML(D)	4	ML(0.86B+0.10C+0.04 Non-Ag.)
3FC and GD	LB (0.7E+0.3F)	8	0.94 LB(0.28C+0.38D+0.14E) +0.06 Non-Ag.
4FC and PD	ML (D)	4	0.96 ML B+0.04 Non-Ag.
5FC and PD	LB (0.7E+0.3F)	8	0.94 LB(0.66B+0.11C+0.6D+0.3E +0.8F)+0.06 Non-Ag.
6D and MI	H(B)	4	H(0.96A+0.96I+0.04 Non-Ag.)
7D and MI	MH (C)	5	MH (0.94A +0.94I +0.06 Non-Ag.)
8D and MI	ML (D)	7	ML (0.93A+0.93I +0.07 Non-Ag.)
9D and MI	LB(0.7E+0.3F)	9	0.94 LB (0.65A+0.12B+0.6C+0.03D+ 0.08E+0.65I) +0.06 Non-Ag.
10 DTW	Rabi III	1	Rabi I
11 STW (I)	Rabi III	—	Rabi I
12 STW (2)	Rabi II	—	Rabi I
13 LLP (I)	Rabi III	—	Rabi I
14 LLP (2)	Rabi II	—	Rabi I
15 MOSTI	Rabi	—	Rabi I

Projects legenda

FC	= Flood Control
GD	= Gravity Drainage
PD	= Pump Drainage
D	= Drainage
MI	= Major Irrigation
DTW	= Deep Tube Well
STW	= Shallow Tube Well
LLP	= Low Lift Pump
MOSTI	= Manual Shallow Tube Well

Landtype (see above for A to F and I to III)

MH	= Medium high
ML	= Medium low
LB	= Low and bottom land
H	= High land

The coefficients in the above project descriptions are the main coefficients of the matrix T. The base year for the Idm was 1980, on basis of data from BBS and [18,20]. This was subsequently updated to 1985 on basis of [21] and Planning Commission data.

**3-B INVESTMENT AND OPERATION+ MAINTENANCE COSTS**

Table 3.2 shows the investments costs per acre. Following the MPO, a distinction is made in local and foreign costs. Local costs are either labour costs or costs of materials that can be produced inside Bangladesh. Foreign costs refer to costs for goods (machines, pumps etc.) that have to be imported from abroad. All data in the table are calculated from MPO (volume IX, tables 30-70). Unlike the MPO, costs of land acquisition are not taken into account. Operation and maintenance costs are given in table 3.3. Again a distinction is made in local and foreign costs. Tables 3.2 and 3.3 relate to equations (2.4) & (2.7).

TABLE 3.2 : Project costs per acre (taka's 1983/84)

Project number	Local costs		Foreign costs		Project costs	
	Total	Per year	Total	Per year	Total	Per year
1	822	411	246	123	1068	534
2	1300	325	244	61	1544	386
3	2048	256	248	31	2296	287
4*	1196	1196	968	968	2084	2084
5*	1933	1933	1047	1047	2980	2980
6	5700	1425	3428	857	9128	2282
7	6135	1227	3520	704	9655	1931
8	6608	944	3521	503	10129	1447
9	5688	632	2457	273	8145	905
10	4008	4008	3795	3795	7803	7803
11	2283	2283	1333	1333	3516	3516
12	1671	1671	1333	1333	3004	3004
13	1134	1134	625	625	1759	1759
14	875	875	625	625	1500	1500
15**	—	—	—	—	—	—

\* Only costs of the last year

\*\* All investment costs are borne by the farmer

TABLE 3.3: Operation and maintenance costs per acre (taka's 1983/84)

Landtype	Crop-growing cap.class	Yearly costs		
		Total	Local	Foreign
Highland	A	334	281	53
Medium highland	B	118	116	2
—	A	396	342	54
Medium lowland	C	134	132	2
—	B	142	139	3
—	A	416	362	54
Lowl.+bottomland	F,E,D,C	218	195	23
—	B	296	272	24
—	A	520	466	54
DTW		263	203	60
STW		354	316	38
LLP		262	256	6

Source : MPO, volume IX, tables 30-70

To run the Idm numerical values are still required for column vector  $x_t$  (project intensities), matrix F and scalar  $k_t$  (= total budget for land improvement). Scalar  $k_t$  is exogenous generated by the policy module of the model. After subtracting costs for maintenance and operation of already finished projects, an amount  $k_t$  results for real investments. The allocation of this is described by  $x_t$  (eq.2.3, altogether 57 elements). Despite restrictions on  $x_t$  (eq. 2.2 and eq. 23) it will be clear that as long as there is land that can be improved, a positive  $k_t$  gives the policy maker much freedom in setting  $x_t$ . In the baserun  $x_t$  is determined according to the following principles:

- Pipeline sub-projects receive priority over new projects.
- New projects, i.e. first year sub-projects, are initiated in some preset proportion to the land resource available for upgrading. In case projects use the same land resource, their base year level is set such that total newly drained/irrigated area in 1980 complies with second five year plan data as much as possible.

Mathematically this can be described as follows :

$$x_t = (p_1 G^1 + p_2 G^2) I_t$$

$p_1, p_2$  - scaling parameters  
 $G^1, G^2$  - 57 x 62 coefficient matrices

$P_1$  and  $G^1$  refer to new, and  $P_2$  and  $G^2$  to old, i.e. pipeline sub-projects. If element  $I_{it}$  is a 'pipeline' resource and is required as input for sub-project  $i$ , element  $G_{it}^1 = 1$ , otherwise elements  $G_{it}^2$  are zero.

If element  $I_{it}$  is not a 'pipeline' resource and is required as input for sub-project  $i$ , element  $G_{it}^1$  has a positive value consistent with principle (b) above.

principle (a) implies that for a given  $k_t$  (e.g. 2.3) and initial values  $P_1 = P_2 = 0$ , first  $P_2$  is raised to one and thereafter  $P_1$  is raised till the equality sign in equation 2.3 is met.

Starting from a vector  $I_{t-1}$ , it is now possible to arrive at a new vector  $I_t$ . Because the latter consists of 62 elements and the yield and acreage component distinguishes only 6 land types ( $T_t$ ) a mapping from  $I_t$  into  $\bar{I}_t$  has to take place (see eq. 2.5). First all pipeline-resources are added to the original land resources. The resulting 9 land types (6 kharif, 2 rabi and homestead) are then mapped into  $I_t$  such that the result complies exactly with the base year (1985) situation:

TFYP land type	ldm-landtype
all season land	= .4777 homestead + .0678 B
aus, no water control	= .5284 B + .5284 C
aus, optimal water control	= A + .1029 B
aman, no water control	= D + E + .5 F + .4715 C + .5547 B
aman, water control	= A + .2290 B
boro	= A + I + II

## APPENDIX II. YIELDS AND ACREAGE ALLOCATION YIELD-COMPONENT

Crop yields can improve due to technical progress and increase adoption of improved techniques. In Bangladesh the average yields of several crops have however, deteriorated over the past decade especially for the high-yielding varieties (HYV) of aus and aman. This can be explained by restricted availability of inputs of adequate quality (such as fertilizer), by worsened pest-resistance, by deterioration of seed-quality but more importantly by the fact that more, less suitable land was brought under cultivation. This can be seen in table B.2. How will this process develop in the future? Table B.1 shows the actual (1977) and potential yields. The potentials were obtained on the basis of agronomic expertise.

TABLE B 1 : Actual and potential yields, 1977

	Actual yield (long ton/acre)	Actual/potential yield ratio
Wheat-local	.29	.29
Wheat-HYV	.80	.38
Wheat	.69	.37
Aus-local	.47	.69
Aus-HYV	1.37	.75
Aus	.57	.71
Aman-local	.67	.74
Aman-HYV	1.27	.66
Aman	.72	.73
Boro-local	.67	.46
Boro-HYV	1.43	.66
Boro	1.20	.61
Paddy-total	.71	.70
Coarse grains	.27	.28
Oilseeds	.44	.88
Sugarcane	17.88	.58
Potatoes	4.40	.83
Pulses	.31	.71
Other vegetables	2.74	.69
Fruits	4.95	.88
Cotton	.05	.08
Jute	.54	.71
Tobacco	.48	.90

Source : Bangladesh Agricultural Model, WP 81-06.

TABLE B. 2: Assumed yield expansion rate in plant period and observed yield indices for the period 1974-82

	Yield Expansion rate	Yield indices (1976/77 = 100)		
	(1 + g <sub>e</sub> )	1974/75	1980/81	1981/82
Wheat-local	1.01	1.00	1.13	1.27
Wheat-HYV	1.01	0.95	0.91	1.03
Aus- local	1.02	0.97	1.04	1.04
Aus-HYV	1.01	1.09	0.96	0.94
Aman-local	1.02	0.89	1.03	0.97
Aman-HYV	1.01	0.95	0.91	0.75
Boro-local	1.01	0.92	1.10	1.03
Boro-HYV	1.03	1.02	1.07	1.11
Coarse grains	1.01	1.02	1.06	1.18
Oilseeds	1.10	0.94	1.03	1.04
Sugarcane	1.00	1.02	1.01	1.01
Potatoes	1.03	0.93	1.10	1.03
Pulses	1.00	0.95	0.88	0.94
Other vegetables	1.00	1.00	1.00	1.00
Fruits	1.04	1.00	1.04	1.03
Cotton	1.00	1.13	1.13	1.15
Jute	1.08	0.82	1.05	1.09
Tobacco	1.05	0.95	0.99	1.00

Source : Based on Agricultural Yearbook 1983, Bangladesh Bureau of Statistics

It will be clear that the HYV-yields are still far below their potential. Therefore the assumption has been introduced that the yields will not deteriorate further in the Plan period and will even grow towards their potential at a prespecified rate.

The yield-component operates as follows. Actual yield is taken to be a weighted average of yield without and yield with a maximum fertiliser application (with other inputs being applied in optimum proportions as well). Let C denote the index set for the crop-subsectors with subscript c. For each crop one can write:

$$y_{ct} = a_{ct} y_c + (1 - a_{ct}) y_c \quad (4.6)$$

where  $y_c$ ,  $y_{ct}$ ,  $\bar{y}_c$  are the minimum, actual and the maximum yield respectively and  $\alpha_{ct}$  is a weight between zero and one. A rate of decrease has been estimated/ postulated for  $\alpha_{ct}$  :

$$\alpha_{ct} = \alpha_{ct} - 1 / (1 + \bar{z}_c)$$

Table B.2 shows the values obtained for  $(1 + \bar{z}_c)$ . (4.7)

It is not possible to maintain a sustained growth of yields without the necessary increase in current inputs mainly fertiliser, pesticides and energy. The input requirements per acre can be calculated as :

$$u_{ict} = \alpha_{ct} \cdot u_{ic} + (1 - \alpha_{ct}) \bar{u}_{ic} \quad (4.8)$$

Where  $\alpha_{ct}$  is the weight specified earlier  $u_{ict}$  is the per acre requirement by crop c for input i. Thus, the input coefficient for crops must be updated every year and can be calculated as :

$$\bar{A}_{ict} = y_{ict} / y_{ct}$$

so that net revenue per acre shifts with technical progress.

### ACREAGE—ALLOCATION COMPONENT

Given the availability of land as determined in the land—development component, land available for crop cultivation in the different seasons can be calculated and given the input-output coefficients at the prevailing yields one can determine the net-revenue per acre for each crop. Before crop production can be calculated the acreage still need to be allocated over crops.

#### All - season crops :

From the land suitable for HYV cultivation in the aus, aman and rabi-season in each season, the area of land under all season crops is subtracted first, taking a simple (nearly stationary) time trend for these acreages. This applies for sugar, vegetables (excl. pulses and potato), fruits, cotton. Tobacco area is treated in a similar fashion.

#### Aus - season :

The area under aus-HYV is assumed to occupy at most the area with adequate water control in that season and possibly less, depending on the ratio of net revenue over cost of cultivation. Aus-local variety is assumed to

compete with jute depending on the ratios of net revenue per acre. This is reflected through an estimated equation of the form:<sup>17</sup>

$$\frac{a_{\text{jute}}}{a_{\text{aus}}} = a_c \left( \frac{\gamma_{\text{jute}}}{\gamma_{\text{aus}}} \right)^{\beta_c} \left( \frac{a_{\text{jute}, t-1}}{a_{\text{aus}, t-1}} \right)^{\bar{\gamma}_c},$$

the statistics of this equation are given in table B. 3. b where

$a$  denotes acreage,

$\gamma$  net revenue per acre

(Possible negative net revenues during simulation are entered into the equation as small positive numbers).

#### Aman - season :

During the aman-season only paddy is grown except for the all-season crops and some pulses which in the model are 'shifted' to the rabi-season. The area under high-yielding aman is constrained by the availability of land with adequate water control.

#### Rabi-season :

During winter, crops can only be grown on land which has adequate irrigation and several crops are competing for this land : Wheat-local and HYV, boro local and HYV, coarse grains, oilseeds, potatoes and pulses. The acreage for wheat-local and boro-local are however maintained on nearly stationary trend since this crop is only grown under very specific geographic conditions. For oilseeds no significant statistical estimate for  $\beta_c$  could be obtained so that acreage was also maintained on a trend. Table B. 3 shows the parameter values, t-scores (in brackets) and  $R^2$ -fit for the equations which were estimated econometrically with econometric estimates of substitutability between acreages (  $\beta_c$  coefficients).

17. The specification can be shown to be consistent with net revenue maximisation subject to a land constraint under limited substitutability between crop acreages.

TABLE B.3.a: Correspondences between crops, landuse, landtypes and commodities

Acreage mapping	: 0	numeraire in acreage ratio			
	1-25	point to numeraire in acreage ratio			
	-1	acreage dependent on revenue/cost ratio or on land availability			
	-3	exogenous growth of production			
Landuse mapping	: 1	aus-no water control			
	2	aus-water control			
	3	aman-no water control			
	4	aman-water control			
	5	rabi			
	6	all season land			
Landtype mapping	: 1	aus			
	2	aman			
	3	rabi			
	4	all-land			
Commodity mapping		maps sub-sectors to exchange commodities			
		Acreage mapping	Landuse mapping	Landtype mapping	Commodity mapping
1 - wheat-local	-1	5	3	1	
2 - wheat-HYV	8	5	3	1	
3 - aus-local	0	1	1	2	
4 - aus-HYV	-2	2	1	2	
5 - aman-local	-1	3	2	2	
6 - aman-HYV	-1	4	2	2	
7 - boro-local	-1	5	3	2	
8 - boro-HYV	0	5	3	2	
9 - coarse grains	-1	5	3	3	
10 - oilseeds	-1	5	3	4	
11 - sugarcane	-1	6	4	6	
12 - bovine & ovine meat	-3			7	
13 - eggs	-3			8	
14 - poultry-meat	-3			8	
15 - dairy	-3			9	
16 - potatoes	2	5	3	10	
17 - pulses	8	5	3	10	
18 - other vegetables	-1	6	4	10	
19 - fruits	-1	6	4	11	
20 - fish	-3			12	
21 - tea	-3			13	
22 - cotton	-1	6	4	14	
23 - hides	-3			15	
24 - jute	3	1	1	16	
25 - tobacco	-1	6	4	17	

TABLE B.3b: Structure of competition between crops and results from regressions

	Acreage map	Land use map	R <sup>2</sup>	$\bar{\beta}_c$ elasticity of supply	t- statistic	$\bar{\gamma}_c$ lagged acreage	t- statistic.
1 - Wheat-local	-1	5					
2 - Wheat-HYV	8	5	.66	.99781	(4.4)	.61450	(12.4)
3 = Aus-local	0	1					
4 - Aus-HYV	-1	2	.97	.24055	(4.7)		
5 - Aman-local	-1	3					
6 - Aman-HYV	-1	4					
7 - Boro-local	-1	5					
8 = Boro-HYV	0	5					
9 - Coarse grains	17	5	.78	.14019	(.8)	.7*	
10 - Oilseeds	-1	5					
11 - Sugarcane	-1	6					
12 - Bovine & ovine meat	-3						
13 = Eggs	-3						
14 - Poultry-meat	-3						
15 - Dairy	-3	5					
16 - Potatoes	2	5	.96	.24732	(1.4)	.5*	
17 - Pulses	8	6	.25	.11440	(1.7)		
18 = Other vegetables	-1	6					
19 - Fruits	-1						
20 - Fish	-3						
21 - Tea	-3						
22 - Cotton	-1	6					
23 - Hides	-3						
24 - Jute	3	1	.73	.55950	(4.142)	.33*	
25 = Tobacco	-1	6					

\* Parameter specified exogenously for simulation

Most of the lagged parameters had to be put at a prespecified upper bound due to their unacceptably high outcome (often close to one). The constant  $\alpha_c$  was scaled to fit base-year observations. It may be observed that results for  $\beta_c$  are statistically quite acceptable for the important crops (coarse grain and pulses are of very minor importance). The  $\gamma$ -parameter for jute was also set at an upper bound which had to be quite low due to the nature of the competition between aus and jute and results from other studies.

### PROCESSING AND MARKETING COMPONENT

Once the acreages and yields have been determined the production levels with associated input-requirements follow. Then the raw product has to be processed, transported and traded on the market. This is done through the corresponding sectors in the IO-table (sector 1-17).

One could treat these processing sectors as IO-sectors which adjust their supply to the demand for their services. This would be conceptually unclear, however, since it is the processing sector which has an intermediate demand for raw material and not the other way around. Moreover, since the level of agricultural production is known before exchange takes place, it is not needed to have supply adjust and also not desirable since international trade should have the opportunity to adjust. It was decided instead to treat agricultural processing sectors as non-IO sectors which operate at a level determined by the raw-material availability (e. g. paddy) and are constrained by processing capacity available.

Although such a formulation deviate from conventional input-output analysis, it permits to determine input requirements for marketing and processing and to perform the necessary volume conversions; (e. g. from long tons to metric tons, protein equivalents, etc.) through the processing activity and conversely to calculate farm gate or homestead price by deducting the unit cost of processing and marketing from the final product price.

### Appendix III PUBLIC DEMAND CATEGORIES, COMMODITY CLASSIFICATION AND SECTORS.

#### PUBLIC DEMAND CATEGORIES

- 1 = GENERAL ADMINISTRATION AND DEFENCE
- 2 = AGRICULTURE
- 3 = RURAL DEVELOPMENT
- 4 = INDUSTRY
- 5 = EDUCATION
- 6 = LABOUR & SOCIAL WELFARE
- 7 = HEALTH
- 8 = POPULATION CONTROL & FAMILY PLANNING
- 9 = POWER & NATURAL RESOURCES
- 10 = TRANSPORT
- 11 = FLOOD CONTROL & WATER RESOURCES
- 12 = PHYSICAL PLANNING & HOUSING
- 13 = COMMUNICATION

**LIST OF COMMODITIES**

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**COMMODITY CLASSIFICATION**

- 1 = WHEAT
  - 2 = RICE
  - 3 = COARSE GRAINS
  - 4 = FATS & OILS
  - 5 = PROTEIN FEEDS
  - 6 = SUGAR
  - 7 = BEEF & SHEEP
  - 8 = POULTRY & EGGS
  - 9 = DAIRY PRODUCTS
  - 10 = VEGETABLES
  - 11 = FRUITS
  - 12 = FISH
  - 13 = TEA
  - 14 = COTTON & WOOL
  - 15 = HIDES
  - 16 = JUTE
  - 17 = TOBACCO
  - 18 = FORESTRY
  - 19 = COTTON YARN
  - 20 = CLOTH
  - 21 = JUTE TEXTILES
  - 22 = PAPER & PULP
  - 23 = LEATHER & LEATHER PRODUCTS
  - 24 = FERTILISER
  - 25 = PHARMACEUTICAL & CHEMICALS
  - 26 = CEMENT, LIMESTONE & CLINKER
  - 27 = STEEL & BASIC METALS
  - 28 = METAL PRODUCTS & MACHINERIES
  - 29 = WOOD & OTHER INDUSTRIES
  - 30 = URBAN HOUSEBUILDING
  - 31 = RURAL HOUSEBUILDING
  - 32 = OTHER BUILDINGS & CONSTRUCTION
  - 33 = ELECTRICITY & GAS
  - 34 = TRANSPORT, TRADE & BANKING SERVICES
  - 35 = HOUSING SERVICE
  - 36 = HEALTH SERVICE
  - 37 = EDUCATION SERVICE
  - 38 = PUBLIC ADMINISTRATION
  - 39 = PROFESSIONAL & OTHER SERVICES
-

TABLE 1: (Continued)

**Sector and sub-sector classification**

Sectors 1 to 17 are agricultural processing and marketing subsectors and 43 to 67 are agricultural production (sub) sectors.

Sectors 18-29, 40 to 42 are non-agricultural non-IO sectors.

Sectors 30-39 are non-agricultural IO sectors.

	PROCESSING AND MARKETING	
1= WHEAT	"	"
2= RICE	"	"
3= COARSE GRAINS	"	"
4= FATS & OILS	"	"
5= PROTEIN FEEDS	"	"
6= SUGAR	"	"
7= BEEF & SHEEP	"	"
8= POULTRY & EGGS	"	"
9= DAIRY PRODUCTS	"	"
10= VEGETABLES	"	"
11= FRUITS	"	"
12= FISH	"	"
13= TEA	"	"
14= COTTON & WOOL	"	"
15= HIDES	"	"
16= JUTE	"	"
17= TOBACCO	"	"
18= FORESTRY	"	"
19= COTTON YARN		
20= CLOTH MILLMADE		
21= JUTE TEXTILES		
22= PAPER & PULP		
23= LEATHER & LEATHER PRODUCTS		
24= FERTILISER		
25= PHARMACEUTICAL & CHEMICALS		
26= CEMENT, LIMESTONE & CLINKER		
27= STEEL & BASIC METALS		
28= METAL PRODUCTS AND MACHINERIES		
29= WOOD & OTHER INDUSTRIES		
30= URBAN HOUSEBUILDING		
31= RURAL HOUSEBUILDING		
32= OTHER BUILDINGS & CONSTRUCTION		
33= ELECTRICITY		
34= TRANSPORT, TRADE & BANKING SERVICES		
35= HOUSING SERVICE		
36= HEALTH SERVICE		
37= EDUCATION SERVICE		
38= PUBLIC ADMINISTRATION		
39= PROFESSIONAL & OTHER SERVICES		
40= CLOTH HANDLOOM		

- 41= PETROLEUM PRODUCTS
- 42= GAS
- 43= WHEAT-LOCAL
- 44= WHEAT-HYV
- 45= AUS-LOCAL
- 46= AUS-HYV
- 47= AMAN-LOCAL
- 48= AMAN-HYV
- 49= BORO-LOCAL
- 50= BORO-HYV
- 51= COARSE GRAINS
- 52= OILSEEDS
- 53= SUGARCANE
- 54= BOVINE & OVINE MEAT
- 55= EGGS
- 56= POULTRY-MEAT
- 57= DAIRY PRODUCTS
- 58= POTATOES
- 59= PULSES
- 60= OTHER VEGETABLES
- 61= FRUITS
- 62= FISH
- 63= TEA
- 64= COTTON
- 65= HIDES
- 66= JUTE
- 67= TOBACCO

## Appendix IV

**LIST OF SYMBOLS AND ABBREVIATIONS****1 TYPES OF VARIABLE**

- unlagged endogenous variable
- CST constant
- FOR forecast value of exogenous variable
- LAG (predetermined or) lagged endogenous variable
- POL policy variable

In the list that follows CST/POL means that a variable is a constant but could be specified as a policy variable.

The constants of the consumer demand system and of the agricultural supply functions are not in the list.

## 2 INDEX SETS AND SUBSCRIPTS

Index set	Subscript	Corresponds to classification of:
A	h	Agricultural sectors
C	c	Crops subsectors
G	g	Government consumption activities
G+	k	Government consumption activities, taxation and rationing intensities
H	h	Sectors
I	i,k	Commodities
J	j	Social classes
J +	j	Social classes and government
L	l	Land types
N	h	Non-IO sectors
N	i	Non-IO commodities
P	p	Project of land development
T	t	Time

LIST OF VARIABLES USED IN THE MODEL  
( in alphabetical order )

Symbol	Meaning	Index set	Type
$\bar{r}^c$	Committed rationing (volume)	I x J	CST/POL
$\bar{r}^f$	Flexible rationing (volume)	I x J	CST/POL
$\bar{A}$	Input coefficient	I x H	CST/FOR
$\bar{b}$	Domestic transfers received	I x J	FOR/POL
$\bar{b}^w$	Foreign remittance	I x J	FOR
$\bar{B}$	Output coefficient	I x H	CST
c	Private consumption	I x J+	—
$c^d$	Unit cost of land development project	P	CST
$c^m$	Unit of land maintenance	P	—
$c^p$	Public consumption	G	—
$d^p$	Public demand	I	—
e	Capacity expansion (volume)	H x J	LAG
$e^{ir}$	Expansion of irrigation	—	—
$\bar{f}$	Rate of direct tax	J	CST/POL
f	Direct. tax receipts	J	—
$\bar{g}^c$	Input coefficient public consumption	I x G	CST/FOR

Symbol	Meaning	Index set	Type
$\bar{g}^c$	Input coefficient public investment	I x H	CST/FOR
$\bar{G}^1 \bar{G}^2$	Land development decision matrices (1=new, 2=committed projects)	P x L	CST/POL
$\hat{j}$	Investment demand (volume)	I x J*	—
$\bar{K}$	Capital matrix	I x H	CST/FOR
$l$	Land resource	L	LAG
$m$	Income before tax	J	—
$m$	Income after tax	J	—
$p^d$	Ration price	I	—
$p^{B+}, p^{B-}$	Min, import, max, export border price	— N	—
$p^B$	Border price	$\bar{N}$	—
$p^{W+}, p^{W-}$	Trade price import/export	$\bar{N}$	FOR
$p, \bar{p}$	Retail, final product price	I	—
$\hat{q}$	Target on public demand activity	G	POL
$q$	Gross production / activity volume	H	—
$\bar{q}$	Installed capacity	H	LAG
$r$	Net revenue	H	LAG
$s$	Savings	J	—
$\bar{T}^0 \bar{T}^1$	Target rates of excise tax	I	CST/POL
$t$	Rate of excise tax	I	—
$\bar{T}$	Land transition matrix	L x P	CST
$u^B u^D$	Intermediate demand for trade and domestic processing	I	—
$x$	Land-development project activity level	P	—
$y$	Net supply volume	I	—
$z, z^+, z^-$	Net import, import, export	$\bar{N}$	—
$z^+$	Import quota	$\bar{N}$	CST/POL
$z^-$	Export quota	$\bar{N}$	CST/FOR/POL
$\alpha$	Growth target	—	POL
$\alpha$	Growth realisation	—	—
$\bar{\beta}$	Weight in ration price index	I	CST/POL
$\gamma$	Gestation lag	H	CST/FOR
$\delta$	Depreciation rate	H	CST/FOR
$\epsilon$	Subsidy in wage earner scheme (%)	—	CST/POL
$\bar{\eta}$	Share in factor returns	H x J	CST/FOR
$\zeta, \underline{\zeta}, \bar{\zeta}$	Target and bounds on flexible rationing adjustments	—	CST/POL
$\zeta$	Realisation of flexible rationing adjustment	—	—

Symbol	Meaning	Index set	Type
$\bar{\theta}^+ \bar{\theta}^-$	Import, export tariff rate	$\bar{N}$	CST/POL
$\hat{\lambda}, \underline{\lambda}, \bar{\lambda}$	Target and bounds on financial policy variables and their ranking	$G^+$	CST/POL
$\bar{\mu}$	Average degree of capacity utilisation	$N$	CST/FOR
$\bar{\pi}$	Exchange rate	—	FOR/POL
$\hat{\phi}, \underline{\phi}, \bar{\phi}$	Target and bounds on excise tax adjustment	—	CST/POL
$\phi$	Degree of adjustment of excise tax	—	—
$\bar{\psi}$	Rate of investment	$I \times J$	CST/FOR
$\bar{\sigma}$	Savings rate	$J$	CST/FOR
$P_1, P_2$	Intensity of new and committed land development	—	—
$\hat{\tau}$	Target rate of mark-up	$H-N$	CST/FOR
$\tau$	Realised rate of mark-up	$H-N$	—
$\hat{\chi}, \underline{\chi}, \bar{\chi}$	Target and bounds on income tax adjustment	—	CST/POL
$\chi$	Rate of income tax adjustment	—	—
$\bar{\xi}^+, \bar{\xi}^-$	Import/export processing coef.	$\bar{N}$	CST/FOR
$\hat{\omega}, \underline{\omega}, \bar{\omega}$	Target and bounds on public investment adjustment	—	CST/POL
(No symbol used)	Maximum debt service ratio to GPD	—	CST
	Commodity aid	—	FOR
	Aid in kind and cash	—	FOR
	Project aid	—	FOR
	Interest rate on soft loans	—	FOR
	Interest rate on commercial loans	—	FOR
	Accumulated debt by maturity and type	—	LAG
	Caloric/protein content of commodity	$I$	CST
	Population	$J$	FOR
	Employment coefficient	$H$	CST/FOR

## Appendix V

## CONSUMER DEMAND SYSTEM

The consumer demand system as specified in (eq. 3,1) section III will be described [22]. It excludes traditional energy consumption. Protein feeds, jute, cotton and hides are not consumed as raw products since jute is only consumed as jute-textiles, cotton as cloth and hides as leather products. The system is specified as follows :

$$W_I = A_I + FD_I \log (P_I / P) + B_I \log (Y / P) \quad (1)$$

$$w_i = \alpha_i + c_i \log T + \phi \delta_i \log (P_i / P_I) + \beta_i \log (Z_I / P_I) \quad (2)$$

where

$$Z_I = W_I \cdot Y$$

$$\log P = \sum D_I \log P_I$$

$$\log P_I = \frac{1}{i \in I} \sum \delta_i \log P_i$$

Indices :

$i$  commodities

$I$  commodity groups :

food grains

livestock

other food

non-agriculture

- wheat, rice, coarse grains

- bovine and ovine meat, poultry, dairy fish

- oils, sugar, vegetables, fruits, tea

- tobacco, all non-agricultural commodities

Variables :

$P_i$  commodity price

$P_I$  price commodity group  $I$

$P^I$  aggregate price

$Y$  per caput expenditures on consumption

$W_I$  budget share commodity group  $I$

$w_i$  budget share commodity  $i$  (in the commodity group)

$T^i$  time (-1 in 1977, 2 in 1978, etc.)

Restrictions on parameters

$$\sum_I A_I = 1, \sum_I D_I = 1, \sum_I B_I = 0, D_I > 0$$

$$\sum_{i \in I} \alpha_i = 1, \sum_{i \in I} c_i = 0, \sum_{i \in I} \delta_i = 1, \sum_{i \in I} \beta_i = 0, \delta_i > 0$$

The database for the consumer demand system is prepared on basis of the Household expenditure Survey 1976-77.(BBS) combined with time series data (1966-1980) on the quantity and prices of consumption items produced domestically and imported at national level. The time series were compiled on basis of the Supply Utilisation Accounts for agricultural commodities and the disaggregated national accounts for non-agricultural commodities. The estimation was done separately for the upper level (eq.1) and for the lower level (eq. 2) using full-information maximum likelihood estimates.

**Parameter values :****(a) Upper level**

	A	B	D	F
Food grains	2.1581	-0.2739	0.6500	0.6
Livestock	-0.4185	0.0859	0.1029	0.6
Other food	0.0325	0.0233	0.0471	0.6
Non-agriculture	-0.7681	0.1647	0.2000	0.6

In principle these figures are the same for each class. However, a modification is made.

A class-specific shifter is applied to  $A_l$  for  $l = \text{grains}$ , in accordance with the observed base year (FY 77)-shares. To maintain additivity the opposite shifter is applied for  $l = \text{nonag}$ .

	Class-specific shifters in A	
	$l = \text{grains}$	$l = \text{nonag}$ .
Landless	—	—
Small farmers	+0.01	-0.01
Medium farmers (tenants)	+0.01	-0.01
Medium farmers (owners)	+0.02	-0.02
Large farmers	+0.03	-0.03
Very large farmers	+0.02	-0.02
Rural informal	—	—
Rural formal	+0.02	-0.02
Urban informal	-0.03	+0.03
Urban formal	-0.03	+0.03

(for urban-formal these shifters are added to the shifters mentioned before).

**(b) Lower level****b1 Food grains**

	$\alpha$	$c$	$\delta$	$\beta$	$\phi$
Wheat	0.0720	0.0237	0.0970	0.0000	0
Rice	0.9250	-0.0237	0.9000	0.0000	0
Coarse grains	0.0030	0.000	0.0030	0.0000	0

Class-specific shifters are applied to  $\alpha_1$  for wheat and rice in accordance with the observed base year (FY77)-shares.

	Shifters in	
	i - wheat	i - rice
Landless	+0.01	-0.01
Small farmers	-	-
Medium farmers (tenants)	-0.03	+0.03
Medium farmers (owners)	-0.04	+0.04
Large farmers	-0.04	+0.04
Very large farmers	-0.03	+0.03
Rural informal	+0.01	-0.01
Rural formal	+0.02	-0.02
Urban informal	+0.12	-0.12
Urban formal	+0.16	-0.16

## b2 Livestock

	$\alpha$	c	$\delta$	$\beta$	$\phi$
Bovine and ovine meat	0.0819	0	0.1000	0.0548	0.5
Poultry	0.0052	0	0.1000	0.0209	0.5
Dairy	0.3082	0	0.2000	0.0912	0.5
Fish	0.6047	0	0.6000	-0.1669	0.5

## b3 Other food

	$\alpha$	c	$\delta$	$\beta$	$\phi$
Vegetable oils	0.2482	0	0.1269	-0.0373	0.8261
Sugar	0.1329	0	0.1592	0.0484	0.8261
Vegetables	0.8351	0	0.6785	-0.1135	0.8261
Fruits	-0.2189	0	0.0344	0.1004	0.8261
Tea	-0.0035	0	0.0010	0.0020	0.8261

## b4 Non-agriculture

$\alpha_i$ :	class-specific base year (FY77) budget share (in total of group nonag)
$c_i =$	0
$\delta_i$ :	class-specific base year (FY77) budget share (in total of group nonag)
$\beta_i =$	0
$\phi =$	0

## Elasticities

Let  $x_i$  be the quantity consumed of commodity  $i$  (i group I).

Income elasticity :

$$D(x_i, y) = \left(1 + \frac{\beta_i}{w_i}\right) \left(1 + \frac{B_I}{W_I}\right)$$

Own-price elasticity (uncompensated) ;

$$E^U(x_i, p_i) = \delta_i \left[ \frac{FD_I}{W_I} (1 - D_I) - \frac{B_I D_I}{W_I} - 1 \right] \left(1 + \frac{\beta_i}{w_i}\right) + (1 - \delta_i) \left(\frac{\phi \delta_i}{w_i} - 1\right)$$

Own-price elasticity (compensated) ;

$$E^C(x_i, p_i) = \delta_i \left[ (1 - D_I) \left(\frac{FD_I}{W_I} - 1\right) \right] \left(1 + \frac{\beta_i}{w_i}\right) + (1 - \delta_i) \left(\frac{\phi \delta_i}{w_i} - 1\right)$$

The compensated elasticity has been derived as  $E^u(x_i, p_i) + E(x_i, y) \cdot E(P, p_i)$  where  $E(P, p_i)$  is the elasticity of  $P$  with respect to  $p_i$  ( $= -\delta_i D_1$ ). Hence the notion of compensation refers to income compensation and not to utility compensation. Below the elasticities are listed, computed with the *national, observed* budget shares of 1977.

	$D(x_i, y)$	$E^u(x_i, p_i)$	$E^c(x_i, p)$
Wheat	0.351	-0.928	-0.906
Rice	0.350	-0.328	-0.124
Coarse grains	0.674	-0.998	-0.997
Vegetable oils	0.913	-0.447	-0.441
Sugar	1.502	-0.321	-0.310
Bovine and ovine meat	2.705	0.475	-0.448
Poultry	2.051	-0.444	-0.423
Dairy	2.326	-0.619	-0.571
Vegetables	0.883	-0.420	-0.391
Fruits	2.219	-0.768	-0.763
Fish	1.195	-0.489	-0.415
Tea	2.560	-0.936	-0.936
Commodities of the group 'nonag	1.565	0.216	0.529

### Restriction on inferiority

The equations of the demand system imply a decreasing budget share for grains when total expenditures increase. As can be seen from the analytical expression of the income elasticity grains can even become inferior. Then the budget share falls dramatically. It is clear that this cannot be accepted. Therefore an ad-hoc rule has been imposed on the system:

When the budget share for total grains according to the equation mentioned before falls below 20 per cent, then it is first fixed at 20 per cent after which a scaling is applied to the budget shares of all commodities (including grains) in order to maintain adding-up.

By this rule some inferiority of grains is accepted. At base year prices the rule becomes effective at a level of total expenditures which is 50 to 60 per cent higher than the level which the urban formal reached in FY 77. Per capita grain consumption will then be at a level of 190 kg per year (after having reached a top at 195 kg). From this point on it will rise again.

## SAVINGS FUNCTION

The following equation has been specified :

$$s = \alpha + \beta \log (I/P)$$

where

$s$  = savings rate ( with respect to income after tax )

$I$  = per capita income after tax

$p$  = price index (one in FY77)

The function has been estimated ( ordinary least squares ) from the cross-section information contained in the base year (FY77) SAM. Hence ten observation were available :

Results :

$$\alpha = -0.957186 \quad (t\text{-value} : -5.5)$$

$$\beta = 0.145618 \quad (t\text{-value} : 6.1)$$

$$R^2 = 0.82$$

$P$  has been specified as :

$$\log P = \sum_i \delta_i \log p_i - \sum_i \delta_i \log p_i, 77$$

where the  $\delta_i$ 's are the same as in the demand system.

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# A Strategy for Self-Reliant Growth for Bangladesh

By AKHLAQUR RAHMAN \*

## 1. Introduction

One general experience of most resource-poor, oil-importing, low-income developing countries has been that attainment of a fairly high average rate of growth is not a sufficient condition for the reduction of aid-dependence over time. Foreign aid has played a vital role in the development of such countries, but it has also entrapped them in two formidable crises: the crisis of "debt trap" and the crisis of arrogant "policy interference" from powerful donors seriously impinging upon whatever limited sovereignty they had as 'independent' nations.

One way out of such "crises of aid-dependence" is to attain a high degree of self-reliance as quickly as possible. The required planning strategy for self-reliant growth must ensure the growth of saving and export at desired rates paripassu with the growth of income. Some years back we undertook an exercise in formulating alternative planning strategies [1] for Bangladesh on the basis of a two sector model containing elements of optimisation over five consecutive five-year planning periods upto 2001/2, with a Social Welfare function (W) involving maximisation of gross national product (V) and minimisation of foreign aid (F). The functional relationship assumed was that W increases with the increase of V and decreases with the increase of F.

The solutions of the model for the terminal years indicate that in Bangladesh the marginal rate of saving tends to rise with the rise of capital output ratio and the marginal productivity of foreign aid tends to increase with the increase of domestic saving, capital-output ratio and export.

The optimum feasible solution for the terminal year 2001/2 indicates that it is not impossible to reduce our aid dependence from 7.3% in 1981/82 to 1.2% in 2001/2.

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Section 2 summarises the contents and major findings of our model. The critical conditions for attainment of the predetermined objectives as well as the implications of the feasible programmes for required inter-sectoral shift of incremental resources are briefly discussed in Section 3. Certain observations are made on the implication of the Third Five-Year Plan for self-reliant growth of Bangladesh in the concluding Section 4.

## **2. The Model**

### **2.1 The Contents**

The model is essentially of the two-gap vintage. It has two sectors: (i) the production for import substitution and export expansion and (ii) the production of all other goods and services— the regular sector. Sector (i) entails increase of export and /or reduction of current import irrespective of the type of commodities involved.

The model incorporate two limits: the investment limit and the trade limit. It consists of 15 variables of which 3 are instrument variables, and 15 equations of which 6 are definitional and 6 are inequalities. For the purpose of deriving alternative sets of feasible programmes the model was reduced to 3 basic equations involving only the policy variables.

Two of these equations correspond to equilibrium conditions for capital and external assistance. The third equation represents a saving function.

The model equations were solved on the basis of estimated parameters and specified limits for controlled variables first for the terminal year 1981/82 and then for the future terminal years 1986/87, 1991/92, 1996/97, and 2001/2. The controlled variables are (a) government current expenditure, (b) export from the regular sector, (c) export from the trade expansion sector, (d) net external assistance, and (e) the marginal rate of saving. These exercises involved certain assumptions about the magnitude of the parameters needed for the solution of the model for future plan periods. Such assumptions were based on our best judgement as well as on the consideration of the nature and pattern of changes of such parameters in similar less developed countries during their transition over a number of past plan periods. It has been taken for granted that the assumed values of none of the parameters will decrease in future, and possible increase in their values will only strengthen the logic of arguments behind the critical conditions that emerge from our findings.

To indicate the range of policy choice a feasible set of alternative programmes for each terminal year has been worked out from the solutions of the model. The derived set of alternative feasible programmes for each terminal year has been analysed, following Chenery and Bruno [2], with the help of two dimensional linear graphs, which in fact represents a feasible plan of three dimensional graphs, to determine the range of optimum choice.

## 2.2 The Results

The results derived from the best optimum programmes for different terminal years are summarised in Table 1.

**Table 1: The Feasible Solutions**  
(Values are at constant 1972 million U.S. dollars)

Variables and Parameters	1981/82	1986/87	1991/92	1996/97	2001/2
Gross National Product(V)	7517.47	9639.19	12098.93	15227.40	19156.89
Investment (I)	1093.94	1565.38	1546.75	2015.33	2655.60
Investment Rate(I/V)	0.146	0.162	0.128	0.132	0.139
Saving (S)	546.99	780.00	1031.13	1675.49	2431.62
Saving Ratio(S/V)	0.073	0.081	0.085	0.110	0.127
Net Foreign Aid (F)	546.99	785.27	515.62	339.87	223.93
Foreign Aid Ratio(F/V)	0.073	0.082	0.043	0.022	0.012
Foreign Aid Investment Ratio(F/I)	50.00	50.16	33.33	16.86	8.46
Export (E)	441.24	601.34	503.87	575.66	658.00
Export Ratio (E/V)	0.059	0.062	0.042	0.038	0.038
Import (M)	988.24	1365.38	1019.49	915.55	881.98
Import Ratio (M/V)	0.131	0.142	0.084	0.060	0.046
Consumption (C)	6970.48	8859.08	11067.80	13551.91	16725.27
Consumption Ratio (C/V)	0.927	0.919	0.915	0.890	0.873
Marginal Saving Rate(S)	0.1234	0.1099	0.1021	0.2060	0.1924
Growth Rate (R)	0.049	0.051	0.0465	0.0471	0.0470

From Table 1, one can observe the following:

1. The maximum growth rates that the feasible optimum programmes make possible in the terminal years, range between 5.10 per cent in 1986/87 and 4.71 per cent in 1996/97. The rate does not go above 4.70 per cent in 2001/2.
2. The investment/GNP ratio (I/V) is required to rise from 14.55 per cent in 1981/82 to 16.24 per cent in 1986/87, an increase of 11.6 per cent. It then drops to 12.78 per cent in 1991/92, and thereafter starts rising continually.
3. The saving ratio (S/V) rises continually, from 7.3 per cent in 1981/82 to 13.0 per cent in 2001/2; but the marginal rate of saving (S) falls up to 1991/2, starts rising steeply, and becomes almost doubled between 1996/97 and 2001/2.

4. The export ratio  $E/V$  increases from 5.9 per cent in 1981/82 to 6.2 per cent in 1986/87, but thereafter falls almost continually to 3.4 per cent in 2001/2.
5. The import ratio ( $M/V$ ) rises in 1986/87 and then declines continually to 4.6 per cent in 2001/2, and comes closer to  $E/V$ .
6. After 1986/87 both  $E$  and  $M$  fall sharply; thereafter  $E$  increases at the annual compound rate of 1.9 per cent while  $M$  decreases at the rate of about 1 per cent. The total trade volume, therefore depicts a slight increasing trend. The effects of import replacement is visible, but on the whole the economy does not become more autarkic.
7. Net foreign aid increases by about 44 per cent in 1986/87 and then falls continually to 1.2 per cent in 2001/2.
8. The foreign aid investment ratio ( $F/I$ ) falls continually from 50 per cent in 1981/82 to 8.43 per cent in 2001/2.
9. The behavioural changes in  $S/V$ ,  $M/V$ , and the marginal rate of saving are directly related to the behaviour of  $F$ .
10. Although total consumption rises continually at the compound rate of 3.4 per cent between 1986/87 and 2001/2, the consumption ratio tends to decline and falls to 87.3 per cent in 2001/2. This is in conformity with the continuous rise of the saving ratio that the model envisages.

### 3. The Critical Conditions

Our model requires that certain critical conditions are fulfilled.

1. A firm national decision to undertake a strategy of self-reliant growth.
2. Intersectoral shift of incremental resources in order to realise the feasible programmes in the terminal years.

The nature and magnitude of such resource shifts can be realistically analysed only in terms of specific commodities on the basis of sophisticated interindustry analysis. It was not possible for us to do so. Nevertheless, based partly on solutions to the involved simultaneous equations, and partly on our best judgement in certain cases, we carried out such an exercise for the period 1981/82–1986/87<sup>1</sup>

It has been found that the realisation of the best optimum feasible programme for 1986/87 would entail maximum shift of incremental resources to transport, constructions, and power and gas sectors involving some 121.46, 95.67 and 31.88 per cent increase of investment, respectively. Yet, the feasible programme would require a 56.7

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1. This exercise indicated that the achievement of the growth targets of the Second Five Year Plan would be impossible. The best optimum feasible programme for the terminal year 1986/87 gave a 5.1 per cent growth rate for GNP as against a planned average growth rate of 7.2 per cent in the Second Plan period. As the Third Plan document indicates, the realised average growth rate has come down to only 3.8 per cent.

per cent increase of total investment in the regular sector. The corresponding figure for the import substitution and export expansion sector was 45.2 per cent. The latter represented an acceleration of 215 per cent over the previous plan period.

3. The administrative capacity of the government to implement it. This relates to the administrative ability to formulate and implement projects, to adhere strictly to predetermined priorities, to reshuffle priorities if necessiated by unforesee-able exogeneous factors in the implementation process; and to adopt right type of policies.
4. The maintenance of balance between inter-sectoral demand and supplies. This necessitates not only the maintenance of utmost discipline in the planning mechanism, but also frequent adjustment of fiscal, monetary, and commercial policies.

#### **4. Concluding Observations**

The Third Five Year Plan (1985-90) document has recently been published by the Government of Bangladesh, although its implementation started some five months earlier. The 8th objectives of the Plan, as is stated in Chapter II, is the promotion of self-reliance. Only two paragraphs are devoted to this objective and a lip-service is paid to self-reliance in the following words: "An important step towards self-reliance will be to promote an out-ward looking industrialisation in order to overcome the balance of payments constraint".

In other words, self-reliance does not seem to be a firm and primary objective of the present government. It seems to be in conformity with its avowed policies for rampant privatisation of the economy- a policy which is being dictated upon us by the dominant aid donors. As a result, Bangladesh economy has become a complete hostage to the aid donors. There does not exist even a semblance of freedom in policy making. Reganomics is at its best in Bangladesh.

Under the circumstance one is not surprised when self-reliance as a specific objective is not explicitly incorporated in the plan model, when the model is formulated with huge external assistance and consultants, and when despite repeated reference to the preponderant influence of nature on the growth of the economy, very little is said about the development of what we have called the "import substitution and the export expansion sector". And without accelerated development of that sector the economy can hardly be freed from the shackles of natural vagaries. We are not unconscious of the difficulties such a country as Bangladesh will face in embarking on the basic transformation of the economy. But we are alarmed by the fact that the realisation of that stark reality is absent in the plan document and all the verbose that goes with it.

As we have seen, a self-reliant growth strategy requires restraint in planning for ambitious growth rates. We are happy to note that this ambition has been restrained in the Third Plan. But the planned investment ratio is higher than any strategy of self-reliant growth would justify for Bangladesh. The Plan seems to represent an effort at prolonging Bangladesh's aid dependence. It is quite understandable since the present administration is, politically and ideologically, in-capable of initiating a process of self-reliant growth in Bangladesh.

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# An Optimal Macro-Economic Planning Model for the Bangladesh Economy: Strategies for Self Reliant Development

BY WAHIDUL HAQUE\*

SULTAN H. RAHMAN\*\*

## Introduction

Since its birth nearly one-and-a-half decades ago, Bangladesh has increasingly become dependent on foreign borrowing in order to finance development. In certain years domestic savings has even been negative [5]. Reduction of dependence on external capital to finance development has, however, been the professed objective of successive political regimes in Bangladesh. Real gross domestic savings ratio has increased from an average of below 1% between 1972/3-1974/5 to 2.5% between 1982/3-1983/4, reflecting stagnation in domestic resource mobilisation [5].

The concern regarding increasing dependence on foreign sources for financing investment is based on several considerations. A few important ones may be mentioned. First, external indebtedness imposes an economic burden on the future generations of Bangladesh without their consent. Secondly, the productivity of foreign capital has been low so that debt servicing is increasingly straining the foreign exchange earnings of the economy. Thirdly, external dependence keeps the country vulnerable to extra-national political manipulations. Fourthly, it undermines national self-respect, which can be an important non-economic ingredient in creating a social milieu conducive to rapid economic development.

In spite of these concerns it is generally agreed that it is not feasible for a resource-poor country like Bangladesh to generate all the

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resources required for development domestically. Even so, the striving on the part of planners must be to raise the domestic component of investment to at least an acceptable minimum level in the terminal year of the Third Five Year Plan, i.e., 1989/90.

The purpose of this paper is to quantify the above concerns and design a macro-economic five-year plan from the vantage-point of psychological-cum-technological limits to growth.

### **The Planning Model**

The crisis of domestic savings is viewed as being the central problem of planning in this study. The model is therefore, focussed on the potential for generation of domestic savings (investment), given a stylised characterisation of the process of production, consumption and trade in the economy of Bangladesh. The model provides an optimal sectoral investment plan for each year of the Third Five Year Plan optimal that is, in the sense of maximum terminal-year gross domestic output.

The production process is characterised by a fixed input-output coefficient technology [3]. Thus, a particular type of constant-returns to-scale in which there is zero-substitution between inputs governs the production process. Clearly, this assumption is far more restrictive than the ones suggested by C-D or CES production functions where the elasticity of substitution, though constant, is non-zero. Consumption is exogenously determined by the planner and may be varied to provide insights into the effects of allocating resources to competing final demands on GDP. Lower bounds on exports and upper bounds on consumption imports are also determined exogenously. Thus, exports targets set by planners, must be met in each year. The upper limits on consumption imports are set in fixed proportion to targeted consumption each year. The model then maximises domestic output in the terminal year, given the stock of capital (capacity) in the base year and a certain minimum level of self-reliance as reflected in the saving-investment ratio in the terminal year of a planning horizon of 5 years corresponding with the Third Five Year Plan period (1986-90) of Bangladesh.

There are some distinguishing features of the model which need to be borne in mind. First, it is an optimisation model, providing the 'best' solutions of macro-economic variables viz., investment, exports and consumption imports by sectors. Second, it is a dynamic model specifying the process of capital accumulation over the entire planning horizon explicitly [1]. Third, the model spans several time periods (planning horizon) covering the period 1984/5- 1989/90 i.e., six years and corresponds fully with the Third Five Year Plan Period (1985/6-1989/90). More precisely, the model is a multi-period, multi-sector

linear optimisation model with the unique objective of maximising domestic savings in the terminal year of the Third Five Year Plan [2].

Serious limitations of data precluded further details to be reflected in sectoral specification. In updating the 47-sector 1976/7 I-O table for the Bangladesh Economy, the I-O table had to be reduced to only 9 sectors, for which sectoral deflators were available. The I-O table could not be updated beyond 1980/81. Out of nine sectors only two are investment-generating, viz., capital goods industry and construction. Data limitations also precluded consideration of resource constraints with respect to skilled labour and managerial skills. While, the availability of labour is in general not expected to constrain economic growth in Bangladesh, the availability of high-productivity labour and managerial talent certainly constrain economic growth.

Theoretically, each sector supplies its output to other sectors and itself for use as intermediate inputs, and for final use as consumption, investment, exports and imports. However, in reality each sector need not supply its output for intermediate use to all sectors (including itself), and need not supply output for all categories of final demand (consumption, investment, exports and imports).

### Mathematical Formulation of the Model

#### Notation

- $T$  = number of years in the planning horizon  
 $S$  = number of sectors in the economy  
 $C_{st}$  = consumption of sectors  $s$  in year  $t$   
 $X_{st}$  = output of sector  $s$  in year  $t$   
 $\bar{M}_{st}$  = export from sector  $s$  in year  $t$   
 $M_{st}$  = total import into sector  $s$  in year  $t$   
 $\quad$  = import into sector  $s$  in year  $t$  for consumption  
 $Z_{st}$  = capital formation from sector  $s$  in year  $t$   
 $U_s$  = proportion of  $Z_{st}$  that is imported  
 $W_{st} = (1 - u_s) Z_{st}$   
 $a_{rs}$  = current input of sector  $r$  per unit of output of sector  $s$   
 $m_{rs}$  = proportion of  $a_{rs}$  that corresponds to imports into sector  $r$   
 $\frac{A}{A} = (a_{rs})$   
 $A = (1 - m_{rs}) a_{rs}$   
 $b_{rs}$  = fixed-capital input of sector  $r$  into sector  $s$   
 $B = (b_{rs})$   
 $I$  = identity matrix of order  $S$

$$X_t = (X_{1t} \quad \dots \quad X_{st} \quad \dots \quad X_{St})$$

$$C_t = (C_{1t} \quad \dots \quad C_{st} \quad \dots \quad C_{St})$$

$$E_t = (E_{1t} \quad \dots \quad E_{st} \quad \dots \quad E_{St})$$

$$M_t = (M_{1t} \quad \dots \quad M_{st} \quad \dots \quad M_{St})$$

$$Z_t = (Z_{1t} \quad \dots \quad Z_{st} \quad \dots \quad Z_{St})$$

$$W_t = (W_{1t} \quad \dots \quad W_{st} \quad \dots \quad W_{St})$$

$K_{st}$  = availability in year  $t$  of total fixed- capital by sector  $s$ .

$g_s$  = gestation lag of investment from sector  $s$

$1-\delta_s$  = annual rate of depreciation of capital supplied by sector  $s$

### Sectoral Balance

The total supply of output consisting of domestic production  $X_{st}$  and import  $\bar{M}_{st}$  must equal consumption  $C_{st}$ , capital accumulation  $Z_{st}$  and export  $E_{st}$ . This gives sectoral balance

$$X_{st} + \bar{M}_{st} = C_{st} + Z_{st} + E_{st} + \sum_r a_{sr} X_{rt} \quad (\text{II-1})$$

$$S - Z = E - \bar{M}$$

Using the above notation, (II-1) reduces to

$$X_{st} + M_{st} + \sum_r m_{sr} a_{sr} X_{rt} + \mu_s Z_{st} =$$

$$\sum_r a_{sr} X_{rt} + C_{st} + E_{st} + Z_{st} \quad \dots \quad (\text{II-2})$$

$$s = 1, \dots, S$$

re-arranging terms, we have,

$$X_{st} - \sum_r (I - m_{sr}) a_{sr} X_{rt} =$$

$$C_{st} + E_{st} + (I - u_s) Z_{st} - M_{st} \quad \dots \quad (\text{II-3})$$

$$\text{or, } (I - \bar{A})X_t = C_t + E_t + W_t - M_t \quad \dots \quad (\text{II-4})$$

where, the vector  $\bar{A}X$  is the requirement for domestic intermediate goods to produce gross output  $X$ . Since  $u_s$  is the ratio of imported capital goods in sector  $s$ ,  $W_{st} = (1-\mu_s)Z_{st}$ , represents the domestic component of investment in each sector supplying investment and  $M_{st}$  is the import of consumption goods only.

Therefore,

$$X = (I - \bar{A})^{-1} [C_t + E_t + W_t - M_t] \dots \quad (\text{II-5})$$

Letting  $(I - \bar{A})^{-1} = V = (V_s)$  and  $C_t + E_t + W_t - M_t = F_t$ ,  
We have,

$$X_{rt} = \sum_{q=I}^S V_{rq} F_{qt} = I, \dots, S \dots \quad (\text{II-6})$$

The matrix V, therefore, gives the direct and indirect requirement of domestic inputs to produce one unit of gross output. GDP in the terminal year T, is given by

$$\text{GDP}_T = \sum_s (X_{rt} - \sum_r a_{sr} X_{rt}) \dots \quad (\text{II-7})$$

substituting for X for (II-5) into (II-7)

$$\text{GDP}_T = \sum_s \left[ \sum_q V_{sq} (C_{qt} + E_{qt} + W_{qt} - M_{qt}) - \sum_r a_{sr} \sum_q V_{rq} (C_{qt} + E_{qt} + W_{qt} - M_{qt}) \right] \dots \dots \quad (\text{II-8})$$

re-arranging terms, we get,

$$\text{GDP}_T = \left( \sum_s V_{sq} - \sum_r a_{sr} \sum_q V_{rq} \right) C_{qT} + \left( \sum_s V_{sq} - \sum_r a_{sr} \sum_q V_{rq} \right) (E_{qT} - M_{qT}) \dots \dots \quad (\text{II-9})$$

The assumption of fixed co-efficients for imported inputs in addition to fixed co-efficient for domestic inputs underlies equation (II-2). Thus, along with zero-substitution possibilities between inputs of the traditional Leontief production function, an even more restrictive assumption is made in the model, i.e., there is no substitution between domestic and imported inputs in production. The import intensity of production ( $m_{jj}$ ) in each sector remains unchanged along with the technology production ( $a_{jj}$ ). While there is little

doubt that these assumptions undermine the strength of the model in long-run policy analysis, they do allow a consistent and logical basis for determination of demand for both domestically produced and imported intermediate inputs [4] .

For Bangladesh, which faces serious crises in its external payments these assumptions need not be considered too restrictive. The assumption of fixed input co-efficient for domestic and imported coefficients also provide much needed computational convenience in a multi-sector, multi-period optimal planning exercise such as this.

### Capital Accumulation

The process of capital accumulation in the model is given by

$$K_{st} = \delta_s K_{st-1} + Z_{st-g_s+1} \quad \dots \quad (II-10)$$

$$s = 1 \dots S.$$

$$t = 1 \dots T.$$

where  $1-\delta$  is the depreciation rate of capital stock and  $g_s$  is the investment gestation lag. The solution of the difference equation (II-10) is obtained in a straight forward manner as,

$$(i) \delta_s^t K_{s0} + \sum_{j=1}^{t-g_s} \delta_s^j Z_{s,t-j-g_s+1} \text{ for } t \geq g_s \dots (II-11)$$

$$K_{st} \dots (II-12)$$

$$(ii) \delta_s K_{s0} \text{ for, } t \leq g_s$$

where,  $K_{s0}$  is the capital stock available at time zero i.e., in the base year. Seeing  $W_{st'} = Z_{st'} = 0$  for  $t' < 1$ , (II-11) may be restated as,

$$K_{st} = \delta_s^t K_{s0} + \sum_{j=0}^{t-g_s} \delta_s^j Z_{s,t-j-g_s+1} \quad \dots \quad (II-13)$$

$$t = 1, \dots T$$

$$s = 1, \dots S$$

Now using the substitution  $W_{st} = (1 - u_s) Z_{st}$  used in (4) above, (13) may be restated as,

$$K_{st} = \delta_s^t K_{s0} + \sum_{j=0}^{t-g_s} \delta_s^j \frac{W_{s, t-j-g_s+1}}{1-u_s} \dots \quad (\text{II-14})$$

### The Optimal Planning Model

Having discussed the main assumptions underlying the planning model it may be symbolically stated as linear program.

$$\text{Maximise: } \sum_{s=I} \sum_{q=I} (V_{sq} - \sum_{sr} a_{sr} V_{rq}) (E_{qt} + W_{qt} - M_{qt}) \quad (\text{II-15})$$

$$\text{Subject to: } \sum_r b_{sr} X_{rt} \leq K_{s, (t-I)} \quad s=I, \dots, S+I \dots \quad (\text{II-16})$$

$$\sum_s X_{st} - \sum_r a_{sr} X_{rt} - \sum_s C_{st} \leq \sum_s Z_{st} \dots \quad (\text{II-17})$$

$$E_{qt} \geq \bar{E}_{qt}, \quad t = I, \dots, T \quad \dots \quad (\text{II-18})$$

$$q = I, \dots, S$$

$$M_{qt} \leq \gamma C_{qt} \quad q = I, \dots, S \quad \dots \quad (\text{II-19})$$

where the S+I "capital good" represents land which is exogenously given and  $X_t$  is given by (II-5). The consumption  $C_t$  is exogenously given.

The objective function (II-15) is the second term of (II-9) above, i.e., gross domestic savings (upto a constant) and is specified only for the terminal year. Savings (S) is the residual of value added (GDP) over consumption, i.e.,

$$S_T = \text{GDP}_T - C_T$$

Substitution of GDP from II-9 into the above equality gives,

$$S = (\sum \sum V_{sq} - \sum \sum a_{sr} \sum V_{rq}) C_{qT} + \sum \sum (V_{sq} - \sum a_{sr} V_{rq})$$

$$(E_{qT} + W_{qT} - M_{qT}) - \sum C_{qT}$$

$$\text{or, } S - \left( \sum_s \sum_q V_{sq} - \sum_s \sum_r a_{sr} \sum_q V_{rq} \right) C_{qT} + \sum_q C_{qT}$$

$$= \sum_s \sum_q \left( V_{sq} - \sum_r a_{sr} V_{rq} \right) (E_{qT} + W_{qT} - M_{qT}),$$

where the R.H.S. is the objective function (II-15) of the optimal planning model. Thus, the objective function is clearly gross domestic savings minus a constant.

The fixed capital constraint (II-16) needs to be expressed in terms of the decision variables E, W and M. From (II-5) and (II-6) above  $X_{rt}$  may be substituted in (II-16) as follows,

$$\sum_{r=1}^S b_{sr} \sum_{q=1}^S V_{rq} (C_{qt} + E_{qt} + W_{qt} - M_{qt}) \leq K_{st-1} \dots \text{ (II-20)}$$

Now using the solution of  $K_{st}$  from (II-14) above and rearranging terms (II-20) becomes,

$$\sum_{r=1}^S b_{sr} \sum_{g=1}^S V_{rg} (C_{qt} + E_{qt} + W_{qt} - M_{qt}) -$$

$$\sum_{j=0}^{t-u_s-1} \frac{\delta_s^j}{1-u_s} W_{s,t-j-u_s} \leq \delta_s^{t-1} K_{s0} \dots \text{ (II-21)}$$

Since  $C_{qt}$  is an exogenously specified target variable it needs to be transposed to the right hand of inequality (II-2). Thus we have,

$$\sum_{r=1}^S b_{sr} \sum_{q=1}^S V_{rq} (E_{qt} + W_{qt} - M_{qt}) - \sum_{j=0}^{t-u-1} \frac{\delta_s^j}{1-u} W_{s,t-j-u} \leq$$

$$\delta_s^{t-1} K_{s0} - \sum_{r=1}^S b_{sr} \sum_{q=1}^S V_{rq} C_{qt} \dots \text{ (II-22)}$$

$s = 1, \dots, S$   
 $t = 1, \dots, T$

In other words, a portion of the fixed capital stocks including land is used in supporting the targeted consumption and the residual capital stock is available as a resource to maximise savings in the economy. The 'less than' inequality in (II-22) admits the possibility of excess capacity or underutilised fixed capital in the economy.

Constraint (II-17) is a self-reliance pre-condition. It simply states that domestic savings must not fall short of a pre-determined proportion of investment in the terminal year, T. The greater is (the self-reliance ratio), the greater is the desire to achieve self-reliance and the higher is the proportion of total investment financed domestically. To express (II-17) in terms of the decision variable E, W and M and move C to the right hand side,  $X_{rt}$  must be substituted followed by re-arrangement of terms. Following these steps (II-17) may be re-stated as,

$$\sum_q \left( \sum_s V_{sq} - \sum_s \sum_r a_{sr} V_{rq} \right) (E_{qr} - M_{qr}) +$$

$$\sum_q \left( \sum_s V_{sq} - \sum_s \sum_r a_{sr} V_{rq} - \frac{\eta}{1 - u_q} \right) W_{qt} \geq$$

$$\sum_q \left( \sum_s V_{sq} - \sum_s \sum_r a_{sr} V_{rq} - 1 \right) C_{qt} \dots \quad (\text{II-23})$$

The constraint specified in (II-18) simply postulates that exports must grow at least at a pre-determined rate. The planning agency, therefore attempts to maintain a target export growth rate for each sector.

Labour in general is another primary resource. However, in Bangladesh it is not expected to impose constraints to economic growth for a long time to come. Skilled labour, on the other hand, is a scarce resource. Though, the 'professional and other services' sector in the I-O table, will partially take account of this scarce factor, ideally a more detailed manpower planning component in the model is desirable. But sector-wise estimates of skilled labour resources of Bangladesh are not available.

The macroeconomic optimal planning model described in (II-15)-(II-19) has the maximisation of domestic savings (or GDP) in the terminal year of the TFYP as its objective, while achieving a certain level of self-reliance, consumption, export and consumption import targets. Since the objective function and all constraints are linear in the parameters, equations (II-15)-(II-19) provides a linear programming model. This is termed as the basic model.

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# PLANNING FOR DISTRIBUTIVE JUSTICE

## Planning for Distributive Justice in Bangladesh

By S.R. OSMANI\*

### I. Introduction

It is well-known that development planning of the past three decades and a half has generally failed to distribute the fruits of development equitably. As the early fascination with 'growthmanship' failed to solve the problems of poverty and distribution (and quite often the problem of growth itself), attention was turned increasingly to more direct strategies for equitable development. 'Basic needs approach', 'growth with redistribution' are some of the catch phrases that reflected this new mood.

But experience shows that even this direct approach has not met with any great success. In country after country, such attempts have foundered on the rocks of scarce resources, socio-political impediments and the sheer administrative problem of bypassing the 'invisible hand.'<sup>1</sup> Even the most remarkable experiment in basic needs satisfaction in Sri Lanka has eventually been rolled back under pressure from scarce resources.

Development economics is thus caught up in a baffling conundrum: the pursuit of growth has failed to deliver distributive justice, and yet the goal of distributive justice has proved unattainable in the face of resource constraint which only growth can remove.

According to one point of view, only a radical social transformation, usually an euphemism for socialist revolution, can solve the problem by achieving justice along with growth. Most of the proponents of this view recognise however that the prevalent political realities are not quite ripe for such a transformation soon. The logical conclusion therefore is that the achievement of distributive justice is not possible for an indefinite future; nor is even growth, according to many. There is thus a suffocating aura of nihilism all around.

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<sup>1</sup> For a perceptive account of the Indian experience, for example, see [1].

The present paper is an attempt to break away from the strangle hold of this nihilism and to offer some thoughts on how the problem of planning for distributive justice can be approached in Bangladesh with some degree of optimism.

To avoid misunderstanding, let me however begin by stating that the ensuing discussion is an exercise in the realm of second best. The first best solution in my view consists in socialising the means of production and distributing the fruits on the basis of work. The three main resources of the country—land, labour and water—are all severely underutilised.<sup>2</sup> Getting the underutilised labour to work on underutilised resources in the surest way of achieving the fastest rate of growth. But underutilised labour cannot be persuaded to exert itself more if it cannot be assured of a fair reward. Equity is therefore a necessary condition for growth. The two will be achieved simultaneously if the benefits of fuller utilisation of resources can be distributed according to labour input, which is only possible when private ownership of means of production is abolished.

This is obviously a very simplistic presentation of the argument. But I shall not elaborate it further for I assume for the purpose of the present paper that this option is not feasible in the foreseeable future. I shall instead try to explore if there are more feasible options, even if they be second, third or *n*-th best.

The rest of the paper seeks to identify the probable contents of such a strategy in its broadest outline, and ends with a few remarks on the political economy of its feasibility.

## **II. The Outline of a Strategy for Distributive Justice**

Broadly speaking, the policies for distributive justice can be classified into three groups depending on their point of impact on the process of income accrual:

- (i) Those affecting the ownership of means of production,
- (ii) Those affecting the flow of income generation, given a distribution of the means of production, and
- (iii) Those modifying disposable incomes after their accrual.

I rule out the first set as a major policy instrument for the same reason that compelled me to rule out the first-best option mentioned earlier. The third set of policies, which may be called the redistributive measures, is widely used as a means of achieving equity. But they have their obvious limitations in a populous but resource-poor country like Bangladesh. If distributive justice is to mean something more than an equitable distribution of poverty, then any programme for distributive justice must aim minimally at lifting the

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2. More than one-third of labour force is unemployed (in terms of mandays), just over a quarter of land is devoted to HYV technology and controlled irrigation is available to less than a quarter of cultivated land.

majority of poor above the poverty line. But the magnitude of poverty is so monumental in this country that redistributive measures cannot conceivably be applied in the requisite scale. This leaves us with the second set of policies as the main feasible instrument.

### **Two kinds of distribution problem**

One qualification is however in order at this stage. Policies aimed at the flow of income generation are relevant only for those who participate in the production process in a significant way. But numerous surveys have shown that the bottom of the income scale is usually comprised of those households which have a very adverse age-sex composition, and are hence unable to participate in the production process. Moreover, resource scarcity makes it unavoidable that even many of the families with a favourable age-sex composition will remain at the margin of production nexus for a considerable period of time, however successfully one conceives and executes any programme of distributive justice.

Accordingly we may distinguish two kinds of distribution problem — one involves the relatively small but quantitatively significant proportion of households who are virtually left out of the production process; and the other involves the majority of poor who are significantly involved in the production process. We shall call the former the problem of 'distribution in the small', and the latter the problem of "distribution in the large". Quite obviously, the strategies for addressing the two kinds of distribution problem are bound to be different.

'Distribution in the small' necessarily requires a major reliance on redistributive measures such as food stamps, vulnerable group feeding and preferential access to subsidised public goods and services. Even a limited form of asset redistribution may be contemplated, such as distributing 'Khas' lands to the poorest households. Programmes such as Food for Work, which belong to the second set of policies, can also be directed to at least a subset of households in this domain, namely those who have a capable labour force but are nonetheless left out of the production stream due to lack of opportunities. Generally speaking, the 'target group' approach is particularly suitable for them. But its success depends on adopting a rigorous and narrow definition of the target group so that resource requirement for redistributive measures does not get out of tune with the general situation of resource scarcity.

### **Growth is necessary for 'distribution in the large'**

The constraint of resource scarcity also implies that none of these measures is particularly suitable for solving the much more formidable problem of 'distribution in the large'. As mentioned before, equitable distribution can be ensured in this domain only by manipulating the production process so as to alter the flow of income generation. However,

the current level of incomes as well as the current rate of growth is so low that not much can be achieved by merely redirecting the existing flow of income from one group of recipients to another. A higher growth rate is thus a necessity for achieving any tangible distributive justice.

One can even go farther than that. It is indeed arguable that in the prevailing condition of Bangladesh economy, growth is necessary not only for improving the income distribution, but also to make sure that it does not get worse. The details of the argument have been presented elsewhere [9]. We shall briefly describe here two lines of causation that run from low growth to worsening distribution.

Consider first the effect of slow growth of agricultural productivity. It is well-known that population pressure, coupled with the Muslim law of inheritance, is constantly leading to subdivision of holdings below the economic level. The only way to make these miniature holdings economically viable is to raise the productivity of land through the application of superior technology. But in reality the diffusion of modern technology in Bangladesh agriculture is still very low. As a result, the households with subdivided holdings find themselves unable to eke out a living from their meagre land. Many of the small holders are therefore forced to sell off or lease out their land under distress causing increasing concentration of land in the hands of large and medium farmers. Agricultural income is also becoming increasingly unequal as a result; and since agricultural income accounts for such a large share of national income, it is naturally having an adverse effect on the overall income distribution.

The second line of causation operates through inflationary redistribution. Slow growth of the economy compels the Government on the one hand to incur large public expenditure, but prevents on the other the raising of enough revenue. The resulting budget deficit tends to be met by recourse to bank borrowing, fuelling the fire of inflation. Recently there has been a change of strategy in this regard, but the inflationary consequences have remained the same. Unable to extract enough revenue from a slowly growing economy, the Government is trying to shift the burden of investment to the private sector. But slow growth limits the investment capability of private sector too, by restricting the volume of private savings. The government has tried to make good this gap between savings and desired investment by operating a liberal refinance policy through the Central Bank. The result is inflation just as before [7]. Although the redistributive effect of this inflationary process has not been studied in detail, there are reasons to believe that it has led to a redistribution of purchasing power from the rest of the economy to the direct beneficiaries of liberal bank credit, who normally belong to the richer stratum of the society.

It is thus clear that distributive justice is hard to achieve in a stagnant economy. Not only will distribution fail to improve, it is very likely to get even worse.

### **The "Pattern of growth" is the crucial factor**

However, this should not lead one to the conclusion that growth and distribution are one and the same problem. It will be wrong to assume for instance that growth, no matter how it comes, will by itself solve the problem of "distribution in the large". It all depends on the pattern of growth.

The notion that the possibility of 'growth with justice' depends critically on the pattern of growth is not a new one. But difference of opinion exists on that constitutes an appropriate pattern of growth. It will be a central task of this paper to identify an appropriate pattern of growth for Bangladesh.

Most discussions in this field usually centre around two issues: sectoral allocation of resources and the choice of technology. One commentator on the Indian experience has argued for instance that the poor record of India in respect of both growth and equity can be explained by lopsided sectoral allocation on the one hand and inappropriate choice of technology on the other (Mathur 1984). He has suggested that both growth and equity can be achieved simultaneously by allocating a larger share of investible resources to basic industries and employing labour-intensive technologies for the production of consumer goods.

The question of technology also appears to be a pervasive theme in the Third Five Year Plan of Bangladesh [2], albeit from a somewhat different perspective. The emphasis there is not so much on labour-intensity as such, though its necessity is clearly recognised. More importantly, the Plan emphasizes the need for superior technologies which all improve the productivity of labour without any loss of labour-intensity.

It is argued in the Plan that poverty, inequality and the lack of growth all follow simultaneously from the failure to grow out of what it calls the 'subsistence technology'. The argument runs as follows: Low level of technology makes for an appallingly low level of income; much is made of the finding for instance that average return per day from cottage industries is less than the wage rate for unskilled agricultural labour. Low income in turn restricts the size of investment which prevents the adoption of superior technologies. A vicious circle is thus identified in which inferior technology and low level of income mutually reinforce each other leading to a downward cumulative causation.

It is therefore suggested that growth and justice can be achieved at the same time if the vast reservoir of underutilised labour can be made to work with superior technologies. A lot of emphasis is therefore given to the R & D for technology development, upgradation of skill and diffusion of knowledge.

The proposed Employment Resource Centres (ERC) at the Upazilla level are expected to play the most important catalytic role in the process of technological transformation.

The Plan is certainly right in recognising the need for raising the technological level of economic activities. Growth can be achieved by technological upgradation and equity can be achieved if a broad spectrum of subsistence labour can gain access to superior technology. But the Plan appears to give insufficient attention to the question of exactly how such a broad-based technological upgradation can be brought about. And to the extent that it does, it seems to lay the emphasis on the wrong place.

Disproportionate emphasis is given to the task of creating new technologies through R & D and making the labour force aware of these new as well as existing technologies. In comparison, much too little attention is given to the question of how an impoverished labour force can gain command over the means of production embodying these technologies. The question of access or command over technology is in our view the critical issue. The problem of availability is a relatively minor one. After all, the Plan itself recognises that a suitable technology exists in agriculture in the form of HYV technology. As for the nonfarm sector while the Plan deplores on the one hand the absence of similar technologies, it also points out on the other that the existing small industries represent a much higher level of technology compared to cottage industries. In fact the Plan recommends that small industry be made the centrepiece of industrial policy in preference to both cottage and large industries, as it combines the dual virtues of higher labour productivity compared to cottage industries and higher labour-intensity compared to the large-scale sector. Since this judgement is made on the basis of existing shelf of technologies being used in the small industries, it will be hardly true to say that non-existence of or lack of awareness about superior technology is the primary reason for the persistence of inferior technology.

### **The Central Role of Credit Constraint**

The question then naturally arises, what prevents the subsistence labour force from adopting HYV technology in agriculture at a faster rate and also from making the transition from low-technology cottage industries to high-technology small industries. The chief impediment in our view is the constraint of credit, in both cases.

Technologies are there though there may be room for improvement; their existence is also known and the people are also aware that the cost of applying such technologies will be well covered by the return they will receive. But there is a crucial time lag between the incurring of expenditure and the receipt of return. It is normally the function of credit to bridge this gap over time. But, for well-known reasons that I need not elaborate here,

an infinitesimal proportion of institutional credit reaches the rural poor. They are thus left with the option of either borrowing from the informal credit market or drawing upon their own meagre reserves. In the first case, they are usually forced to pay an exorbitant rate of interest and in the second they apply high subjective rates of discount on future income in view of their abysmally low level of present income. In either case, a potentially worthwhile productive activity turns out to be prohibitively expensive. Quite often, it is more than a matter of high rate of interest or subjective discount; the requisite credit may not simply be available i.e., the credit constraint may appear as a binding quantity constraint, specially when the activity involves prior acquisition of a capital asset.

It may be noted that productive technologies in the non-farm sector are almost invariably embodied in some capital asset. The same is true for the irrigation component of HYV technology in agriculture. Even when the necessary capital formation for irrigation is undertaken by the State or a private entrepreneur, the small farmers need access to working capital in order to pay for irrigation rent and the cost of fertiliser.

Recent surveys show that the small farmers on the average can cover no more than ten percent of the cost of fertiliser through institutional credit. To meet the rest out of their own fund or by borrowing from informal market is an agonising decision for most of them. As a result, while they do try to fertilise their land as much as they can in the hope of a better future, the level of application per unit of land is distressingly low. As the price of fertiliser has gone up over time, the credit constraint has naturally become even more severe. There is evidence that the farmers have responded by reducing the level of application still further. Similarly, as the cost of irrigation is going up, many farmers previously at the margin of profitability are showing inclination to opt out of irrigation networks [8]. An increasingly hardened credit constraint is thus making the HYV technology more and more inaccessible to the small farmers. Both growth and equity are bound to suffer as a result.

Therefore, the central theme of any programme for distributive justice must be the elimination of credit constraint in both farm and non-farm sectors. Only thus can be ensured a broad-based access to superior technology, which is the essential pre-condition for growth with justice. Otherwise, technological upgradation will merely accentuate existing inequalities by concentrating the fruits of technology to those fortunate few who are rich enough to overcome the credit constraint.

The Grameen Bank approach has made a most promising start in tackling the problem in the non-farm sector. Given however its present scale of operation and its narrow definition of target group, it is yet to make a perceptible impact on the problem of "distribution in the large." Its main role so far has been to transfer an increasingly large number of households from

the domain of 'distribution in the small' to that of 'distribution in the large.' It has done so by giving the assetless an access to productive asset or working capital, thus bringing into the nexus of economic activities many of those who were previously outside or at the fringe of it [3]. This is no mean achievement in an otherwise hopeless situation where almost nothing seems to succeed.

Yet, it is intriguing to note that the Third Five Year Plan, and more so a background document of the Planning Commission (1985), evince a distinctly skeptical attitude to the role of Grameen Bank. While noting its usefulness in organising the poor, the Plan holds it responsible for perpetuating low-yielding 'subsistence' technologies. This contention is based on the finding that the usual rates of return per workday in most of the Grameen Bank projects are less than the wage rate for an unskilled agricultural labourer. But this seems to be a rather curious argument to me. The relevant comparison is not between return in these projects and return elsewhere, but between what the people involved used to do before and what they do now. When a destitute woman gives up fuelwood-gathering to take up 'Dhenki' as her means of livelihood, she obviously makes a transition from a primitive technology to a relatively superior one. True, one would like to see a progressive transition to even higher levels of technology. But anyone familiar with the activities of Grameen Bank will know that such progression has already begun. If the general level of technology is still very low, it is only because it takes time to give the poor an increasingly enlarged access to the more costly technologies. The impatience of our Planners at the persistence of low-level technology is merely symptomatic of their wrong approach to the problem which emphasises the level of technology more than the access to it.

The real constraint to the ability of Grameen Bank to achieve equitable growth in the long run is not technology, but effective demand for the products of non-farm sector. Since farming still provides the bulk of national income, lack of purchasing power in the hands of the peasantry will inevitably create a problem of effective demand and throttle the expansion of non-farm sector. We have argued earlier that as in the non-farm sector so in farming, access to credit is a crucial bottleneck to ensuring a broad-based access to more productive technology. Therefore both for the sake of equitable growth in non-farm sector as well as for its own sake, the provision of credit for the peasantry at large assumes a role of critical importance. Breaking the credit constraint in agriculture can thus be claimed to be the lynchpin of any meaningful programme for distributive justice for the country as a whole.

However, past experience in this regard is not very encouraging. Providing credit to the small farmer has always proved to be a much more intractable problem than similar attempts in the non-farm sector. Despite

many experiments and innovations, the quantum of credit reaching the small farmer is pitifully low. Holdings of one acre or less, which account for nearly one-third of all farms, receive only 3 per cent of institutional credit; per acre of cropped land they receive only one-fifth of credit received by large farmers; and as mentioned before, the pittance they receive is not enough to cover even ten percent of their cost of fertilizer, let alone the other elements of cost. Recent evidence also shows that the 'large farmer bias' of institutional credit is becoming even more prominent over time [8].

In this overall picture of gloom, it is encouraging to note that the Grameen Bank has recently turned its attention to the problem of agricultural credit. But the experiment is still at a nascent stage. More fundamentally, there are believe some intrinsic problems in agricultural credit which cannot but make one skeptic about the possibility of replicating Grameen Bank's success in the non-farm sector.

It may be recalled that two of the most crucial features of the Grameen Bank approach are group responsibility and the system of weekly repayment. It is doubtful if without these two features, the Bank would have been able to maintain a near perfect repayment record, which has really been the foundation of its gathering strength.

Of these two, the system of weekly repayment has however some natural limitations in the agricultural sector. The poor people who are under constant pressure of immediate consumption, find it so much more 'convenient to repay their loans if there is a fairly continuous flow of income. Repayment can then be made regularly out of current income in small instalments, obviating the need for first accumulating and then drawing down a savings balance. Most of the activities in the non-farm sector are in fact of this 'point-input continuous-output' type. In contrast, agricultural operations are more akin to 'point-input point-output' type of investments. Output is harvested at a point of time; and the small farmers are hardly capable of converting a 'point output' into a 'continuous income' by phasing out the sale of crops over an extended period of time. The discipline of weekly repayment in this case is very likely to come up against a very strong time preference for current consumption.

It will be interesting to see how the Grameen Bank approach evolves over time to face this challenge. For the immediate future, however, the problem of agricultural credit remains as intractable as ever.

Recognition of this reality points to the need for devising a second best strategy for easing the credit constraint. Giving subsidy to agricultural inputs is precisely such a strategy. It helps to ease the credit constraint simply by reducing the need for credit.

Unfortunately however, the current trend of public policy in this regard is just the reverse of what it should be. Elimination of subsidy has been a central theme of both sectoral and macro policy framework of the

Government in recent years. The Third Five Year Plan on its part seems curiously ambivalent on this issue. When it discusses the problems of agriculture, it seems to be worried at the consequences of eliminating subsidy; but when it comes to resource mobilisation, elimination of subsidy is declared to be an integral part of future policy.

In view of the central importance we attach to the role of subsidy in fighting the credit constraint, it is necessary to examine the professed arguments against continuation of subsidy. But a detailed examination of this issue is beyond the scope of this paper.<sup>3</sup> The gist of the matter however can be stated quite briefly.

Several arguments have been levelled against subsidy at various times by various people. On the one hand the neoclassical purists have never ceased to point out that input subsidy is detrimental to efficient allocation of resources. But we have argued elsewhere that efficiency itself calls for subsidy when the credit market happens to be imperfect. In any case, allocative efficiency cannot be a decisive criterion when distributive justice is an explicit goal of public policy. Another, more pragmatic, line of argument contends that the small farmers do not enjoy the benefit of subsidy anyway since they have to buy from the open market at unsubsidised prices. It is also argued that input demand is price-inelastic i.e. the benefit of HYV technology is so large that the farmers will not be discouraged by higher prices of inputs. Both these contentions are however refuted by factual evidence.

Finally, it is argued from the macro perspective of resource allocation that subsidy creates an unbearable pressure on the scarce resources of the government which can be best utilised by undertaking more productive investment for agriculture instead of spending it on subsidy. This argument ignores the point that the more productive investments in agriculture need not be financed by withdrawing subsidy. The necessary fund can be raised either by raising additional revenue or by cutting down expenditures in other sectors. Withdrawal of subsidy can be claimed to be the optimum method of financing, only if the social cost of these alternative methods is deemed to be more than the cost inflicted on the peasantry by the hardening of credit constraint. This is not the occasion to enter into a detail examination of the scope of resource mobilisation and expenditure control available to the government. Suffice it to say that even by stretching one's credulity to the limit one will be hard put to accept that there is no expenditure in the non-agricultural sector which cannot be sacrificed for the sake of retaining agricultural subsidy. As for sources of resource mobilisation, we need only point out that much more can be obtained by taxing the rural rich, who are

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3. The issue of pricing and subsidy policies in Bangladesh agriculture is examined at length in [8]. The following discussion draws heavily on this study.

now heavily undertaxed, than can be saved by withdrawing subsidy [4]. As a matter of fact, the combination of input subsidy on the one hand and higher taxes on the rural rich on the other would appear to be the best strategy for achieving equitable growth under the present circumstances of Bangladesh agriculture.

The prevailing policy regime however is singularly detrimental to the cause of equity and also perhaps to growth itself. Under pressure from donor agencies, the Government is relying increasingly on output price support rather than input subsidy as a means of providing incentive to the farmers. Several implications of this policy should be clearly noted. Output price support can in principle ease the credit constraint by ensuring a higher price for the marketed surplus and thus offsetting the effect of a high rate of interest or subjective discount. But it is of no help when the problem of credit appears as a binding quantity constraint. More importantly, it is simply irrelevant for subsistence farmers who do not have marketable surplus and positively harmful to the deficit farmers who are net buyers in the market.

According to some calculations, no more than 30 per cent of the farmers will derive any substantial benefit from an output price support programme [1]. The rest will not only fail to derive any benefit, they will in fact be worse off as the credit constraint gets tightened with the withdrawal of input subsidy. Superior technology will then be concentrated on the lands of the rich alone, while the poor peasants become increasingly marginalised and eventually alienated from land by failing to improve the productivity of their subdivided holdings. This may pave the way for a capitalist transformation of Bangladesh agriculture, but it will hardly be a blueprint for equitable growth.

The proponents of this policy seem to expect that distributive justice can nevertheless be achieved by absorbing the impoverished peasantry in the non-farm sector where superior technology will be made available to them. This is theoretically conceivable, but it is by no means the most efficient strategy. We have seen earlier that the policy makers are more concerned with the level of technology in the non-farm sector rather than the access to it. Even if the question of access is given greater consideration in future it should be clear that the capitalist transformation of agriculture will put a disproportionate burden on the non-farm sector by swelling the labour force seeking a livelihood there. If the non-farm sector is unable to provide productive employment to all of them, then not only will the hope for distributive justice fail to materialise, it will also sap the vitality of capitalist development itself by restricting the effective demand for the products of capitalist farmers. In the end, there will be neither growth nor equity.

If on the other hand the majority of small farmers can be assured access to superior technology on their own land, both farm and non-farm sectors can

share the burden in a more balanced manner. Such a strategy will not only ensure equitable growth in the farm sector, it will also give the non-farm sector a better chance to succeed. It will do so in two ways: first, by minimising the flow of labour into the non-farm sector which is already badly overstretched, and secondly by lessening its burden of providing effective demand for increased agricultural output since a part of the increased output will now be consumed in the household of the small farmers instead of entering the market.

The broad contours of a programme for 'distribution in the large' can thus be defined by the two-pronged strategy of bringing about (1) a peasant-based transformation of agricultural technology with the help of input subsidy,<sup>4</sup> and (2) broad-based access to superior technology in the non-farm sector by breaking the credit constraint of the poor.

### **III. The Political Economy of Feasibility**

I had started with the assumption that the first-best solution of socialist transformation is not a feasible option in the existing political milieu. Implicit here is the notion that the decision making authority is vested directly or indirectly in the hands of those interest groups which stand to lose in the event of such a transformation. These groups are none other than the dominant social classes who thrive on the inequities of the prevailing social order and control the state machinery through various means to perpetuate this order.

The question then inevitably arises: if the dominant classes have the power to maintain their supremacy, on what ground can one expect that they will accede to a programme of distributive justice? Will not the strategy outlined in this paper remain a fanciful dream just as much as the idea of a socialist revolution?

I must confess that I do not have the competence to give a fully satisfactory answer to this question. But I would nonetheless like to venture a few remarks on an optimistic note, for I happen to feel that a sensible analysis of this issue is often nipped in the bud by a kind of naive fatalism.

This fatalism in turn seems to ensue from what I consider to be a naive theory of the State. According to this theory, the State is merely the executive arm of the dominant social class which will not countenance any measure that will improve the lot of the poor. This theory is at fault on two counts: first, there is very often not a single monolithic dominant class but a conglomeration of several dominant classes whose interests may conflict as

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4. This is not to suggest that input subsidy is a sufficient condition for such transformation, but merely to emphasise that it is absolutely necessary if the fruits of technology are to be distributed equitably. Of course, input subsidy will have to be combined with fixed capital formation in the form of irrigation, flood control and marketing infrastructure as well as a higher degree of taxation on the rural rich.

often as they coincide, and secondly, anything that helps the poor need not be against the class interest of the dominant groups.

As an illustration of the second point, consider the redistributive measures that are often undertaken to tackle the problem of "distribution in the small". It will be a distortion of truth to contend that the dominant classes accede to these measures only under political pressure from the underprivileged. Even if one ignores the humanitarian angle, such measures may be in the interest of the dominant groups themselves. This interest is no other than the concern for social stability. The redistributive measures then represent a conscious decision to trade-off a bit of current consumption in order to ensure a more secure consumption in future. The sacrifice involved is not too unlike the one that is involved in the act of saving and investment. The only difference is that while investment raises future income, redistribution prevents a probable fall in future income.

I suspect that the prophets of gloom will not object seriously to the preceding argument, but will quickly point out that redistributive measures will be able to do no more than merely scratch the surface of the problem of 'distribution in the small', not to speak of the much bigger problem of 'distribution in the large'. On that, I entirely agree. Redistributive policy in a massive scale is hardly likely to come forth as a means of 'distribution in the large' even for the sake of social stability. The sacrifice involved in this act may be too large in relation to the rate of time preference of the dominant groups. If the danger of social instability is too daunting, the preferred alternative may be either to resort to draconian repression or to transfer liquid wealth to the secure abode of a far away land.

While this prognosis makes eminent sense, I do not believe that it constitutes an adequate ground for ruling out the political feasibility of all kinds of programmes for distributive justice. It is to be noted that redistribution is essentially a zero-sum game in which the gain of the poor equals the loss of the rich. But not all strategies for distributive justice need be in the nature of a zero-sum game.

We have emphasised earlier that the problem of "distribution in the large" is best tackled by altering the production process so that the underprivileged can share in an enlarged flow of income. When distributive justice is thus pursued in the framework of 'growth with justice', the whole complexion of the game alters. We now have a non-zero-sum game in which the poor can gain without cutting the share of the rich. Indeed the rich may even gain in absolute terms, and if there is no feasible zero-sum game in which they gain more, they may agree to play the non-zero-sum game out of pure self-interest. The programme for distributive justice out-lined in this paper is precisely such a non-zero-sum game; and that is indeed the reason for nurturing some optimism about its political feasibility.

An important question must however be answered at this stage. If a non-zero-sum game exists and it is politically feasible then why isn't it being played by the dominant groups; why has the cause of distributive justice suffered in country after country?

There are several possible answers: (i) lack of awareness about the implications of alternative strategies, (ii) dominant groups are under pressure from their external mentors to toe a particular line, in which case an otherwise non-zero-sum game may have to contend with a different kind of game between external and internal interests, and (iii) conflicting interests of the members of the dominant classes.

The third answer points to the significance of multiplicity in dominant classes mentioned earlier. While a game may be non-zero-sum in the aggregate, not all members of the dominant groups may expect to gain out of it, or at least not equally. The resulting threat to the balance of power may engender a kind of "institutional sclerosis" where progress becomes impossible. Mancur Olson (1982) has analysed in the context of advanced democratic societies how this sclerosis inhibits growth and gives rise to all kinds of economic ills. The same argument may be extended to explain why non-zero-sum games are not played in the developing countries, as much as they should be.

What then becomes of the political feasibility of a programme for distribute justice? Obviously, feasibility depends on whether the balance of power can be tilted in favour of those members of the dominant group who are likely to gain the most if the game is played. What is then needed is a disequilibrating force. Mancur Olson emphasises the role of external factors, such as war, in disequilibrating the existing balance of power. But it is also conceivable that internal forces such as conscious political action on the part of the subjugated class may also be able to bring about a disequilibrium in the desired direction. The objective of such political action would be to form a marriage of convenience between those members of dominant and dominated classes who stand to gain by playing a non-zero-sum game.

Such marriages of convenience across class formations are not unknown in history. Two episodes in the era of Industrial Revolution are sometimes cited as outstanding examples. The emerging British bourgeoisie joined hands with the urban proletariat to repeal the Corn Law in order to gain an edge over the landowning class who stood to lose if the law were to be repealed. The proletariat expected to gain from a lower price of food, and the bourgeoisie from the cheapening of labour as a result of lower price of wage-goods. Subsequently however, the landowning class backed the proletariat in their struggle over 'Poor Law' and factory reforms which went against the interest of the bourgeoisie.

These two episodes exemplify that marriages of convenience not only occur which may benefit the poor, but also it is possible to switch partners turning one against the other to suit their convenience. The success of this strategy depends on a correct identification of the gainers in a game as well as the existence of a political organisation of the poor which can form the necessary alliance. These are precisely the conditions for success of the programme of distributive justice outlined in this paper.

But now I am really beginning to stretch my competence beyond the tolerance level. So I shall stop at this point and try to summarise the main contentions of the paper.

#### **IV. A Summing Up**

There are two kinds of distribution problem. One, the problem of 'distribution in the small', necessarily calls for redistributive measures. The success of such measures depends on having a strict and narrow definition of the target group. In contrast, the more important problem, namely the one of 'distribution in the large' can only be resolved by altering the production process, if the more radical solution of changing the ownership of means of production has to be ruled out on political ground.

The essence of changing the production process is to ensure that underutilised labour can share in a growing flow of income. Growth is necessary not only for improving the distribution of income, but also to make sure that it does not get worse.

However, growth and distribution are not one and the same problem. Distributive justice can be achieved only through an appropriate pattern of growth.

An appropriate pattern of growth may in turn be defined as a process in which labour can increase its productivity through technological upgradation and retain command over the gain in productivity. The retention of command requires that the workforce have ties. If the means of production cannot be socialised nor can be redistributed to the poor, then at least it should be ensured that they can hold on to whatever assets they have as well as share in the ownership of new capital assets. Otherwise, technological upgradation will only accentuate existing inequalities instead of meeting out distributive justice. A broad-based access to superior technology is therefore the crucial issue.

The chief impediment to the process of creating a broad-based access to superior technology, in both farm and non-farm sectors, is the constraint of credit. The Grameen Bank approach has made a commendable beginning in tackling the problem of credit in the non-farm sector. But the problem of

credit for the small farmers remains as intractable as ever. The extension of Grameen Bank approach to the agricultural sector has certain natural limitations arising from the peculiarities of production process in agriculture. In any case, such an extension is still largely in the future.

Meanwhile, giving subsidy on agricultural inputs remains the second-best strategy of easing the constraint of credit and hence of achieving the goal of equitable growth. The alternative strategy of providing output price support and eliminating input subsidy, a policy currently in favour with the Government, is more suitable for a capitalist transformation of agriculture; but it does not constitute a blueprint for equitable growth. In fact, it may end up with neither growth nor equity.

A programme for distributive justice in Bangladesh should therefore be based on the two-pronged strategy of bringing about (i) a peasant-based transformation of agricultural technology with the help of input subsidy and (ii) broad-based access to superior technology in the non-farm sector by breaking the credit constraint of the poor.

This is admittedly a second best strategy compared to the first best solution of socialising the means of production and distributing fruits according to work. But it has a much better chance to succeed in the prevailing political milieu. The essential feature of this strategy is that it is a non-zero-sum game in which the gain of the poor need not come at the cost of the rich.

However, not all members of the dominant classes are likely to gain from this non-zero-sum game, not to the same extent at any rate. The success of the programme will therefore depend in the ultimate analysis on forming an effective alliance between the underprivileged and those components of the dominant group who stand to gain most. Political action is thus an essential ingredient of this programme, as it must be for any programme for the benefit of the poor. The major virtue of the proposed strategy is that the requisite political action is rooted more firmly in the realm of short-run feasibility than in the case of more radical options.

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# Planning for the Poor

By MUHAMMAD YUNUS \*

## 1.0 Introduction

When someone makes an attempt to write a paper on "Planning for the Poor" he may have either of the following two things in mind: a) he may feel that in addition to normal planning exercise something extra needs to be done to address the question of poverty; or b) he may feel that there are two mutually exclusive kinds of planning: planning for the poor, and planning for the non-poor; and wishes to discuss the issues relating to the first type of planning. This paper, to clarify the position at the outset, attempts to do exactly that.

Poverty is, and should be the central issue of any planning exercise in Bangladesh. Planning for Bangladesh means planning for the poor. I don't see how it can be otherwise.

## 2.0 Development Needs to be Redefined

To make sure that the issue does not slip away from the attention of the planners, I have been pleading for long to define 'development' more precisely to fit this specific purpose. I argue that 'development' should be defined as positive change in the economic status of the bottom fifty per cent of the population. If an effort fails to improve the economic condition of the bottom fifty percent of the population, it should not qualify to be categorised as development effort. In other words, if I am looking for a measurement of economic development, I'll be looking for the per capita real income of the bottom half of the population, not the national per capita income.

Elimination of poverty in the most direct manner should be recognised as the prime task of any planning exercise in Bangladesh.

While deciding whether a large sports complex or road building project, or power plant, or bridge construction project should be included in the Plan or not, the basic question which needs to be answered every time is: Will the project improve the life of the bottom half of the population better and faster than any other alternative project?

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### **3.0 Plan, Project and People**

Every time a Plan is produced we keep coming up with the complaint that it is nothing but a directory of foreign – fund, most – often, donor-initiated projects. Projects are essential part of a plan. What is so painful about it is that Plan which takes so much care about displaying details of projects, has very little information to offer regarding the people for whom these projects are designed.

We are told that the Third Plan specifically looks into this issue and divides the entire population into ten social classes. I congratulate the Planning Commission for introducing this aspect in the Planning exercise. I only wished that they had listed the income growth they desired for each social class during the plan period with bench-mark per capita income in each class. I also wished that they had assigned the priority in the reverse order of the position people hold in the social class (or income-scale); the lower you are, the higher the priority you get in getting resources, programmes and attention. If you are in the bottom-most social class, you should get the highest attention of the Plan ensuring the fastest rate of planned income growth relative to all other social classes.

Having set this objective the planners then could have moved to find or design institutions and projects to achieve this objective.

I doubt if the planners had followed these steps in that order. As our experience goes, actual planning takes place in the reverse order: projects come before the consideration of the people. As long as this procedure will continue the poor will have no chance. They will be discussed in the Plan as a sub - subject to soothe the feeling of those who are in the habit of looking for some kind words in the Plan about the poor.

### **4.0 New Methodology Needed**

Poverty is not a parade of statistics to overwhelm the reader. Although there are striking similarities in the faces and bodies of the people in the Nazi concentration camp and the mal - nourished people in the third world countries, the two situations are not at all same. Poverty is a way of life for a huge segment of human population who have learned to accept and live with it. It is a disease which has a paralysing effect on mind and body. It is like being surrounded by high walls around you. Planning for the poor does not mean throwing in something to make the people inside have a meal or two. Planning for the poor must help people to gather will and strength to make efforts to make cracks in the wall around them.

In the quick succession of development strategies within a shortspan of time it was rather easy to switch from the rhetorics of urbanisation-industrialisation strategy to that of poverty-focused development strategy, but the process of transition is much more painful and slow when it comes to switching the analytical tools, methodology, management and implementation machinery of the earlier variety of planning.

Most often structural resistances to poverty-focused planning are over-played by the planners, programme-designers and executives to detract the attention from their own deficiencies. Weakness in methodology, design and implementation machinery are phenomenal. Most of these programmes can be improved substantially in terms of effectiveness if a new analytical framework supported by appropriate institutional arrangements is introduced.

## 5.0 The Poor

While a serious concern is expressed regarding poverty, nobody seems to feel any urge to take time out to figure out with sufficient clarity who the "poor" are. Conceptual vagueness has done great damages in the formulation of a poverty-focused Plan. When a basic concept lacks sharpness in its definition it can lead to strange situations. Quite frequently one will encounter in literature where 'rural' and 'poor' are being used interchangeably. Another common practice is to talk about 'small' or 'marginal' farmer with the firm belief that small/marginal farmer is a synonym for the poor. 'Poor' may or may not include small/marginal farmer. It will depend on the definition decided upon before the analysis began. But in any case the 'poor' is a much larger collection of people than the small/marginal farmer alone even if they are included by definition. In Bangladesh half the population are poorer than marginal farmers.

In any case, it is conceptually unwise to identify a particular occupational group, such as farmer, as representing totality of the poor. Farming in Bangladesh is a male occupation. As soon as we start substituting the word 'farmer' for the 'poor', our thinking process gets drawn into exclusively male issues. One blissfully forgets about the existence of the other half of the population i.e. the women. If they are remembered at all, it is always done in their role as minor helpers of the all-important male members of the household. It is unavoidably distracting and damaging for any development programme.

Instead of identifying occupation or location (region) to define the poor, a conceptually safer policy would be to do it by income-asset criterion. It would be analytically useful to identify several levels of

poverty, such as : P1 (i. e. say, bottom 25 percent of population), P2 (bottom 50 per cent), P3 (population below the poverty line).

Within each category of poor, there may be sub-classification on the basis of region, occupation, religion, sex, age-group, etc. With these classifications and sub-classifications one can build up a multidimensional poverty matrix. Each element in this matrix would indicate a set of specifications for a particular category of poor. Planners must know which set of elements in this poverty matrix they are designing the projects and programmes for. Institutions, programme and strategy will be greatly different depending upon the target elements.

Theoreticians sometimes stretch this issue about definition to such a limit that it becomes an exercise in hair – splitting. In this paper we are not arguing for a sharp definition to achieve some theoretical perfection, but it is being done for the sake of achieving operational strength. Society does not provide a sharp line between poverty and non-poverty. Unless firm demarcation lines are laid out for easy guidance of the planners and the executives, it would be very easy for them to slip off from poverty zone to deep into non-poverty zone without ever realising it.

Definitions are like navigational markings in unknown waters. They need to be distinctive and unambiguous. Any definition which is not clear and precise, will be as bad as having no definition at all. If it is felt that benefits of a project or a programme should go to the poor, then it is imperative that one has a clearly defined boundary line so that it becomes easy to recognise the leakages. Any doubts or confusion in recognising the border line will erode the strength of the programme/project.

## **6.0 Institutions for the Poor**

Objectives like improving the economic condition of the poor can be achieved only through designing and operationalising of appropriate institutions. We are good at pointing this out, but our record in doing something about it is extremely poor.

To reach the poor specialised and exclusive institutions need to be built in all sectors. Institutions which are open to 'everybody' hardly serve the interest of the poor. Non-poor usually take-over these institutions. Something like Gresham's Law operates here: Non-poor always drives out the poor, if they are allowed to play the free-competition game.

Existing institutions, either by design or through evolution, have become instruments in the hands of the powerful to help them acquire more and more power. Nobody questions how it all happened that

way. Rather, one is quick to blame the persons who fail to utilise the services of these institutions.

Take the case of credit institutions.

They have obstinately stayed with the rich. The poor, who have been borrowing for ages from the moneylenders at ten percent per month/week/day interest rate, are of no concern for the credit institutions. We shrug off the whole matter by explaining that a bank needs collateral, but the poor cannot provide collateral. What can the banks do for them ?

In other words banks must stay the way they are. People have to change to fit into them. Not the other way around. A bank is a bank, What else do you expect ?

Interestingly, nobody takes the position that a boat is a boat. There is a boat which cruises well in the inland river, but absolutely unreliable in the open sea. So we have constructed different kinds of boats—each one performs extremely well for the purpose it is built. Why can't we think of the institutions that way ?

Local government is the most vital institution which deserves the serious attention of the planners. The smaller the unit of local government, the more the poor have chances to get their voice heard and effectively participate in the decision-making.

I have been pleading for "Gram Sarkar" for years now. One of the leading arguments in favour of Gram Sarkar is its smallness, and closeness to the reality. With mandatory representation of the poor in this local self-government body, the poor may gradually play an effective political role in their villages.

Upazila is a step in the right direction. But it has not gone far enough. With the institution of Gram Sarkar in the villages, and the provision for mandatory representation of the poor in the Upazila Parishad we can build up an effective local self-government network.

## 7.0 Resources for the Poor

Poverty is not caused by a person's unwillingness to work hard or lack of skill. As a matter of fact, a poor person works very hard — harder than others—and he/she has more skill and time than he/she can use. He languishes in poverty because he does not receive the full worth of his work. Under the existing social and economic institutional arrangements someone else always comes in-between and skims off the income that was due to him. The existing economic machinery is designed in such a way that it allows this process of grabbing to continue and gather strength every day, so that the earnings of others

can make a handful of people richer every day and turn a large number of people into paupers.

A poor person cannot arrange a larger share of return for his work because his economic base is paper-thin. If he can gradually build up an asset-base he can command a better share for his work.

Land to the landless will help build this base. Arguments for land reform are well-known and well-established. There are other forms of assets which will improve his economic situation. Credit, for example. It is a liquid asset. The recipient of credit can decide which particular tangible form he will convert his asset into. Best of all, credit is something that a nation can generate at a rate commensurate with its requirement.

With financial resources at his disposal, an individual is free to build his own fate with his own labour. Nothing can match the spirit of a free human being.

While we are on the subject of credit, I wish to draw attention to another very pressing matter in this connection. Role of credit has not been properly appreciated in the economic theory. It has been assigned only a secondary or even tertiary role, as a facilitator of trade, commerce and industry. But isn't credit much more than mere facilitator? Credit bestows economic power to its recipient. It gives instantaneous authority to the recipient to exercise command over any resource. Entitlement or access to credit has great socio-political implications in any society. Credit can be used as a very effective tool for deciding who should be getting what in the society. Allowing the recipients of credit to get away without paying it back, has the same implication as allowing a person to forcibly occupy somebody else's property with complete impunity.

But somehow our society has persuaded itself not to view the matter that way. Here people achieve fame and glory by not repaying large sums of bank loans and become more powerful and respectable. I hope some day our researchers will analyse and find out who gets what from our credit institutions and at what cost to the society for its ambivalence. We have stacks of information on land-ownership, but, surprisingly, we have hardly any information on who has how much credit and its growth pattern.

## 8.0 Mere Employment Does not Resolve It

Many suggest generation of employment as the solution to the problem of poverty. Employment does not by itself remove poverty. Unless designed properly, employment can turn into a handle to perpetuate poverty. Employment may mean being condemned to a life in squalid city slums or working for two meals a day for all his life.

Removal of poverty must be a continuous process of creation of assets for the poor at a steady rate. Poor people know what they must do to get out of the rut. But the people who make decisions at the top refuse to put faith in their ability.

### 9.0 Investing on the Poor Makes Economic Sense

Planners who place the growth issue at the central place in all their thinking find it difficult to allow resources to be placed on poverty-focused programmes, which they classify as having very low contribution to economic growth.

This view needs to be challenged. This conclusion is based on wrong economic stipulations. Improvements in the economic position of the poor have more growth potentials than they are credited for.

To illustrate the point one can draw attention to the fact that the increase in the income of the non-poor tend to be spent on imported goods, and urban industrial products, pushing the economy more and more towards external dependence for consumer goods, and creation of a technological regime which has roots in advanced countries. This economic and technological dependence set the forces in action which ultimately destroy the inner strength of the economy.

In contrast to this, any improvement in the income of the poor generates demand for goods and services produced within their own neighbourhoods, mutually supporting the various traditional occupational group. This creates an environment for higher economic activity for everybody around. A sustained programme of supporting the increased income for the poor can generate forces which may initiate a self-reliant, expanding economic system.

Once activated, millions of small people in this country with their millions of pursuits can create the biggest economic wonder. But how does one activate them ?

Does anybody have a Plan ?

## বাংলাদেশের দারিদ্র – সমস্যা ও সমাধান

মুশাররফ হোসেন \*

এটা অনস্বীকার্য যে দারিদ্র শব্দটি ভাবাবেগের উদ্দেক করে। দারিদ্র হওয়া যে বাঞ্ছনীয় নয় এটা যে কোন মানুষের পক্ষেই স্বীকার করার ক্ষেত্রে কোন বাধা নেই। তবে দারিদ্রের কারণ নিয়ে মতভেদের অবকাশ রয়েছে। কেউ বলবেন যে দারিদ্র ভাগ্যের লিখন, কেউ বলবেন যে এটা ব্যক্তিগত চেষ্টার অভাব বা চারিত্রিক দুর্বলতার ফল আর কারো কারো মতে এটা সামাজিক ও অর্থনৈতিক প্রক্রিয়ার ফলাফল। এ নিয়ে ঐক্যমত প্রতিষ্ঠার চেষ্টা করা বাতুলতা ছাড়া আর কিছু নয়। তবে কোন দেশে দারিদ্রের প্রকোপ বৃদ্ধি পেলে যে সামাজিক স্থিতিশীলতা বিপন্ন হয় ও উন্নয়ন প্রচেষ্টা ব্যাহত হয় এটা মনে রেখেই এখানে আমার বক্তব্য রাখার চেষ্টা করব।

আমরা যারা আজ এখানে উপস্থিত রয়েছি তারা সবাই অর্থনীতির ছাত্র। যে ব্যাপারে আমরা আলোচনা করব সেখানে একটা সর্বজন গ্রাহ্য সংজ্ঞা না থাকলে আলোচনা অর্থহীন হয়ে পড়ার সম্ভাবনা রয়েছে। কিন্তু সমাজ বিজ্ঞানীদের মধ্যেও দারিদ্র সম্বন্ধে একটা স্বচ্ছ ধারণা রয়েছে বলে মনে করার কারণ দেখছি না। অর্থনীতি, রাজনীতি, সমাজকর্ম, সমাজতত্ত্ব, শাসন-ব্যবস্থা প্রভৃতি বিষয়ের ছাত্ররা যখন দারিদ্র নিয়ে কথা বলেন তখন তারা একই সূচকগুলোর উপর গুরুত্ব আরোপ করেন না। বাজার ভিত্তিক উন্নত দেশগুলোতে অধিকাংশ সমাজ বিজ্ঞানীদের মতে দারিদ্র একটা আপেক্ষিক (relative) ঘটনা এবং পরম বা (absolute) কিছু নয়। কিন্তু আমাদের মত উন্নয়নশীল দেশে দারিদ্র পরম বা (absolute) বলেই অনেকে মনে করেন। যেখানে দেশের অধিকাংশ মানুষ খাদ্যাভাবে অভুক্ত বা অর্ধভুক্ত থাকতে বাধ্য হচ্ছেন এবং বাসস্থান, বস্ত্র, শিক্ষা, স্বাস্থ্য ও সংস্কৃতিগত দিক দিয়ে বঞ্চিত জীবন যাপন করতে বাধ্য হচ্ছেন সেখানে দারিদ্রকে একটা আপেক্ষিক সামাজিক ঘটনা হিসেবে বিবেচনা করা হৃদয়হীনতা বা সামাজিক চিন্তা ও চেতনার অভাবের ফল বলেই এ দেশের অনেক সমাজবিজ্ঞানী মনে করবেন। কিন্তু আমরা অনেকেই নিউক্লিয়ার শিল্প এমন ভাবেই গ্রহণ করেছি যে ভাবাবেগ বর্জিত যুক্তি ছাড়া আর কিছুই আমাদের মননশীল সত্ত্বাকে তৃপ্ত করতে পারে না। তাই যা হৃদয় দিয়ে অনুভব করি তাও নিউ ক্লিয়ার যুক্তি দিয়ে উপস্থিত করতে না পারলে আমরা স্বস্তি পাই না।

কদিন আগে স্লারেন্স মালোনির বাংলাদেশে দারিদ্রের ওপর একটা লেখা পড়ার সুযোগ হয়েছিল। তিনি প্রায় এক যুগ এদেশে কাটিয়ে দেশে ফেরার আগে এদেশে দারিদ্র অবসানের অভাবের কারণগুলো নিয়ে আলোচনা করেছেন। তাঁর মতে আমাদের দেশে দারিদ্র বেড়েছে না সাধারণ মানুষের আয় ব্যয়ের ক্ষেত্রে পরিবর্তন সূচিত হচ্ছে এটা ভেবে দেখা দরকার। পৃথিবীর সব উন্নয়নশীল দেশেই গত কয়েক দশকে উল্লেখযোগ্য পরিমাণে উৎপাদন ব্যবস্থা সম্প্রসারিত হয়েছে। তাই পূর্বে যে সব দেশগুলোকে মাথাপিছু উৎপাদন বা মাথাপিছু আয় ও ব্যয়ের দিক থেকে আমাদের সমস্যা মনে হতো এখন দেশগুলো আমাদের চাইতে অনেক বেশী এগিয়ে গেছে বলেই মনে হচ্ছে। সেই কারণেই যেখানে দারিদ্র সম্বন্ধে আমাদের আগে যতটা মাথাব্যথা ছিল এখন তার চাইতে অনেক বেশী হয়েছে। এ দেশ বাসীরা জনসংখ্যা বাড়ার

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সঙ্গে সঙ্গে ঐতিহ্যগত দিক থেকে প্রয়োজনীয় দ্রব্যসামগ্রী উৎপাদন বাড়িয়ে চলেছেন এবং মোটামুটি ভাবে ভোগ্য বস্তুর দিক থেকে আমরা আগের দশকগুলিতে যে স্থানে অবস্থান করছিলাম এখন তার দিক থেকে খুব একটা পিছিয়ে নেই। মালোনীর মতে বাংলাদেশের মানুষরা তাদের প্রাকৃতিক সম্পদকে অটুট রেখে ও পরিবেশকে কলুষিত না করে যে ভাবে পরিবর্তিত অবস্থায় নিজেদের আর্থিক ও সামাজিক ব্যবস্থা বজায় রেখেছেন, তা success story বা সাফল্যের নিদর্শী হিসেবেই বিবেচনা করা যায়। তাঁর মতে দারিদ্র সত্ত্বেও আমাদের সাধারণ মানুষের জীবনে রূপ ও রসের অভাব নেই। তবে তিনি স্বীকার করেছেন যে চারটি সূচক বিবেচনা করলে আমাদের অবস্থা ভয়াবহ হচ্ছে এটা অনস্বীকার্য। এগুলো হচ্ছে (ক) জনসংখ্যা বৃদ্ধির উচ্চ হার (খ) প্রকৃত মজুরী হ্রাস (গ) পুষ্টির নিম্নগতি ও (ঘ) শিক্ষার বৃদ্ধির ক্ষেত্রে উর্ধ্বগতির অভাব। মালোনীর বক্তব্যের মধ্যে একটা আপাতঃ বিরোধীতা দেখা যায়। তবে দেশের বর্তমান নৈরাজ্যজনক অবস্থায় তিনি হয়তো দেশের চিন্তাশীল ব্যক্তি, সরকার ও সাহায্যদানকারী প্রতিষ্ঠানগুলোর কর্মচারীদের মধ্যে আশাবাদ সৃষ্টি করার মানসেই তাঁর বক্তব্য রেখেছেন। তাঁর সংগে একমত না হলেও তাঁর কথাগুলো বিবেচনার অপেক্ষা রাখে বলেই আমি মনে করি।

সাম্প্রতিক কালে বাংলাদেশে গ্রামীণ দারিদ্রের উপর দুটো রিপোর্ট তৈরীর সংগে সংযুক্ত থাকার সুযোগ আমার হয়েছিল। প্রথম রিপোর্টটির প্রকাশনার দায়িত্ব কানাডার নর্থ-সাউথ ইনস্টিটিউটের এবং দ্বিতীয়টি জেনেভায় অবস্থিত UNRISD এর সহায়তায় লেখা হচ্ছে। দ্বিতীয়টির কাজ এখন সমাপ্তির পথে। প্রথম রিপোর্টটি লিখিত হয়েছে আমাদের সাহায্যকারী পাঁচটি দেশের যথা সুইডেন, ডেনমার্ক, নরওয়ে, ইংল্যান্ড ও কানাডার আমন্ত্রণে। আমাদের দেশের কয়েকজন অর্থনীতিবিদ ও আরও কয়েকটি দেশের সমাজবিজ্ঞানীরা এই রিপোর্ট তৈরীর ব্যাপারে অংশ গ্রহন করেছেন। এই রিপোর্ট প্রণেতাদের মতে দারিদ্র সম্বন্ধে একটা সর্বজনগ্রাহ্য সজ্ঞা না থাকা সত্ত্বেও এটা অনস্বীকার্য যে এদেশে বঞ্চিত মানুষদের পূর্ণ (absolute) সংখ্যা ও সমগ্র জনগণের তুলনায় তাদের আপেক্ষিক হারের পরিমাণ গত বিশ বছরে উল্লেখযোগ্য ভাবে বৃদ্ধি পেয়েছে। প্রাপ্ত তথ্য থেকে দেখা যাচ্ছে যে পুষ্টিহীন ছাড়াও অন্যান্য কতকগুলো সূচক বিবেচনা করলে দারিদ্রের প্রকোপ বৃদ্ধি সম্বন্ধে কোন বিতর্কের অবকাশ থাকে না। জাতিসংঘের একটি জরীপে দেখা যায় যে পঞ্চাশ দশকের গোড়ার দিক থেকে সত্তর দশকের মাঝামাঝি পর্যন্ত সময়ে জনসংখ্যা বেড়েছে ষাট ভাগের বেশী কিন্তু বাসস্থানের জমির পরিমাণ বেড়েছে মাত্র শতকরা দুই ভাগ অর্থাৎ মাথাপিছু বাসস্থানের আয়তন অত্যন্তপ্রকট পরিমাণে কমে গেছে। বৃহত্তর বঞ্চিত জনগোষ্ঠীর খাদ্য, বাসস্থান, শিক্ষার নিম্নগতি ও দারিদ্রজনিত অসুস্থতার অপরিবর্তিত অবস্থা পর্যালোচনা করলে এদেশে দারিদ্রের ব্যাপকতা সম্বন্ধে কোন সন্দেহের অবকাশ থাকে না। রিপোর্টটির প্রণেতাদের মতে দারিদ্র সামগ্রিক বা মাথাপিছু তথ্য দিয়ে বিচার না করে বিভিন্ন সামাজিক শ্রেণী বা গোষ্ঠীগুলোর আয় ও ভোগের ব্যাপারে আলাদা করে দেখলেই শৃঙ্খল সমস্যার গভীরতা উপলব্ধি করা সম্ভব।

দারিদ্র বৃদ্ধির ব্যাপারটা বিশ্লেষণ করতে গিয়ে রিপোর্টে বলা হয়েছে যে ভূমিহীনতা ও বেকারত্বের দ্রুত বৃদ্ধি সমস্যাকে আরও জটিল করে তুলছে। প্রাপ্ত তথ্য থেকে দেখা যায় যে দেশে মেরুকরণ প্রক্রিয়া আরও জটিল আকার ধারণ করেছে। অতএব বন্টন ব্যবস্থায় সাম্যের অভাবের ফলে, যার কারণ খুঁজে পাওয়া যাবে জমি ও অন্যান্য উৎপাদন শক্তির মালিকানা ব্যবস্থার মধ্যে, আজকে বাংলাদেশে বিশেষ করে গ্রামাঞ্চলে পরম (absolute) দারিদ্র বেড়েই চলছে। রিপোর্ট এ ও বলা হয়েছে যে বর্তমানে সরকার যে সব উন্নয়নমূলক নীতিমালা বা কর্মকান্ড গ্রহণ করেছেন বা যে সব কর্মকান্ডের জন্যে সাহায্যদাতারা অর্থ যোগান দিচ্ছেন তার

ফলে দেশের বৃহত্তর জনগোষ্ঠীর বিশেষ ফল লাভ করতে সক্ষম হচ্ছে না। সরকারী কর্মকান্ডে দরিদ্র জনসাধারণদের কোন রকমে বাঁচিয়ে রাখার ব্যবস্থা করা ছাড়া আর কোন চিন্তা রয়েছে বলে মনে হয়না। রিপোর্ট প্রণেতাদের মতে সম্পদ জনগণের নাগালে না আসলে মাথাপিছু উৎপাদন উল্লেখযোগ্য ভাবে বৃদ্ধি না পেলে, কর্মসংস্থান ব্যবস্থা সম্প্রসারিত না হলে স্বাস্থ্য ও জনসম্পদের উন্নয়ন সাধিত না হলে দারিদ্র নির্মূল করা সম্ভব নয়। নীতিমালা ও সরকারী কর্মকান্ড গ্রহণের সময় দরিদ্র জনগণের সমস্যাগুলোকে সুস্পষ্টভাবে সামনে রেখেই এগুতে হবে। অর্থাৎ trickle down effect এর ওপর ভরসা করে লাভ নেই। যারা এতদিন ধরে কতকগুলো বিশেষ ধরনের চিন্তা ও চেতনারবশবর্তী হয়ে কর্মকান্ড গ্রহণ করতে অভ্যস্ত ছিলেন তাদের পক্ষে উপরোক্ত বক্তব্য মেনে নেওয়া সহজ নয়। অনেকেই বক্তব্যের সারমর্মের চাইতে এযুক্তি ও তথ্যের ভিত্তিতে এবং যে পদ্ধতি (Methodology) অবলম্বন করে বক্তব্য রাখা হয়েছে তার উপর কটাক্ষ করতে প্রয়াস পেয়েছেন। আজকে এটা অনস্বীকার্য যে তথ্যগত দুর্বলতা এ দেশে স্বাধীনতা পূর্বকালের চাইতে অনেক বেশী পরিমাণে প্রকট হয়েছে। দ্রব্যমূল্যের দ্রুত উর্ধ্বগতি সরকারী কর্মচারীদের জীবন যাত্রার মান নামিয়ে এনেছে যার ফলে তাদের কাজে উৎসাহ হ্রাস পেয়েছে ও সরকারী অফিসের কমতৎপরতা ও শৃংখলা দারুণ ভাবে বাহত হয়েছে। তথ্য সংগ্রহকারী বিভাগের নেতৃত্বের দুর্বলতা ও দক্ষতার অভাব অবস্থা আরও সংগীণ করে তুলছে। যেহেতু এদেশে কর্মে অসহযোগীতার জন্যে চাকুরীচ্যুতি বা অন্য কোন শাস্তি বিধান করার উপায় নেই বললেই চলে বিভিন্ন অফিসে সেইহেতু পরিদর্শন ও ব্যবস্থাপনার দায়িত্বে নিযুক্ত কর্মকর্তারা তাদের অধীনস্থ কর্মচারীদের খেয়াল খুশীমত কাজ করতে দিতে অভ্যস্ত হয়ে পড়েছেন। ফলে গ্রামাঞ্চলে এমন কি শহরের সংগঠিত প্রতিষ্ঠান গুলো থেকেও যথারীতি তথ্যসংগ্রহের ক্ষেত্রে প্রচুর সমস্যা দেখা দিয়েছে। ফসল উৎপাদনের পরিমাণ বিভিন্ন স্থানে কয়েকটি জমির উৎপাদনের অবস্থা থেকেই মোটামুটিভাবে বিবেচনা করা যায়। কিন্তু কোন বছর কত জমিতে কি ধরনের ফসল লাগানো হচ্ছে এটা জানার জন্যে অত্যন্ত যত্ন সহকারে জরীপ না করলে প্রকৃত তথ্য জানা সম্ভব নয়। অতএব আজকে বাংলাদেশে আর্থসামাজিক অবস্থা কোন পর্যায়ে এসে দাঁড়িয়েছে এটা সরকারী পরিসংখ্যান থেকে জানা সত্যই দুষ্কর। কতকগুলো বিষয়ে একবার জরীপ চালিয়েই মোটামুটি ভাবে গ্রহণযোগ্য তথ্য সংগ্রহ করা যায়। কিন্তু বিভিন্ন শ্রেণীর পারিবারিক, বাৎসরিক আয় ও ব্যয়ের হিসাব সঠিকভাবে সংগ্রহ করার জন্যে এত ঘন ঘন তথ্য সংগ্রহ করা প্রয়োজন এবং সংগ্রহকদের এতটা দক্ষতা ও কর্মে আসক্তি প্রয়োজন যে সরকারী পরিসংখ্যান বিভাগের পক্ষে তা করা সম্ভব নয়। অতএব যে তথ্যের ভিত্তিতে আমরা দেশে আয় বন্টন ব্যবস্থার ওপর বক্তব্য রাখি বা মেরুক্রম প্রদান করি তা সন্দেহাতীত নয়। তাই দারিদ্র সম্বন্ধে আমাদের মতামত ভাবাবেগ বা সীমিত ব্যক্তিগত অভিজ্ঞতার ওপরই প্রতিষ্ঠিত বলে কেউ কেউ মত প্রকাশ করেন।

যারা দারিদ্র সম্বন্ধে আমাদের বক্তব্য মানতে রাজী নন তারা তাদের স্বপক্ষে যুক্তি হিসেবে কতকগুলো তথ্য উপস্থিত করে থাকেন। এটা অনস্বীকার্য যে গত পঞ্চাশ বছরে বাংলাদেশে আয়ুসাল বা life expectancy অনেক বেড়েছে। দেশে পানীয় জল সরবরাহের ক্ষেত্রে নাটকীয় পরিবর্তন সাধিত হয়েছে। UNICEF এর কল্যাণে বাংলার গ্রামে গ্রামে জনগণ দূষিত জলের পরিবর্তে প্রায় সারা বছর টিউব ওয়েলের পরিষ্কার জল পান করার সুযোগ পাচ্ছেন। ফলে পেটের পীড়া এবং নানান রকম অসুখ বিসুখের প্রকোপ কমেছে। টিকা দেবার ব্যবস্থা ও জন স্বাস্থ্য বিভাগের কর্ম সম্প্রসারণের ফলে দেশে মহামারীর প্রকোপ হ্রাস পেয়েছে। এর ফল স্বরূপই life expectancy বেড়েছে। দেশের প্রত্যন্ত অঞ্চলে খবরের কাগজ, রেডিও এবং টেলিভিশনের প্রচলন হওয়ায় জনগণ স্বাস্থ্য রক্ষার ব্যাপারে অনেক

বেশী জ্ঞান অর্জন করতে সক্ষম হয়েছেন এবং যতদূর সম্ভব তদনুযায়ী জীবন যাপন করতে তৎপর হয়েছেন। দ্বিতীয়তঃ দেশের যোগাযোগ ব্যবস্থারও নাটকীয় পরিবর্তন সাধিত হয়েছে। রাস্তাঘাট ও চলাচল ব্যবস্থার উন্নতি ও শহর গুলোর ব্যাপক সম্প্রসারণের ফলে শুধুমাত্র দ্রব্য সামগ্রীর আদান প্রদানই বাড়েনি অনেকেই তাদের পৈত্রিক বাসস্থান ত্যাগ করে তাদের কাছে শ্রেয় নতুন স্থানে গিয়ে বসবাস করছেন। গ্রামে দরিদ্র জনগণ শহরে গিয়ে কাজ করে খাবার সুযোগ পাওয়ার ফলে গ্রামের গতিহীন জীবনের দুঃখ কষ্ট আর তাদের পোহাতে হচ্ছেনা। দেশের মেয়েরাও এখন অধিক সংখ্যায় শিক্ষা গ্রহণ করতে এবং অর্থ উপার্জন করতে তৎপর। অতএব তাদের মতে দেশের সামাজিক ও অর্থনৈতিক ক্ষেত্রে একটা গতিশীল অবস্থার সৃষ্টি হয়েছে। যা পরিসংখ্যান বিভাগের দুর্বলতার জন্য পরিষ্কার ভাবে পরিস্ফুটিত হচ্ছে না।

উপরোক্ত বক্তব্যকে স্বীকার করে নেবার পরেও প্রশ্ন থেকে যায় যে, আজকে কি বাংলাদেশের বৃহত্তর জনগোষ্ঠীর জীবন ধারণের নিম্নতম প্রয়োজন মিটাতে সক্ষম? গ্রামীণ ব্যাংক, স্বনির্ভর এবং সমবায় প্রথার মাধ্যমে বাংলাদেশের গ্রামে গঞ্জে অনেকেই নানান রকম কর্মকান্ডে লিপ্ত হয়ে আয় বাড়াতে সক্ষম হয়েছেন এবং আগের চাইতে উন্নততর জীবন যাপন করতে সক্ষম হচ্ছেন। কিন্তু এটা ভুললে চলবেনা যে বাংলাদেশে প্রতি বছরে প্রায় পাঁচশ লক্ষ করে জনসংখ্যা বৃদ্ধি পাচ্ছে। এদের মধ্যে প্রায় আট লক্ষ প্রতি বছর কর্মপ্রত্যাহারী হিসেবে শ্রমের বাজারে প্রবেশ করছে। কিন্তু হিসাব করলে দেখা যায় যে কৃষিতে প্রতি বছরে মাত্র ৭০ হাজারের মত শ্রমিকের চাহিদা বেড়েছে। বিভিন্ন ধরনের শিল্পে শ্রম সংস্থানের পরিমাণ ও অত্যন্ত সীমিত। শহরে বিভিন্ন ধরনের ক্রিয়াকর্মে কর্মস্থান বৃদ্ধির পরিমাণ বাৎসরিক ২ থেকে ৩ লক্ষের অধিক নয়। অর্থাৎ আমাদের হিসেব মতে নানান ধরনের উৎপাদন ও বিতরণমূলক কাজে নতুন কর্মপ্রার্থীদের মধ্যে শতকরা ৫০ ভাগের বেশীর পক্ষে কাজ খুঁজে পাওয়া সম্ভব হচ্ছেনা। বাকীরা উন্মত্ত থাকছেন। অবশ্য আমাদের দেশে সারা বৎসর সম্পূর্ণ বেকার খুব অল্প সংখ্যক ব্যক্তিই থাকেন। বেশীর ভাগ কর্মজীবিরাই বৎসরের অনেকটা সময়ে কাজ না পেয়ে পরিবারের ভরন পোষণের জন্য খাদ্য উৎপাদক (food producer) না হয়ে food gatherer অর্থাৎ খাদ্য সংগ্রাহক এবং রিলাফের ওপর নির্ভরশীল থাকতে বাধ্য হন। তথ্য ও যুক্তির ভিত্তিতে আলোচনায় অংশ গ্রহণ করলে আমরা স্বীকার করতে বাধ্য যে বাংলাদেশের কোটি কোটি ভূমিহীন ও প্রান্তিক চাষীরা বর্তমান উৎপাদন ব্যবস্থায় প্রধানতঃ সম্পূর্ণ গৃহস্থ বা ব্যবসায়ীদের উপর নির্ভরশীল থেকে জীবন ধারণ করতে সক্ষম হচ্ছেন না। কৃষিজাত দ্রব্য উৎপাদনের পরিমাণ বৃদ্ধির হার বিশ্লেষণ করলে দেখা যাবে যে ১৯৬৭-৭০ সালের গড়পড়তা বাৎসরিক উৎপাদনের তুলনায় ১৯৮১ থেকে ৮৪ সালে কৃষিজাত দ্রব্যের বাৎসরিক গড়পড়তা উৎপাদন বেড়েছে মাত্র শতকরা ১.৩৪ ভাগ হারে। শুধু চাল আর গমের উৎপাদনের দিকে দৃষ্টিপাত করলে উৎপাদন বৃদ্ধির হার ছিল শতকরা ১.৭৭ ভাগ। ১৯৭৫-৭৬ সাল থেকে ১৯৮৩-৮৪ সাল পর্যন্ত সময়ে কৃষিজাত উৎপাদন বৃদ্ধির হার ছিল শতকরা ২.১০ ভাগ আর চাল এবং গমের উৎপাদন বৃদ্ধির হার হচ্ছে শতকরা ২.১৯ ভাগ। জনসংখ্যা বৃদ্ধির হারের চাইতে এটা বেশ নিম্নে রয়ে গেছে। সত্তর দশকের মাঝামাঝি সময়ে অর্থাৎ ১৯৭৫-৭৬ থেকে ১৯৭৮-৭৯ সালে গড়পড়তা খাদ্য আমদানীর পরিমাণ ছিল ১৫ লক্ষ টনের কম। অথচ ১৯৮১-৮২ থেকে ১৯৮৪-৮৫ সাল পর্যন্ত সময়ে আমরা বছরে গড়পড়তা ২০ লক্ষ টনের বেশী খাদ্য আমদানী করতে বাধ্য হয়েছি। সরকারী হিসেবে প্রাপ্ত শিল্পজাত দ্রব্যের index বিবেচনা করলে বাৎসরিক শিল্পজাত দ্রব্য উৎপাদন বৃদ্ধির গড়পড়তা হার গত এক দশকে শতকরা ৪ ভাগের কম ছিল বলেই দেখতে পাওয়া যায়। কৃষি ও শিল্পজাত দ্রব্যের উৎপাদন বৃদ্ধির হার এত স্বল্প হলে শুধু বিতরণ ব্যবস্থা

সম্প্রসারণের মধ্য দিয়েই দেশের দরিদ্র জনগণের অর্থনৈতিক সমস্যার সমাধান হতে পারে না। গ্রামীণ ব্যাংক, স্বনির্ভর প্রভৃতি সংস্থার কর্মকর্তারা নিশ্চয়ই দাবী করবেন না যে দেশের দরিদ্র জনগণ পসারী বা পসারিনি সেজে এবং হাটে হাটে বিকিকিনি করে, মুরগী বা ছাগল পালন করে বা রিক্সা, গরুরগাড়ী চালিয়ে বা কুটির শিল্পের সমৃদ্ধির মাধ্যমে জীবন ধারণের প্রয়োজনীয় সামগ্রী সংগ্রহ করতে সক্ষম। অতএব উৎপাদন মূলক কর্মকান্ড অর্থাৎ ফসল ফলানো ও শিল্পজাত দ্রব্যের উৎপাদন ছাড়া দেশের দরিদ্র দূর করার কোন পথ আমাদের কাছে খোলা নেই।

আমার মতে উৎপাদন বৃদ্ধির হারের স্বল্পতার মধ্যেই আমাদের দারিদ্রের প্রকোপ বৃদ্ধির ব্যাপকতার কারণ নিহিত রয়েছে। আমাদের মত দেশে উৎপাদন আর বটন ব্যবস্থা পৃথকীকরণ সম্ভব নয়। সরকারী রাজস্ব আয় থেকে বা বৈদেশিক সাহায্যের ওপর নির্ভর করে এমন একটা বিতরণ ব্যবস্থা চালু করতে আমরা সক্ষম নই যার ফলে দরিদ্র জনগণের দৈনন্দিন প্রয়োজন কর্ম সংস্থানের অভাব সত্ত্বেও মেটানো সম্ভব। অনেকেই প্রশ্ন করেন আমরা ভারত বর্ষের উত্তর পশ্চিম অঞ্চলের মত বিশেষ করে পাঞ্জাবের মত উচ্চ হারে কৃষিজাত দ্রব্যের উৎপাদন বাড়াতে সক্ষম নই? চীনের নেতা মাও সেতুং চীনাঙ্গের উদ্দেশ্যে বলতেন “অভিজ্ঞতা থেকে শিক্ষা গ্রহণ কর”। অবস্থার প্রতিকূলতা সত্ত্বেও ঐ অঞ্চলের চাষীরা যৌথ প্রচেষ্টা ও অধ্যবসায়ের মাধ্যমে কৃষি ক্ষেত্রে বিপ্লব সাধন করতে সক্ষম হয়েছিল বলে দাবী করা হয়ে থাকে। অনেক বিদেশী বিশেষজ্ঞ আমাদের বলে থাকেন যে পূর্ব পাঞ্জাবের অধিবাসীদের কাছে আমাদের শিক্ষা গ্রহণ করা উচিত, বক্তৃগত প্রচেষ্টায় কি করে সফলতা লাভ করা যায়। কিন্তু তারা কখনোই আমাদের অবস্থা তাদের সমতুল্য কিনা এটা বিচার করে দেখেছেন বলে মনে হয় না। এখানে পাঞ্জাব ও বাংলাদেশের অবস্থার তারতম্য বিচার করে দেখা যাক। প্রথমতঃ কৃষি ক্ষেত্রে প্রধানতঃ সরকারী ব্যবস্থার ফলে পাঞ্জাবে controlled conditions বা নিয়ন্ত্রিত পরিস্থিতি সৃষ্টি করা হয়েছে যা আমাদের দেশে নেই। ঐ অঞ্চলে জল সেচ ব্যবস্থার ওপর কৃষক আর নির্ভরশীল নেই। সর্ব প্রকার কৃষি উপকরণ সরবরাহের সুষ্ঠু ব্যবস্থা গ্রহণ করার ফলে পাঞ্জাবী কৃষক আজকে ন্যায্য মূল্যে ও যথা সময়ে কৃষি উপকরণ প্রায় ঘরে বসেই ক্রয় করতে সক্ষম। কৃষিজাত দ্রব্য বিশেষ করে খাদ্য সংগ্রহের ব্যাপারে সরকার সক্রিয় ভূমিকা অবলম্বন করায় তারা উৎপাদিত দ্রব্যের জন্যে ন্যায্য মূল্য পাওয়া থেকেও বিষ্ণত নয়। অর্থাৎ কৃষকের পক্ষে লাভ ক্ষতির হিসেব করা সহজ ব্যাপার হয়ে গেছে। আমাদের দেশে এ ধরনের পরিস্থিতি বর্তমান না থাকায় কৃষকদের ঝুঁকি নেওয়া ও অনিশ্চিত অবস্থার জন্যে যে হারে subjective discounting দ্রব্যমূল্য বাড়ানো বিবেচনা করে সিদ্ধান্ত গ্রহণ করতে হয় তার ফলে লাভ লোকসানের হিসেবে গড়মিল দেখা দিতে বাধ্য। যতদিন পর্যন্ত এ দেশের কৃষিতে অনিশ্চিত অবস্থা বর্তমান ততদিন পর্যন্ত স্বল্পআয়কারী কৃষকদের পক্ষে ঝুঁকি নিয়ে, ধারের টাকায় কৃষিতে বিনিয়োগ ক্রমাগত ভাবে বৃদ্ধি করে যাওয়া সম্ভব নয়। দ্বিতীয়তঃ আমাদের দেশে কৃষি ব্যবস্থা প্লাবন, খরা, পোকামাকড়, দ্রব্যমূল্যের অস্থিতিশীলতা প্রভৃতি নানা অনিশ্চয়তার পরিপ্রেক্ষিতেই গড়ে উঠেছে। এ দেশে ভূমির মালিকদের জমিগুলো টুকরো টুকরো ভাবে ছড়িয়ে ছিটিয়ে রয়েছে। এগুলোকে সব কেনা বেচার মাধ্যমে বা বদলাবদলি করে যেমন একত্রীভূত করা সম্ভব নয় তেমনি যোগ্য তদারকির মাধ্যমে বিক্ষিপ্ত জমিগুলোকে সুচারুভাবে চাষ করার পথেও প্রচুর বাধা রয়েছে। সুচারুভাবে চাষ করতে সক্ষম না হলেও চাষীরা জমিগুলো বিক্রি করে দিতে নারাজ। কারণ জমির চাইতে বেশী নির্ভরযোগ্য কোন সম্পত্তি গ্রামাঞ্চলে এখনও নেই। অতএব জমি উৎপাদিকা শক্তির বিকাশের একটা যন্ত্র না হয়ে সামাজিক ক্ষমতা ও দুর্দিনের সহায় হিসেবেই থেকে গেছে। জমির উৎপাদিকা শক্তিকে

পুরাপুরি কাজে লাগানোর চাইতে স্বল্প ব্যয়ে চাষ করে যে টুকু ফসল পাওয়া যায় তা নিয়েই তৃপ্ত থাকতে আমাদের কৃষকরা অভ্যস্ত। অথচ পাঞ্জাবী কৃষকরা গত কয়েক দশকে তাদের কৃষি ব্যবস্থায় ও ভারতীয় কৃষি বাজারে উদ্ভূত পরিস্থিতির সুযোগ গ্রহণ করার মত সুবিধা লাভ করে জমিকে শুধু ধন সম্পত্তির পরিমাণ হিসেবেই না দেখে উৎপাদনের শক্তি হিসেবেই বিবেচনা করতে শিখছে।

তৃতীয়তঃ—বাংলাদেশে কৃষিতে বিনিয়োগ করে বর্তমান অবস্থায় যতটা লাভ করা সম্ভব তার চাইতে অনেক বেশী হারে লাভ করা যায় দুস্থ কৃষকদের ঋণ দান করে বা ব্যবসা বাণিজ্যে টাকা খাটিয়ে। অতএব ধনী কৃষকরা কৃষিকাজে টাকা খাটাতে নারাজ। পাঞ্জাবে আয় বাড়ার সাথে সঞ্চয় বেড়েছে এবং সমবায় প্রথা ও ব্যাংক ব্যবস্থার সম্প্রসারণের ফলে বাজারে চালু হারেই কৃষকরা ঋণ গ্রহণ করতে সক্ষম। ঐ অবস্থায় টাকা কৃষি কাজে ব্যয় না করে অন্য কোথাও বিনিয়োগ করে বা মহাজনী সুদখোর হিসেবে আরও অধিক মুনাফা অর্জন করা সম্ভব নয়। এমতাবস্থায় পাঞ্জাবের কৃষকরা কৃষি ঋণ নিয়ে বা নিজেদের সঞ্চিত অর্থ ব্যয় করে কৃষিতে আধুনিকীকরণ ব্যবস্থা দ্রুতগতিতে সম্পন্ন করতে ব্যস্ত। চতুর্থতঃ একদিকে দ্রুত চালু থাকায় এবং মোটামুটি ভাবে সরকারী যত্ন দক্ষ হওয়ায় পাঞ্জাবে সামাজিক স্থিতিশীলতা বিদ্যমান। এই অবস্থায় বিনিয়োগের ব্যাপারে বিশেষ কোন অনিশ্চয়তা নেই। তাই বিনিয়োগ উৎপাদন দ্রুত বৃদ্ধি পাচ্ছে। আমাদের দেশে গ্রামাঞ্চলে শান্তি শৃংখলা বা সরকারী আমলাদের কর্মদক্ষতার অভাবে ও ক্ষমতার দাপটে বিনিয়োগের উপযোগী অবস্থা বিরাজমান নয়। উচ্চাভিলাষী ও মেধাবী ছেলেরা গ্রামে না থেকে শহরে গিয়েই আস্তানা গাড়তে ব্যস্ত। গ্রামের পুঁজিও তাই শহরেই স্থানান্তরিত হবার প্রবণতা দেখতে পাওয়া যায়। এমতাবস্থায় কৃষিতে বিনিয়োগোপযোগী পরিবেশ সৃষ্টি না হওয়া পর্যন্ত উৎপাদনের হার বাড়ছে না। পঞ্চমতঃ আমাদের দেশে কৃষিতে প্রযুক্তি বা technologyর পরিবর্তনের জন্য যা কিছু প্রয়োজন তার সিংহভাগই বাইরে থেকে আমদানী করতে হয়। এসব আমদানী আবার নির্ভর করছে সাহায্যদাতাদের মর্জির ওপর যা প্রতি বছর তারা নতুন করে ঘোষণা করে থাকেন। প্রযুক্তিগত উন্নয়ন দেশে বাস্তব অবস্থার প্রেক্ষিতে না হয়ে বিদেশীদের মুনাফা অর্জনের তাগিদে এবং তাদের চিন্তা চেতনার ফলে উদ্ভূত হবার কারণে এ দেশে কৃষি প্রযুক্তি প্রকৃত অর্থে দেশজ না হয় পরগাছার মতই থেকে গেছে এবং এখানে অভ্যন্তরীণ বাজারের অবস্থার সংগে তাল মিলিয়ে নতুন প্রযুক্তি গড়ে উঠছে না। যেহেতু কৃষকদের মধ্যে শিক্ষা ও দক্ষতার অভাব রয়েছে তাই তারা উচ্চতর পর্যায়ে কৃষকদের উপযোগী যন্ত্রপাতিগুলোকে ব্যবহার করে সুচারু ফল লাভ করতে অক্ষম। এগুলোকে নিজেদের দক্ষতা ও পারিপার্শ্বিক অবস্থার সংগে খাপ খাইয়ে নেবার উদ্দেশ্যে প্রয়োজনীয় পরিবর্তন ও পরিবর্ধন করাও তাদের সাধের বাইরে। কৃষিতে প্রযুক্তির চাবিকাঠি বিদেশে থাকায় কৃষকেরা কৃষি উন্নয়নের ব্যাপারে যথেষ্ট উৎসাহ বোধ করেননি। পাঞ্জাবী কৃষক যে সব যন্ত্র ব্যবহার করেন এ গুলো সব নিজের দেশে তৈরী এবং এগুলোর সর্বস্বত্ব প্রধানতঃ অভ্যন্তরীণ স্তর থেকে হবার দরুন এ গুলোকে নিজেদের দৈনন্দিন জীবনের ও তাদের সংস্কৃতির অঙ্গ হিসেবে গ্রহণ করার ব্যাপারে পাঞ্জাবীদের বিশেষ কোন বেগ পেতে হয়নি। অতএব সেখানে আধুনিক কৃষি ব্যবস্থা গড়ে উঠেছে। ষষ্ঠতঃ যৌথ ভাবে কাজ করার অভ্যাস/প্রয়োজন আমাদের কৃষকদের কখনই ছিল না। সবাই নিজের নিজের জমি বৃষ্টি বাদলের ওপর নির্ভর করে চাষ করতেই অভ্যস্ত ছিল। তিন দশক আগেও এখানে শতকরা দশ ভাগের কম জমি সেচ কার্যের অধীনে ছিল। এই সব সেচ কাজ চাষীরা ব্যক্তিগত প্রচেষ্টায় সম্পন্ন করতে সক্ষম ছিল। যৌথ ভাবে নদী নালায় বাঁধ দিয়ে বহু দূর থেকে জল সরবরাহের ব্যবস্থা করে চাষ করা বা সামগ্রিক স্বার্থের প্রয়োজনে গভীর কূপ খনন করে সবাই মিলে কিছু কিছু করে জল নিয়ে শৃংখলার সংগে সেচ ব্যবস্থা চালু রাখা আমাদের দেশের

কৃষকদের চিন্তা ও চেতনার বাইরে। পাঞ্জাবে বৃষ্টির অভাবের জন্যে জলসেচ ব্যবস্থার ওপর প্রায় সবাইকেই নির্ভর করতে হয়েছে। সামগ্রিক স্বার্থোন্মুখতার জন্যে যৌথভাবে প্রচেষ্টা গ্রহণ করা তাদের কাছে নিতান্তই সাধারণ ব্যাপার। প্রচলিত অবস্থায় বেঁচে থাকার প্রয়োজনেই গোষ্ঠী, গোত্র প্রভৃতি প্রথা তাদের বাঁচিয়ে রাখতে হয়েছিল। অতএব সংকীর্ণ ব্যক্তি স্বার্থে কর্মকান্ড গ্রহণ করায় অভ্যস্ত বাঙালী কৃষক ও যৌথ কর্মোদ্যোগে অভ্যস্ত পাঞ্জাবী কৃষক একই ধরনের প্রযুক্তি ব্যবহার করে কৃষি উন্নয়ন সাধন করবে এটা আশা করা যায় না।

আমি এই প্রবন্ধের গোড়াতেই দারিদ্র সম্পর্কে ১৯৮৪-৮৫ সালে বাংলাদেশের বিভিন্ন অঞ্চলের ছয়টি গ্রামে UNRISD এর সহায়তায় একটি জরীপ চালানোর কথা উল্লেখ করেছি। এই জরীপে দেখা যায় যে ১৯৮৪-৮৫ সালে গ্রামীণ দরিদ্র জনগণ গড়ে প্রতিদিন ১৪ আউন্সের চাইতে কম খাদ্য শস্য গ্রহণ করেছেন। সরকারী হিসেব মতে ১৯৮৪-৮৫ সালে বাংলাদেশে মাথাপিছু দৈনিক খাদ্য শস্য গ্রহণের পরিমাণ ছিল প্রায় ১৬ আউন্স। যেহেতু শহরের জনগণকে গ্রামের জনগণের মত কঠিন পরিশ্রম করতে হয় না এবং শহরের বাসিন্দারা চাল ও গম ছাড়াও তরীতরকারি, ডাল, মাছ প্রভৃতি নানান রকমের খাদ্য গ্রামের সাধারণ জনগণের চাইতে অধিক পরিমাণ গ্রহণ করে থাকেন অতএব শহরে মাথাপিছু খাদ্যশস্য গ্রহণের পরিমাণ গ্রামের চাইতে অনেকটা কম হয় থাকে। এই অবস্থায় গড়পড়তা হিসেবে সমগ্র দেশের চাইতে কম খাদ্যশস্য গ্রহণ করাটাই দারিদ্রের সব চাইতে বড় নিদর্শক বলে ধরে নেওয়া যেতে পারে। এই প্রসঙ্গে ইদানিং কালের দক্ষিণ ভারতের একটি গ্রামাঞ্চলের জরীপের কথা উল্লেখ করা যেতে পারে। ওখানে দেখা গেছে যে বৎসরে দরিদ্র ব্যক্তির মাথাপিছু ২২০ কিলোগ্রাম খাদ্য গ্রহণ করেন। বাংলাদেশে আমাদের জরীপ অনুযায়ী দারিদ্রের বাৎসরিক খাদ্য গ্রহণের পরিমাণ ১৫০ কিলোগ্রামের বেশী নয়। আমাদের জরীপে আরও দেখা গেছে যে গরীবদের মধ্যে শতকরা প্রায় ১৭ ভাগ ব্যক্তির গড়ে দৈনিক মাত্র ৮ আউন্স খাদ্য গ্রহণ করেন। প্রায় শতকরা ৬৩ ভাগ, ১২.৫ আউন্স করে এবং অবশিষ্ট শতকরা ৩০ ভাগ গড়ে প্রায় ২০ আউন্স করে দৈনিক খাদ্য গ্রহণ করে থাকেন। গ্রামাঞ্চলে দারিদ্রের ব্যাপকতা উপরোক্ত তথ্য থেকেই বোঝা যায়।

উপরোক্ত আলোচনা থেকে এমন মনে করার কোন কারণ নেই যে বাংলাদেশে অনেক জায়গায় বহু সংখ্যক কৃষক নতুন প্রযুক্তি ব্যবহার করছে না বা ভবিষ্যতে আরও বেশী করে করবে না। আমার আলোচনার প্রকৃত উদ্দেশ্য হচ্ছে এদেশে কৃষিতে আধুনিকীকরণের হার এত মন্ডর কেন এটা বুঝিয়ে বলা। কিছুদিন আগে আমি এই ধরনের মন্ডরতার কারণ অনুসন্ধান করার জন্য কয়েকটি গ্রামে একটি জরীপ পরিচালনা করি। তার থেকে দেখতে পাই যে বেশীর ভাগ সম্পন্ন কৃষকই কিছু জমিতে অধিক উন্নয়নশীল বীজ লাগিয়ে, সার ব্যবহার করে এবং পরে সেচের ব্যবস্থা করে চাষবাস করতে অভ্যস্ত। বাকী জমিতে হয় তারা বেশী বীজ বপন করেন এবং চলিত পদ্ধতিতে চাষ করেন বা অনেক ক্ষেত্রেই বর্গা দিয়ে থাকেন। ধীরে ধীরে নিজের মালিকানাধীন সমস্ত জমিতে অধিক ফলনশীল বীজ লাগাবার আগ্রহ বিশেষ কারো নেই। বাংলাদেশে ষাটের দশকে বা সত্তরের দশকে যারা প্রথম অধিক ফলনশীল বীজ ব্যবহার করতে আরম্ভ করেছিল তাদের চাইতে বর্তমানে কৃষি সম্প্রসারণের ব্যাপারে যারা ইতিপূর্বে উদাসীন ছিলেন এং শুধুমাত্র বেশী বীজ ব্যবহার করতেন তাঁদের মধ্যেই কিছু জমিতে নতুন বীজ লাগানোর তাগিদ দেখা দেওয়ায় আমাদের দেশে সেচ ব্যবস্থা ও অধিক ফলনশীল বীজ ও সারের ব্যবহার উল্লেখযোগ্য ভাবে বেড়ে চলেছে। এই জরীপ মাত্র কয়েকটি গ্রামে করা হয়ে থাকলেও প্রায় সর্বত্রই এই ধরনের অবস্থা দেখতে পাওয়া যাবে বলে আমার বিশ্বাস। অতএব আমরা মনে করতে পারি যে আমাদের দেশের কৃষি ব্যবস্থা প্রযুক্তি ব্যবহার ও শস্য উৎপাদনের ব্যাপারে ক্রমাগত পরিবর্তনের পথে না যেয়ে একটা ধাপে উঠে

গিয়ে গতিশীলতা হারিয়ে ফেলেছে। এর ফলেই কতকগুলি জেলায় অধিক ফলনশীল বীজ ও সারের ব্যবহার আর বিশেষভাবে বৃদ্ধি পাচ্ছে না। এসব কারণেই কৃষিতে বাজার নির্ভরশীল একটা পুঁজিপতি শ্রেণী আশানুরূপ গতিতে সৃষ্টি হচ্ছে না এবং ব্যক্তি মালিকানা প্রথার উপর জোর দেওয়া সত্ত্বেও সরকার সফলতা অর্জন করতে ব্যর্থ হচ্ছেন।

শিল্প ক্ষেত্রেও পুঁজিবাদী ব্যবস্থা দ্রুত শক্তি সঞ্চয় করতে ব্যর্থ হয়েছে। সরকার ১৯৭৫ সাল থেকে দেশের পুঁজিপতি শ্রেণীকে উৎসাহ দানের জন্যে নানান রকম সুযোগ সুবিধা দান করে আসছেন। আশা করা গিয়েছিল যে ব্যবসায়ী ও ধনিক শ্রেণী শিল্প স্থাপনে আগ্রহী হবে। কিন্তু কার্যতঃ দেখা যায় যে বেশ কয়েকটি কারণে ব্যক্তিগত উদ্যোগে শিল্প স্থাপনে আশানুরূপ ফল লাভ হচ্ছে না। প্রথমতঃ ১৯৭১ সালে এদেশ থেকে পাকিস্তানী ব্যবসায়ীদের চলে যাবার পর ব্যবসা বাণিজ্যের ক্ষেত্রে নতুন সুযোগ সুবিধা সৃষ্টি হয়েছে। যেখানে স্বাধীনতার পূর্বে বৈদেশিক বাণিজ্যের পরিমাণ ১০০ কোটি ডলারের মত ছিল এটা বর্তমানে ৩৫০ কোটি ডলার ছাড়িয়ে গেছে। আমাদের বৈদেশিক মুদ্রামূল্য হ্রাস পাওয়ার ফলে টাকার অংকে বৈদেশিক বাণিজ্যের পরিমাণ ২২ থেকে ২৩ গুণ বেড়ে গেছে। সংগে সংগে অভ্যন্তরিন বাণিজ্যের ক্ষেত্রেও অনেক প্রশস্ত হয়েছে। বেশীর ভাগ ব্যবসায়ী এদেশের বৈদেশিক সরবরাহকারীদের এজেন্ট হিসেবে কাজ করতে আগ্রহী। যেহেতু আমদানী রপ্তানীর ক্ষেত্রে অল্প সময়ে প্রচুর মুনাফা অর্জন করা সম্ভব এবং এর জন্যে প্রচুর পরিমাণে নিজস্ব অর্থ বিনিয়োগ করার প্রয়োজন নেই তাই ব্যবসায় ক্ষেত্রে দীর্ঘ প্রস্তুতির পর্ব পার হয়ে ঝুঁকিপূর্ণ শিল্পে বিনিয়োগ ব্যবস্থার পরিবর্তে আমদানী রপ্তানী বাণিজ্যে অংশ গ্রহন করা অধিকতর লোভনীয় হয়ে দাঁড়িয়েছে। দ্বিতীয়তঃ ১৯৭৫ সাল থেকে সরকার রাষ্ট্রীয় খাত বাতিল করে দিয়ে সরকারী খাতের শিল্পগুলোকে বেসরকারী খাতে হস্তান্তর করার পরিকল্পনা গ্রহন করেন। এর ফলে শিল্প স্থাপন বা ব্যবস্থাপনার ক্ষেত্রে অনভিজ্ঞ ব্যক্তিদের পক্ষে নতুন শিল্প কারখানা স্থাপন করার কথা চিন্তা না করে চালু একটি কারখানা সরকারের কাছ থেকে গ্রহন করা শ্রেয় মনে হওয়াই স্বাভাবিক। এ ধরনের কারখানা হস্তান্তরের ফলে শিল্পে বিনিয়োগ বৃদ্ধি পায় না বা উৎপাদন বাড়েনা। এবং সামগ্রিক ভাবে বিচার করলে এর থেকে দেশে একটা অস্থিতিশীল পরিস্থিতির সৃষ্টি হওয়াই স্বাভাবিক। সরকারী শিল্পে ব্যবস্থাপকরা বেশী করে পরিশ্রম করে মুনাফা অর্জন করার পর এগুলো ব্যক্তি মালিকানা হস্তান্তর করা হলে ব্যবস্থাপকদের ব্যক্তিগত কোন সুবিধা হবার কথা নয়। শ্রমিকরাও অসন্তোষ বোধ করতে পারে। অতএব শিল্প বেসরকারী খাতে হস্তান্তর করার নীতি একদিকে পুঁজিপতিদের নতুন শিল্প স্থাপন করতে অনুৎসাহিত করছে এবং অন্যদিকে সরকারী খাতে অনিশ্চয়তা সৃষ্টি করে উৎপাদনের দক্ষতা হ্রাস করছে। তৃতীয়তঃ এটা আজকে মোটামুটিভাবে স্বীকৃত যে বর্তমান রাষ্ট্রীয় কাঠামো ছোট ছোট কলকারখানা বা বাণিজ্যের মালিক এবং ব্যবসায় অভিজ্ঞতা সম্পন্ন ব্যক্তিদের জন্যে বড় শিল্প স্থাপনের সুযোগ সৃষ্টি না করে ক্ষমতায় অধিষ্ঠিত ব্যক্তিদের আত্মীয় সৃজন বা কাঁচা পয়সার মালিক এবং ক্ষমতাসীনদের তৃপ্ত করতে সক্ষম এই ধরনের ব্যক্তিরাই শিল্প স্থাপন করার সুযোগ পেয়েছেন। বেশীর ভাগ নতুন শিল্পই শিল্প ব্যাংক ও শিল্প ঋণ সংস্থা এবং সরকারী বাণিজ্যিক ব্যাংকগুলো থেকে ঋণ গ্রহন করে স্থাপন করা হয়েছে। সরকারী কার্যক্রমে দুর্নীতি ও অন্যাচারের ফলে প্রচুর অর্থব্যয় না করলে ঋণ পাওয়া যায় না। তা ছাড়া শিল্প স্থাপন করার জন্যে অনেক বছর ধরে ঘোরাঘুরি করার প্রয়োজন। অতএব যারা নতুন শিল্প স্থাপন করছে তারা তাদের খরচ পুষিয়ে নেবার মানসে এবং শিল্প স্থাপিত হবার পর সেটা চালানোর খরচ সংগ্রহ ও নিজস্ব মুনাফা নিশ্চিত করার জন্যে বেশীর ভাগ সময় হয় প্রকৃত খরচের চেয়ে অনেক বেশী টাকা দাম দেখিয়ে যন্ত্রপাতি ক্রয়

করে বা বিদেশে অবস্থিত কারখানার পরিত্যক্ত যন্ত্রপাতি নতুন বলে আমদানী করে অথবা যত যন্ত্র আমদানী করা প্রয়োজন বলে কাগজ কলমে লেখা থাকে তার চাইতে অনেক কম আমদানী করে কারখানা চালু করার চেষ্টা করে। ব্যাংকগুলো থেকে নেয়া টাকা এবং সত্যিকার খরচের মধ্যে ব্যবধান থাকার ফলেই নব্য শিল্পপতির শিল্প স্থাপনে আগ্রহী হয়ে থাকেন। কিন্তু এর ফলে যে শিল্পগুলো স্থাপিত হয়েছে এর মধ্যে অনেকগুলোই উৎপাদন ক্ষমতা কাজে লাগাতে সক্ষম হচ্ছে না এবং তা ঋণ পরিশোধ করতেও অক্ষমতা প্রকাশ করছে। আজ বাংলাদেশে যে ঋণ সংকট সৃষ্টি হয়েছে এর কারণ হচ্ছে যে যারা টাকা ধার নিয়ে শিল্প স্থাপন করেছিলেন তাদের প্রথমতঃ শিল্প সম্পর্কে কোন অভিজ্ঞতাই ছিল না। তাদের পক্ষে বাজারের অবস্থা জেনে লাভ লোকসান হিসেব করে আদর্শপ্রযুক্তি কিংবা উৎপাদনের মাত্রা ঠিক করার কোন প্রশ্নই উঠে না। দ্বিতীয়তঃ শিল্প ঋণ পাবার জন্যে যে ধরনের অবস্থার মধ্য দিয়ে তাদের অগ্রসর হতে হয়েছে সেখানে ঋণ কখনো শোধ করতে হবে এটা হয়ত তাদের মাথায়ই আসেনি। তৃতীয়তঃ আমাদের দেশে শ্রমিকের মজুরী কম হলেও এবং দেশে তৈরী কাঁচা মাল অপেক্ষাকৃত কম মূল্যে পাওয়া গেলেও ব্যবস্থাপনার দুর্বলতা ও দক্ষ শ্রমিকের অভাবের জন্যে বিদেশী বাজারে আমরা কখনোই খুব সস্তা দরে দ্রব্যসামগ্রী বিক্রি করতে সক্ষম নই। আমাদের অভ্যন্তরীণ বাজারও সীমিত। তা ছাড়া আমদানী “লবীর” ক্ষমতার কথা আগেই উল্লেখ করা হয়েছে। এদের সাথে পালা দিয়ে শিল্প কারখানার মালিকদের পক্ষে মুনাফা অর্জন করে ঋণ শোধ করা সত্যি দুষ্কর। অতএব এই ঋণ সংকট থেকে উদ্ধার পাওয়ার আশা বর্তমানে খুবই ক্ষীণ মনে হচ্ছে।

উপরোক্ত আলোচনা থেকে এটা ধরে নেওয়া যায় যে সরকার একটি সম্পদশালী, অভিজ্ঞ ও ঐতিহাসিকভাবে সুপ্রতিষ্ঠিত পুঁজিপতি শ্রেণীর অভাব মেটাবার জন্য ক্ষমতাবানদের সাথে জড়িত ও সামাজিক বিবেকবর্জিত কিছু সংখ্যক ব্যক্তিদের মধ্যে সম্পদ বিলিয়ে একটি গতিশীল ও দক্ষ পুঁজিপতি শ্রেণী সৃষ্টির চেষ্টা করেছিলেন। কার্যতঃ তা সফল হওয়া সম্ভব মনে হচ্ছে না। কিন্তু দুর্ভাগ্যবশতঃ উৎপাদন শক্তি বিকাশের জন্য সরকার এই ধরনের একটি শ্রেণীর উপরেই নির্ভর করে তাদের উন্নয়ন কৌশল প্রনয়ন করে চলেছেন। এটা অনস্বীকার্য যে অনেক উন্নয়নশীল দেশেই একটা নব্য পুঁজিপতি শ্রেণী সৃষ্টি হয়েছে সরকারী প্রচেষ্টায়। এটা আমাদের দেশে কেন হচ্ছে না বা কেন হতে পারে না এ প্রশ্নের উত্তর আমাদের দেশের সামাজিক, রাজনৈতিক ও অর্থনৈতিক অবস্থার মধ্যেই নিহিত রয়েছে। ইতিপূর্বে আমি বলার চেষ্টা করেছি যে আমাদের দেশের সম্পন্ন কৃষক, ব্যবসায়ী, শিল্পপতি প্রভৃতি সবারই বিনিয়োগ ও উৎপাদনমূলক কর্মকান্ডে নিয়োজিত হবার ব্যাপারে সুদূর প্রসারী দৃষ্টিভঙ্গীর অভাব রয়েছে। যে ধরনের বিনিয়োগে স্বল্পসময়ের মধ্যে বিনিয়োগ কৃত অর্থ মুনাফা হিসেবে অর্জন করা সম্ভব নয় তেমনি ধরনের বিনিয়োগে আমাদের দেশের ধনিক শ্রেণী উৎসাহিত বোধ করে না। যার ফলে আমাদের দেশে বেসরকারী খাতে সবিশেষ শিল্প বা কল কারখানা গড়ে উঠছে না। বৃজুয়া শ্রেণীর মধ্যে এ ধরনের দৃষ্টিভঙ্গীর কারণ খুঁজে পাওয়া যাবে। আমাদের দেশের রাজনৈতিক, সামাজিক ও অর্থনৈতিক অস্থিতিশীলতার মধ্যে সামাজিক মেরুত্বের প্রক্রিয়া ও উৎপাদন বৃদ্ধির হারের স্বল্পতার জন্যে দরিদ্র জনগণ উৎপাদন ব্যবস্থায় সংযুক্ত না হয়ে সামাজিক ভাবে বিচ্ছিন্ন হয়ে গেছে। তাদের দৈনন্দিন জীবনের প্রয়োজন মেটাবার ক্ষেত্রে অনিশ্চয়তা বৃদ্ধি ও বিচ্ছিন্নতাবোধ রাজনৈতিক ও সামাজিক অস্থিতিশীলতাকে তীব্রতর করে তুলছে। এ দেশে বিনিয়োগের উপযুক্ত পরিবেশ সৃষ্টি করতে হলে অস্থিতিশীলতা ফিরিয়ে আনতে হবে। তার জন্যে প্রয়োজন সরকারী খাতে বিনিয়োগ বৃদ্ধি ও সরকারী প্রচেষ্টার মাধ্যমে উৎপাদন ব্যবস্থার দ্রুত সম্প্রসারণ। অর্থাৎ বর্তমান উন্নয়ন কৌশল পরিত্যাগ করে নতুন উন্নয়ন কৌশল গ্রহণ করতে হবে।

সরকার গত কয়েক বছর থেকে অবস্থার দ্রুত অবনতি রোধ করার জন্যে Food for Works (কাজের বদলে খাদ্য) রিলিফ ও Valuable Feeding Programme এর অধীনে গ্রামাঞ্চলে খাদ্য সরবরাহ বৃদ্ধি করে আসছেন। কিন্তু যে যে হারে সমাজের প্রান্তিক শ্রেণীর (marginedes) জনসংখ্যা বৃদ্ধি পাচ্ছে ও কর্মপ্রার্থীদের সংখ্যা বাড়ছে আগামীতে তা চলতে থাকলে এই খাতে ব্যয় বরাদ্দ আরও দ্রুত গতিতে বৃদ্ধি পাবে। স্বভাবতই এ অবস্থায় বিনিয়োগ ব্যহত হবে। দারিদ্রের প্রকোপ বৃদ্ধি রোধ করা উন্নয়ন ও মানবিক এই দুটো কারণেই আশু প্রয়োজন। কিন্তু এ সমস্যার কোন সহজ সমাধান আমাদের সামনে খোলা নেই। বেশীর ভাগ সাহায্যদানকারী প্রতিষ্ঠানগুলো ও সরকার সামাজিক কাঠামো পরিবর্তনের প্রশ্ন এড়িয়ে একটি গতিশীল পুঁজিপতি শ্রেণীর কর্মতৎপরতার মাধ্যমে এদেশের সমস্যাগুলোর সমাধান চাচ্ছে। কিন্তু এটা প্রতিভাত সত্য যে সামাজিক কাঠামোর পরিবর্তন, পরিকল্পিত বিনিয়োগ ব্যবস্থা ও সরকারী খাতকে প্রাধান্য না দিয়ে এ দেশে দারিদ্রের প্রকোপ হ্রাস করা ও উন্নয়ন ত্বরান্বিত করা সম্ভব নয়।

# MONETARY AND FISCAL POLICY

## Development Banks in Bangladesh: Problems and Policies for Third Five Year Plan

By MUHIUDDIN KHAN ALAMGIR \*

In the present context of Bangladesh, in operational terms, the pace and the quality of our attempt at development may be taken as indicated by the set of measures directed at (i) creation of additional production capacity and (ii) depauperisation. Despite the potential capacity creation, there has been no progress in alleviation of poverty. In the light of pauperisation suffered by the majority of the people in the past plan periods and the present magnitude of the landlessness and assetlessness, unemployment, poverty and malnutrition, depauperisation has come to be accepted as the directly pursuable other important objective of development efforts<sup>1</sup>. Viewed in this context, development banks in the country may be said to be constituted of those banks and financial institutions that directly finance creation of additional production capacity and measures for depauperisation<sup>2</sup>. Within the same meaning, development banking is connotative of that part of the financial system that in terms of institutions, instruments, laws, rules and regulations and set policies facilitate (or obstruct) creation of additional production capacity and depauperisation of people pauperised over years.

As a set of institutions, Bangladesh Krishi Bank (BKB), Bangladesh Shilpa Bank (BSB), Bangladesh Shilpa Rin Sangstha (BSRS), Investment Corporation of Bangladesh (ICB) and Grameen Bank (GB) together with the long term lending parts/departments of the nationalised commercial banks (NCBs) and Samabaya Bank (SB) and the private investment companies are development banks. Of these BKB and BSB are legally defined banking companies fully owned by the government; BSRS and ICB are statutory

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- 1 Depauperisation was reassessed as the prime goal of development efforts in mid 70s by Adelman [14]. Ten years after, Bangladeshi planners have accepted the logic. [1; Ch-II].
2. Development banks as stated in this paper are synonymous with development financing institutions or DFIs.

corporations dealing in long term lending. BSRs operates in long term lending in same fields as does BSB; it is different from BSB in as much as unlike BSB it does not accept deposits for banking purposes. ICB is owned by the government and the relevant parastatals and private investors<sup>3</sup>. Its main operations include provision of bridge finance, equity support and management of investment accounts. GB set up in 1983 under the ownership of the government (60%), and its own borrowers (40%), provides credit in cash or in kind with or without collateral security to landless persons for all types of economic activities including housing but excluding business in foreign exchange transaction [6; Article-19]. Its activities are directed towards depauperisation through capacity creation under the ownership and management of the depauperised-to-be. In the Second Five Year Plan period, NCBs were pressed for providing capacity creative credit in industry and inventory creative credit in agriculture. In industry such provision by NCBs amounted to 157 units with a total investment cost of Tk. 124.4 million<sup>4</sup>. Of the total materialised industrial investment in this period this constituted not more than 14%. The inventory creative credit given to the agriculture by NCBs was extended mostly against conventionally acceptable securities/collaterals and as such cannot be termed as directly depauperisative. Recently 3 operative investment companies, namely, Investment Promotion & Development Company (IPDC)<sup>5</sup>, Saudi Bangladesh Industrial & Agricultural Investment Company Ltd. (SABINCO) <sup>6</sup> and National Credit Ltd.<sup>7</sup> have been set up. A few months back IPDC sponsored with foreign collaboration an industrial leasing company also. Their operation in the economy is at a nascent stage and remains yet to be felt. SB, restructured in 1977 on Bangladesh National Co-operative Bank Ltd. (1972) is owned by the tiered co-operative banks and societies involving, for all practical purposes, management as per directive of the government. In 1984-85, its loans and advances totalled Tk. 220 million of which Tk. 180 million was short term. Ignoring the off-quoted predatory influences of the 'patrons' in the system, one may say, its credit, though minuscule, is both capacity creative and depauperisative if operated under conducive perceptions.

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3. Private investors own 25% of ICB's share capital; the extent of government ownership is 27%, the rest is owned by Bangladesh Bank (12%), BSB (6%), BSRs (6%), nationalised commercial banks (15%), and Sadharan Bima Corporation (9%).
  4. In this umbrella, the 2 recently denationalised Pubali Bank and Uttara Bank are also included. This estimate is from [7].
  5. IFC, CDC, DEG & Industrial Promotion Services (Switzerland) collaborated as co-owners with the government in setting up IPDC.
  6. Government of Bangladesh and the Government of Saudi Arabia jointly owns SABINCO.
  7. Set up as a public limited company entirely under private ownership.

In 1984-85, the total agricultural credit given from the institutional sources amounted to Tk. 11,310 million. This constituted 4.8% of the gross value of agricultural output and 13% of the total loans and advances made by all banks [1, Ch.IX]. Of this, 60% was accounted by BKB, 29% by NCBs (including Pubali Bank and Uttara Bank) and the rest by SB. The commercial banks in the private sector including foreign banks did not make any discernible investment in capacity creation or towards depauperisation. Of the total advances given to agriculture, not more than 15% may be assumed as capacity creative and not more than 5% as directly depauperisative. The rest was given as working capital and/or for creation of short term inventories. The loans and advances amounting to Tk. 391 million given by GB in this year were both capacity creative and directly depauperisative [10, 12]. Of the total industrial credit of Tk. 920 million provided for capacity creation in the same year, 86% was given by BSB (62%), BSRS (18%), ICB (6%) and the rest by NCBs (14%). Altogether 14% of all loans and advances from the banking system in 1984-85 may be said to have been channelled for capacity creative and directly depauperisative efforts; the share of bank credit given to directly depauperisative efforts under a favourable set of assumptions amounted to not more than 3.25% of the total. This scenario may as well be taken as a straightforward reflection of the decade in the immediate past, if not earlier.

As of now all these development banks deal in usual depository financial instruments as are operated by the commercial banks. No financial instruments appropriate for or conducive to long term deposits and advances was introduced or adopted by these banks in the past decade. In December, 1984, of all bank deposits, fixed deposits for 3+ years amounted to not more than 16.5%. Only in recent years, some commercial banks (other than the foreign banks) introduced pension deposits. Two foreign banks introduced certificates of deposits; the results obtained are yet unclear; the other commercial banks did not show much interest to adopt these. Non-depository instruments like commercial and government bills, long term corporate debt instruments and the like with an active and sensitive secondary market have yet to make their entries in the capital market. The Dhaka Stock Exchange, at the end of 1985 was listed with only 69 public limited companies with equities (face value) worth Tk. 202 million. During the Second Five Year Plan period, public subscription amounted to not more than Tk. 147 million. Such slow growth of non-depository financial instruments has, in contrast to a not very unsatisfactory growth of monetisation, ( $M_2$ /GDP) been estimated at over 32% in 1984-85. While monetisation of the country increased over time, intermediation did not progress as much; money economy widened but the corresponding (financial) deepening of the economy remained yet to be matched with the expansion of sphere of monetised transactions.

The financial shallowness of the economy is manifested in concentration of all (bank) deposits in commercial banks; currently 94% of all deposits are accounted by commercial banks; BSB & BKB account for the rest (6%). Deposits of GB & SB remain as yet a minuscule [9;43] of all deposits 28% is accounted by public sector and the rest by the private sector; of all loans and advances made by the banks, 35% is taken by the public sector and the rest by the private sector; of all deposits 17% is generated in the rural areas and 83% in the urban areas, the rate of growth of deposits in rural areas over the decade being higher than the rate accounted by urban areas<sup>8</sup>. Of all loans and advances, rural areas receive 20% while urban areas the rest. And of all loans and advances from the banking sector 432 accounts each of Tk. 10 million and over constituting 0.01% of total number of accounts receive 35.5% while 491817 accounts (11.4% of total accounts) of less than Tk. 1000 each receive 0.7% [9;79, Table-XII]; advances given as working capital amount to over 140% of the total demand deposits [15].

The set of laws under which the development banks have been operating are : (1) The Negotiable Instruments Act, 1881 (2) The Contract Act, 1872 (3) The Bankers' Books Evidence Act, 1891 (4) The Code of Civil Procedure, 1908 (5) The Companies Act, 1913 (6) Foreign Exchange Regulation Act, 1947 (7) Banking Companies Ordinance, 1962 (8) Bangladesh Banks (Nationalisation) Order, 1972 (9) Bangladesh Bank Order, 1972 and (10) various Orders under which BKB, BSB, BSRS, ICB & GB were established [2,3,4,5,6]. In addition, in case of BKB, BSB & BSRS and GB, the provisions of the Public Demand Recovery Act, 1913 are applicable. Sifted purely from the operational experience, these relevant acts, orders and the procedure resulted in a number dysfunctional inconsistencies.

In the first place, the development banks as designed in the relevant laws framed in the 70s and 80s, embody a policy induced financial innovation needed for funding specific projects in agriculture, industry and infrastructure having an appropriate mix of debt equity investments denoted in some cases in both taka and foreign currencies. Designed as such they are left to operate under general laws and procedures enacted in most cases a hundred years back in days of financial calm and insulation of the domestic economy from interlockable international influences. These cannot effectively meet present day problems of the development banks relating to sharing of risk originating in exchange rate fluctuations, survivability of enterprises through renegotiation of contractual obligations, restructuring of capital, directed funding of venture investments, optimisation in a regime of structured lending and deposit rates, to list but a

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8. Between 1972-73 and 1982-83 rural deposits grow at 28% per year and the urban at 20% per year [11].

few. More important, positive preference of both lenders and borrowers for expeditious settlement of disputes centering around intricate and inter woven financial transactions involving purchase and procurement both within the country and without is at definite variance with the time consuming and procedurally overweighted adjudication unattractive as operation-spurring financial redress to the banks. As a result it has become difficult for the development banks to impose penalties or foreclose on defaulters. In far too many cases, for the sake of expediency as well providing a cosmetic cover to their accounts, these banks have been forsaking foreclosure and refinancing the delinquent borrowers.

Secondly, excepting ICB & GB and that too for specifiable periods, all these banks are subject to taxation on the 'accrued' rather than realised income as (tax) base. This did not allow them adequate scope and resources to build up loanable funds for general or specific purposes<sup>9</sup>. If these were allowed to do so, for a general purpose of capacity creation, the size of loanable resources at their disposal would have been much more than what could usually be spared out of incessant need of the government to meet unavoidable non-development expenditures. A gradual building up of loanable fund for a specific purpose of supporting venture investment, underdeveloped area or low-income or pauperised groups would have been in conformity with the specific development objective as has been mentioned in all previous plan document. As such funds were not set up, lending capacities of these banks remained limited on the basis of (i) paid up capital (ii) loan taken from/through the government and (iii) loan and refinancing from Bangladesh Bank and (iv) deposits inadequate in terms of size and duration for both general and specific purposes. In addition, absence of a specific purpose fund do not allow these banks, as it did not in the past, to apportion the risk originating in directed extension of credit on grounds of social objectives or group predilectives.

Finally, the aforesaid laws and the rules and regulations framed under them do not necessarily meet the problems centering around the recent 'globalisation' of capital and commodity markets and prepare these banks to accept the opportunities offered by it. In addition to the requirement for obtaining prior permission to participate in the international capital market, the provisions of Foreign Exchange Regulations Act, 1947, make it procedurally impossible for the development banks in the contracted time dimension of today to negotiate loans from the international market and to explore opportunities in terms of wide range of financial instruments for buying, selling and hedging all in order to obtain the required mix of capital

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9. This situation is in contrast with the provisions for (i) setting up a development fund by the Industrial Development Bank of India and its (ii) an exemption from income & income related taxes [16].

investment. This is continually widening the gap between the global financial system with surplus funds at its disposal and the system in which Bangladesh is required to operate in scarcity.

Inadequate long term deposits, and an almost total absence of non-depository financial instruments in a still a shallow capital market coupled with limitations on growth of loanable funds at their disposal have made all these development banks almost entirely dependent on the government as the fount of all investible resources. In case of GB, an avenue for setting up and augmenting a loanable fund exists in as much as it has been made exempt from (income) taxation for a specifiable period and its net annual proceeds are apportionable for purposes other than depositing into the government's consolidated fund. Similar scope exists in case of SB also. But a very late start of operation of GB and a low paid up quantum of equity capital and shallow deposit base of SB do not make them count as fount of sizeable resources by themselves. The problem of low availability of funds thus continues to loom large for further compounding on account of the low level of technological development of the country.

In the Third Five Year Plan period (1985-90) over 35% of the planned outlay amounting to Tk. 136,000 million has been envisaged to be capacity creative private investment. About 84% of the envisaged private investment has been slated for agriculture, manufacturing, energy, transport and communication, education and health sectors stipulating support from the relevant development banks and promotional institutions [1, Ch. VII]. Following experience in the past, a minimum of 75% of this quantum of private investment i. e. Tk. 102,000 million will have to be provided from the development banks as loan and equity support in order to realise the same. This quantum of investment is presumably capacity creative and consequently exclusive of the required funds required for depauperisation measures and working capital. The present deposit base, (available) paid up capital of the development banks and the stipulated loans and grants from/through the government for relending through them cannot meet this requirement of envisaged capacity creation through private enterprise.

To a considerable extent, the quantum of loanable funds required to support private investment could have been augmented through effective recycling of funds already loaned out. As things stand these days, the possibility on this count appear to be rather remote. On the last count, on June 30, 1985, overdues of agricultural loans amounted to Tk. 10,700 million, industrial loans 17,680 million and loans given by NCBs (excluding Uttara Bank) Tk. 4023 million<sup>10</sup>. Altogether amounting to Tk.32,403 million,

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10. Source : Finance Division, Government of Bangladesh.

this quantum of overdues constitutes about a third of the credit required for envisaged private investment in the Third Five Year Plan period.

Underlying the limbo in recycling of (developmental) credits are wide variations in rates of institutional repayments. Starting with 7% repayment rate of BSRS at the bottom, it rises to 14% for BSB, 21% for ICB, 33% for BKB (in respect of capacity creative agro-industrial loans), 65% for NCBs and 98% for GB. Allowing for 'lemons' dumped upon or selected on non-economic considerations, in case of industrial projects funded by BSRS, BSB & ICB, as it appears, the largest and conventionally collateralised loans failed to be repaid while in case of BKB & GB, the smallest, at times not adequately collateralised were paid back. The legal administrative frame of the system thus seems to have delivered discipline largely on the small-asset enterprises and the assetless; the effects of soft corner retained for the large-asset borrowers encouraged them to stonewall almost all measures to ensure due repayment<sup>11</sup>.

For default in repayment of agricultural credit, leakages or emissions in the process of disbursement, inefficient use and successive loss of crops by farmers due to floods and droughts have been cited as reasons [1, Ch.VII]. Compared to the performance of GB, the main reasons seem to be centering around supervision of end-use of credit and administrative and legal measures for recovery. In case of widespread default in repayment of industrial credit, the obstructive factors have manifested in terms of (i) increase in nominal burden of repayment in taka for loans taken and denominated in foreign currency due to depreciation of taka vis-a-vis the relevant foreign currency (ii) increase in interest burden due to long implementation period not envisaged at the time of project appraisal, (iii) award of concessions and rebates by the banks and the government to defaulters and not regular repayers coupled with laxity, both administrative and legal, in applying firm recovery measures, and (iv) unforeseen difficulties in operation due to inappropriate selection of machinery, adverse macro-economic changes and inept management. Of these (i) has already been taken care of under the provisions of the Scheme For Absorbing Exchange Rate Fluctuation of All Term Foreign Currency Loans (EFAS) as was enunciated by the government on August 28, 1983 and December 27, 1984<sup>12</sup>. Under Part B of this Scheme, remissions and concessions totalling over Tk. 670 million has been given/slated to be given to 458 industrial concerns, funded with loans in foreign currencies before July 1, 1983 by

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11. The anti-investment effects of grave consequences of widespread default have been spelt out in [7; 4-7].

12. Bangladesh Gazette Extra Ordinary, August 28, 1983 and December 27, 1984. The Scheme as was enunciated on August 28, 1983 was amended substantially on December 27, 1984 providing, by & large, for additional benefits.

BSB and BSRS. These remissions and concessions, when everything is said and done on the Scheme, is more than what may be deserved by these concerns on grounds of (a) rate of depreciation of taka vis-a-vis the relevant foreign currencies relative to increase in the domestic price level in case of import substituting units and (b) change in the price of imported raw materials relative to change in export prices in case of export industries [13]. As per provisions of Part A of the Scheme loss of industrial concerns funded with foreign currency loans after July 1, 1983, on account of adverse change in the rate of exchange between taka and the relevant foreign currency has been made compulsorily insurable through payment of exchange risk premium at 2.5% of the outstanding loan per year. Assuming that the rate of depreciation of taka (relative to the relevant foreign currency) will be more than 2.5% per year, the 'excess burden' of repayment will have to be borne by the government in such cases. Under the provisions of the New Industrial Policy (NIP) adopted in June, 1982, along with the relevant implementation facilitative measures, interest on loans accruable during the construction period has been made repayable after a grace period of 3 years in 5 years at a simple contractual rate of interest. Following a reasonable estimate, not more than 20% of industrial loans given by development banks may become non-performing ones due to unforeseen difficulties in operations and adverse macro-economic changes. But in Bangladesh the practice of giving concessions to defaulters instead of regular repayers coupled with the fact of remissions already given/announced under EFAS recently and received by them as per governmental instructions and policies pursued by BSB & BSRS earlier, has nourished fresh hopes on their part to obtain segregation of 'the overdues' of these institutions as a first step towards writing off. In this process they have even demanded representation in a committee to scrutinise and finalise 'overdues' owed by them to these banks, ironically befitting a design following which defendants assume the roles of judges.

The process of compounding the problem originating in the inadequate loanable funds due to the continuance of low technological development may be explained in terms of compulsion to import plant and equipment and spares from abroad in sync with acquisition of land and construction of buildings, etc. of development projects. Other countries, notably India and South Korea have already laid industrial foundations capable of producing most of the capital goods at home. Given such an availability in their cases, provision of debt-capital in appropriate proportion to equity in domestic currency results in setting up of additional production capacity. In case of Bangladesh, over years no fruitful attempt was made to lay the foundation of capital goods industry. As a result, given our general inability to allocate export earnings to import of capital goods, dependence on external aid giving agencies for providing the needed foreign exchange to the

development banks directly or through the government is almost insurmountable at present. In case of depauperisative measures, and conventional agricultural investment, taka loan may deliver the good; in case of industrial projects, the foreign currency remains the crucial component of the required mix.

In the face of requirement for importing overwhelming portion of capital goods needed for capacity-creative investment, the dismally low rate of repayment of term loans has already led World Bank/IDA, ADB, KFW and others to freeze the continuing lines of credit to BSB, BSRS and other relevant financial institutions of the country. The planners of the Third Five Year Plan wanted to turn this adversity into an opportunity by encouraging (i) local manufacture of capital goods (ii) capital-light and labour-heavy investments and (iii) joint-ventures and use of supplier's credit [1, Ch.10]. Given the low base for manufacturing capital goods within and indication of incongenial investment climate in general and entrepreneurial inability in particular reflectable by wide spread default of industrial loans, the such an intent of the planners to turn adversity into opportunity appears to be overly optimistic.

Besides generally reducing the quantum of support to private investors, and specially accentuating the unavailability of importable plant and equipment, freezing of flow of funds by the external donors have contra-implications for depauperisative financing measures. Indisputably, loans and grants (in foreign currency) obtained by the government from external donors and relent to the development banks constitute, in effect, transfer of savings from abroad into the country for the benefit of the poor common man. Through the development bank these savings are channeled to term borrowers who are comparatively affluent members of the society. Freezing of further inflow of foreign loans and grants in the face of widespread default by the large borrowers will not relieve these banks and the government from the repayment obligations. They will have to repay without fail as they have been doing thus far by using taka funds and foreign currency earnings obtained at the cost of possible depauperisation measures; in the ultimate analysis the poor will end up repaying the loans obtained in his name but received at the end-use stage by the affluent. Depauperisation may be immersed through dereliction and denegation ascribable to an organised process of rused up financial management.

A set of policy options, — some at variance with what have been proposed for the Third Five Year Plan period and a few in conformity with the analysis of bench-mark data on which the planners intended to proceed—stand out following the aforesaid discussion. For one thing, for realising the depauperisative measures, the development banks of the country will be required to pay quantum attention. Except for a diminutive deployment of

GB's operations, depauperisation measures appear to be totally absent from the scenario as outlined in the Third Five Year Plan proposals. In order to widen and intensify the focuss of depauperisation as an immediate and directly pursuable separate objective in the present context, scope of operation of GB, SB, BKB and NCBs need to be widened and more resources than what have been slated put at their disposal. Logically, this imperative for supporting depauperisation measures may not justify 'privatisation' of ownership and management of the existing NCBs. With their current holding of 91% of deposits and provision of 93% of all loans and advances of the banking system and comprehensive rural coverage, privatisation may imply steps away from possible depauperisative measures and toward interlocking of financial capital with the industrial one with market distortive implications. What may be appropriate for South Korea or the Philippines may not be facilitative of attainment of Bangladesh's objective<sup>13</sup>.

An widening and intensification of the focuss and directed expansion of credit based largely on deposits of the system may call for simultaneous review and reform of the financial laws and rules and regulations framed under them. The gap between the requisites and mandates embodied in antiquated laws on the one hand and the imperatives of a changed, open, reactive and innovative world of today's money changers on the other need to be bridged in a co-ordinated search for efficiency and excellence, in mobilisation, intermediation and allocation of funds cherished in a milieu of transparent financial transactions exuding trust and confidence. This reform, in view of inattention thus far, may be slated in a definite time frame.

More than measures for reform of the law in the present context, the need is for enforcement of the law as it exists. In this frame, in operational terms, the government, the Bangladesh Bank and the development banks have to adopt a policy of firm and expeditious securing of repayment from the borrowers without prejudicing the genuine difficulties faced by some in implementing or operating their ventures. A general failure of the development banks in obtaining repayment will imply collapse of the financial discipline, dwindle the recyclable loan-funds and result in an explosive social situation following forced repayment by the poor of loans taken by the affluent. In the perspective of envisaged vital and enervating role of the private sector in the Third Five Year Plan period and the years after, unabated failure in repayment will imply unenforceability of the laws relating to contracts which constitute the very foundation of development through private enterprise.

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13. Even in case of South Korea privatisation of banks did not become a straight forward success, in the context of a comfortable situation not calling for direct depauperisative measures as in case of Bangladesh : See [17;194-203].

Relevant to and supportive of the measures towards financial discipline, the government in the face of expectation rumoured and nourished by defaulters may make a firm policy announcement that no further concession, remission, rebate will be given to them or those who postpone their scheduled repayments. It needs to be made clear that creative potential of privatisation cannot be realised if public funds loaned out to private hands are written off in full or part.

An important part of the legal reform will have to be directed towards organisational rationalisation. The government has already taken a decision to cover 4 administrative divisions of the country under 4 separate Krishi Banks and to strengthen BSB as the prime bank for long term industrial lending and to restructure BSRS towards amalgamation with IACB in order to provide effective promotional services [8, 1; Ch. VII]. Earlier these reorganisations take place, the better it will be for ensuring speedier distribution and closer supervision of agricultural credit and lesser cost of intermediation and administration of industrial credit.

To meet the shortage of foreign exchange resources resulting from freezing of lines of credit by IDA, ADB, KFW and others, allocation of cash foreign exchange by the government needs to be made in favour of BSB and BSRS (for BMR of projects already in its portfolio). The Sub-Committee for Industrial Finance estimated US \$ 442 million as the foreign exchange requirement for private industrial investment in the Third Five Year Plan period [7; 7]. This will call for mobilisation of US \$ 88.4 million on average every year. To meet this requirement, in addition to exploration of non-traditional sources, the government will have to allocate adequate cash foreign exchange resources to BSB & BSRS. Such an allocation may be made at 25% of the requirement i.e. US \$ 22 million every year. If not done, as has been the case till date, investment through private enterprise as envisaged in the Plan is not likely to materialise.

In order to meet the requirement to make available on a sustained basis increasing amount in both foreign exchange and taka as venture capital in support of innovative investment projects, a Special Development Fund should be established by BSB. The Fund, built up over years with grants from the government and appropriations out of BSB's income should be utilised to provide concessional loans to projects based on local innovation and invention of products and processes utilising locally manufactured capital goods in sub-sectors or areas where private investment is shy. The Industrial Credit Fund of the Bangladesh Bank should provide appropriately concessional accommodation to this Fund, specially for the purpose of setting up industries based on domestic capital goods. The Fund should be kept outside the purview of income and corporate taxation so that it can grow over years for providing support to venture investments and facilitating introduction and use of domestic capital goods.

Credit from the public sector or the development banks in this case for setting up industries in the private sector should be given when, in addition to economic viability, private sponsor's stake is assessed as appropriately positive. In the Second Five Year Plan period, of the total private investment 69% was stated to have been provided as credit from the institutional sources [1; Ch.1]. In industries, the institutional credit accounted for still higher proportion of total investment— at times bordering on negative stake of sponsors [7;3]. In order to encourage more savings and persevering enterprise, in case of industrial investment, the development banks may not generally deviate from keeping the sponsor's stake at least 25% of the total cost in case of new projects. From this general rule deviations in two respects, one in case of venture investment based on researched and developed new products and processes and use of domestic capital goods and the other in case of investment in comparatively less developed areas may be made. In case of BMRE of old projects, sponsor's stake should ordinarily be not lower than 30%.

Needless to say, the capital market needs cautious development. As of now the overwhelming major portion of financial assets as are held are liquid – currency and bank deposits – and virtually free of default risk. Such a composition, in the context of effective privatisation needs a change towards increasing availability of marketable financial assets involving risks of loss and at the same time with prospects of higher returns than on deposits. Equities, preferred shares, debentures and other non-depository assets and instruments, therefore, need to be introduced and popularised. To this end, tax incentives, promotional and supportive role of ICB, setting up of an Equity Participation Fund, effective extension of the National Saving Scheme to the rural areas, restructuring the Postal Savings Bank with easier deposit and withdrawal procedure and limited credit facilities, extension of contractual savings in insurance and house-building and allocative flexibility of providend funds, etc. may be aimed at as specific targets.

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# Fiscal Policy for the Third Five Year Plan

By OMAR HAIDER CHOWDHURY \*

## 1. Introduction

Fiscal policy may be defined as the deliberate use of government spending, taxes and other revenue as well as public debt operations to influence economic activities of a country. Public expenditure was initially incurred to facilitate the collective consumption of certain goods and services, and taxation was used by the government to raise revenues to meet the necessary costs involved. Hence, balanced budget was the primary objective of fiscal policy. Keynesian revolution changed all that and it is now recognised that the government finance could be manipulated to influence the level of economic activity. Economic growth, equitable distribution of income and wealth and stabilisation, among others, are generally recognised as primary goals of a fiscal policy. Vast differences in economic, political and social institutions as well as administrative capabilities require different policies to be adopted even if ultimate objectives of fiscal policy look similar for both the developed and under developed economy of the world. Furthermore, priorities among different objectives may have to be significantly different between the countries with varying socio-economic cum political framework. While capital accumulation for economic growth may be the primary objective of a developing economy, a more stable growth may be the most important preoccupation of a developed economy. Hence, the modus operandi and the requirements placed upon the fiscal policy will vary according to the stage of development of the economy as well as on the socio-political cum institutional framework within which it operates.

The primary purpose of mobilising resources is to finance public sector expenditures. The level of public expenditure is conditioned by the extent of the involvement of the government in running the economy. Capital accumulation for rapid economic growth is argued to be the primary preoccupation of a developing country such as Bangladesh. Hence, government expenditure should be directed towards investment in capital formation and economising on rendering services which are relatively less productive or unproductive. Any expenditure contributing towards

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increasing productivity in the short or long-run should be considered as capital formation. Hence, expenditure on public health measures, education, hospitals etc. generally known as social overhead should in fact be categorised as investment since they increase productivity by improving the skill and general health of the labour force. Expenditures in social overhead is althemore desirable for a poor country such as Bangladesh since improvement in health, nutrition etc. are end in themselves if the objective is to reduce poverty by providing such amenities of meeing basic needs to the common people of the country. Private sector in a poor coutry would not be expected to invest in these heads as it involves huge expenditures and there are external benefits to be reaped. In fact, these expenditures raise marginal productivity in general and the private sector can also take advantage of it. Hence, the governments of poor under developed countries such as Bangladesh are expected to incur the necessary expenditures in these fields to achieve the overall economic objectives.

Similarly, investments in economic overheads such as roads, communication, power installations also reauire huge expenditures, returns in which are expected to be reaped over a longer time horizon and such expenditures also give rise to large externalities. All these factors discourage private sector investment in this field in general and that of a poor country in particular. Clearly, large expenditures in both social and economic overheads are pre-conditions for rapid economic growth and productive capital formation in the private sector in the initial stage of development. Therefore, it is obvious that governments of newly emerging countries committed to rapid economic growth with social justice will have to play a dominant role in the economic activity of the country, by not only playing a key role in the investment programme of the country in general but also by providing social and economic overhead in particular through its expenditure programme.

If the government is committed to fulfil its development programme in a self reliant way then the required resources will have to be mobilised domestically. The gap between public expenditure and revenue is called the budget deficit which is bridged by domestic and/or foreign borrowing. Domestic borrowing in a developing country such as Bangladesh is primarily resorted to by creation of money because financial instruments in such countries are not well developed and the Central Bank have little autonomy. So that the demands made by the government to finance fiscal deficit is automatically met by creating money. Hence, monetary policy has little role to play in the economic activity of a poor developing country such as Bangladesh and to that extent fiscal policy assumes a pre-dominant role in influencing the economic activity.

Bangladesh is one of the poorest countries of the world in per capita terms. About 80% of its population live below the poverty line; 30% to 40% of its labour force is un- or underemployed; around 75% of its population are illiterate; it has no natural resources worth mentioning other than natural gas. Being poorly endowed with physical and human capital it depends primarily on foreign assistance for its development efforts. Under the circumstances it is only natural that development objectives of the government should focus on eliminating poverty through rapid self-reliant economic growth. But little progress has been noted in any of these stated objectives after about one and a half decade of planned economic development. Since appropriate fiscal policy is determined by the overall economic goals of a society we shall attempt in this paper an analysis of the fiscal policy followed by the Government of Bangladesh since its inception and critically evaluate its implications on economic activity of the country to draw some policy conclusions in the light of the stated objectives.

The paper is organised as follows: Section 2 analyses the evolving public expenditure policy while section 3 focuses on tax structure and its revenue productivity and finally section 4, summarises the expenditure and taxation policy and draws some policy conclusions in the light of the overall objectives of the economy.

## **2. Level, Structure and Growth of Public Expenditure**

Evolving role of fiscal policy represented by the changing level and composition as well as growth of government expenditure is briefly analysed in this section.

### **2.1. Aggregate Expenditure:**

Level of public expenditure is usually taken as a measure of government involvement in economic activity of a country. Table 2.1. provides information on total public expenditure and revenue expenditure as a share of GDP for the developing countries of the region surrounding Bangladesh. It shows that Bangladesh is at the bottom of the list on both counts for 1975 and 1980 respectively (except for 1980 when the current expenditure share of Hongkong was below that of Bangladesh). Thus according to these indices the involvement of the Government of Bangladesh in its economic activity seems to be very low compared to that of other countries in the region.

Table 2.2 reports changes in the total public expenditure of Bangladesh as a share of GDP since its independence. It shows that the share of total public expenditure fluctuates considerably during the initial years but stabilises later on. In the initial years the GDP was lower than 1969/70, the last year before independence, due to adverse effect of the war of liberation followed by such natural calamities as floods and droughts on the economy. It reached the pre-independent level only in 1975/76. The periodic

averages for late 70's (1975/76-1979/80) and early 80's (1980/1-1984/5) shows that the share of total public expenditure stabilises around 16%. Thus, there has been little change in the share of public expenditure of Bangladesh since mid-seventies which remained the lowest in the region.

**Table 2.1**  
International Comparison of Total and Current Government  
Expenditure as Shares of GDP

Countries	(Percentage)			
	Total Expenditure Share		Current Expenditure Share	
	1975	1980	1975	1980
Bangladesh	8.6 <sup>a</sup>	17.7 <sup>b</sup>	4.6 <sup>a</sup>	8.6 <sup>b</sup>
Burma	15.5	19.8	13.8	14.9
Fiji	20.8	24.8	15.5	18.8
Hong Kong	16.2	21.1	11.0	8.3
India	19.0	21.8	12.2	14.5
Indonesia	21.7	26.1		
Iran	45.4	44.8		
Malaysia	31.0	33.1	22.1	22.2
Nepal	9.1	15.7		
Pakistan	26.8	25.8		
Papua Newguinea	38.6	35.8	24.9	30.4
Philippines	15.9	12.6		
Rep. of Korea	17.7	21.7	12.6	15.9
Singapore	24.5	26.3	15.0	15.7
Solomon Islands	26.3	34.4		
Sri Lanka	23.7	35.4	17.0	18.1
Thailand	15.5	19.6	12.2	13.5

Source : United Nations (1980), Economic and Social Survey of Asia and the Pacific, Bangkok, Table II. p. 105.

Notes: a) refers to 1974/5 as estimated by the author  
b) refers to 1979/80 as estimated by the author.

Table 2.2

Growth of Public Expenditure as a share of GDP 1972/3-1984/5  
(Percent)

Year	Public Expenditure GDP
1972/3	16.1
1973/4	12.2
1974/5	8.6
1975/6	14.3
1976/7	17.7
1977/8	14.8
1978/9	15.7
1979/80	17.7
1980/1	17.3
1981/2	16.6
1982/3	16.9
1983/4	16.4
1984/5	16.8
1972/3-1974/5	11.0
1975/6-1979/80	16.1
1980/1-1984/5	16.8

Source: Calculated from information supplied by the Planning Commission.

## **2.2 Expenditure structure:**

We shall now look at the expenditure structure of the Government of Bangladesh and the growth of its various components over time. Serious problems are encountered in analysing financial allocations as entered in the budget documents. The distinction between current and capital expenditure does not follow strict economic concepts. In fact, several items in the capital budget could logically be treated as items of current expenditures while some items in the revenue budget could be treated as items of capital expenditure. Hence, data limitations prevented an analysis at a more disaggregated level by function separately for development and non-development expenditures. Instead, we used the recently published information on gross government capital formation as the share of public expenditure accounting for directly increasing the productive capacity of the economy. At a more disaggregated level we carry out our analysis of total public expenditures, i.e. in terms of capital plus current expenditures, for various functional categories to draw some tentative conclusions regarding the nature and implications of public expenditure in Bangladesh according to our analytical framework discussed at the outset.

Table 2.3 shows yearly fluctuations in the share of total government gross fixed capital formation in public expenditure but periodic averages for late 70's and early 80's give a more stable figure at around 40%. Thus less than half of total public expenditure goes towards financing increment in productive capacity of the economy while a much larger share accounts for meeting current expenditures.

Table 2.3  
Structure of Public Expenditure (1972/3-1984/5)

Year	A. Govt. Gross Fixed Capital Formation	B. Current Expenditure	1. Defence and BDR	2. Law-Order & Civilian Admin	3. Public Debt Servicing	4. Economic Services	5. Total Social Overhead	(Percent of total public expenditure)					
								(5. i) Education	(5. ii) Health	(5. iii) Public Housing	(5. iv) Others	6 Sub sidies	
1972-73	—	—	3.0	13.4	2.0	51.7	18.6	9.4	3.9	3.4	2.0	11.4	
1973-74	—	—	5.8	14.6	2.2	47.0	19.0	10.8	4.5	2.4	1.3	11.4	
1974-75	—	—	7.4	13.0	2.9	49.0	19.1	10.3	4.3	3.0	1.5	8.4	
1975-76	33.5	66.5	8.6	9.7	2.8	53.2	18.8	9.3	4.9	4.0	0.6	7.0	
1976-77	38.4	61.6	9.9	9.8	5.0	52.7	17.2	8.2	4.9	3.5	0.6	5.6	
1977-78	42.1	57.9	8.0	10.3	3.3	51.3	18.6	8.7	5.2	3.9	0.7	8.4	
1978-79	36.2	63.8	7.1	9.4	4.2	54.9	18.4	8.8	5.5	3.5	0.7	6.0	
1979-80	40.7	59.3	6.4	9.1	2.1	60.3	16.9	7.3	5.2	3.9	0.6	5.2	
1980-81	38.8	61.2	6.7	9.0	2.6	61.0	17.8	8.1	5.0	4.0	0.6	2.9	
1981-82	37.8	62.2	7.7	8.3	4.3	57.8	17.5	7.6	4.9	3.7	1.3	4.4	
1982-83	37.7	62.3	10.4	8.5	4.9	53.9	17.9	8.3	5.5	3.0	1.1	4.3	
1983-84	41.2	58.8	9.4	8.7	4.4	54.2	19.3	9.4	5.4	3.2	1.4	3.9	
1984-85	39.0	61.0	9.0	9.2	5.0	51.6	21.0	9.8	5.7	1.7	3.8	4.2	
72/73-74/75	—	—	5.7	13.6	2.4	49.1	18.9	10.2	4.2	2.9	1.6	10.2	
75/76-79/80	38.6	61.4	7.7	9.6	3.4	55.3	17.9	8.3	5.2	3.8	0.6	6.3	
80/81-84/85	39.0	61.0	9.6	8.8	4.4	55.2	18.9	8.8	5.3	3.0	1.8	4.0	

To carry out the analysis at a more disaggregated level, the sum total of current and capital expenditures were divided into such functional categories as, (i) defense (ii) non-defense public services such as law, order and public administration (iii) economic services consisting of expenditures on agriculture, industry and on economic overheads such as roads, communication, etc. (iv) social overhead expenditures on health, education, houseing. (v) public debt and (vi) subsidies primarily on account of food.

Yearly data shows considerable fluctuation in the share of each component of public expenditure. But some discernible trend can be observed from the table from periodic averages calculated for early 70's (1972/3-1974/5), late 70's (1975/6-1979/80) and early 80's (1980/1-1984/5). Share of expenditure on defense rises continuously from 5.7% to 7.7% and 9.6% during the period while that on law, order and public administration fell from 13.6% to 9.6% and 8.8% for the same period. Share of public expenditure on economic services and social overhead were stable around 55% and 19% respectively. Expenditure share on subsidies decreased continually from around 10% to 4% during the period while that on public debt servicing increased from 2.4% to 4.4% during the same period. Debt servicing for the Government of Bangladesh primarily account to payment of interest and repayment of principal for the outstanding volume of external indebtedness. It gives an indication of the increase in the extent of the dependence of public expenditure on foreign assistance.

Subsidies, on the other hand, account primarily for food distributed through public distribution systems, such as statutory rationing, modified rationing etc. It has been found that the urban population are the primary beneficiaries of such subsidised food and they do not generally belong to the poorest section of the community [1].

### 2.3 Income Elasticity:

Elasticity estimates<sup>1</sup> for total public expenditure and its various components have been made to compare their relative growth performances in relation to growth of income. Table 2.4 shows that total public expenditure barely kept up with the growth of national income as would be expected from our earlier findings regarding the share of public expenditure which was found to have remained stable for the relevant period. Expenditure on fixed capital formation is slightly elastic. That is, for 10 per cent growth of national output fixed investment increases by about 11 per cent. The table shows that debt servicing is highly elastic (1.31), so is expenditure in economic services (1.24) closely followed by expenditures on

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1. Following functional form was used:

$$\text{Log } E_i = a + b \text{ log } Y$$

where  $b$  is the estimated elasticity,  $E_i$  represents total and other components of public expenditure and  $Y$  is GDP at current factor cost.

defense (1.18). Expenditures on social overhead is also slightly (1.12) elastic but one of its components, namely, public housing is very inelastic (0.70). Expenditures on subsidies is also inelastic (0.59).

**Table 2.4**  
**Income Elasticity of Public Expenditure 1975/6-1984/5**

<b>Total Public Expenditure</b>	1.06
A. Government Gross Fixed Capital Formation	1.11
B. Revenue Expenditure	1.09
1. Defense and BDR	1.18
2. Public Debt Servicing	1.31
3. Civilian law, order and administration	1.10
4. Economic Services	1.24
5. Social Overhead	1.12
5 (i) Education	1.09
5 (ii) Health	1.13
5 (iii) Public Housing	0.70
6. Subsidies	0.59

Our analysis on the structure of public expenditure and its growth shows that the share of public expenditures going to such unproductive sectors is defense, civilian law, order and administration as well as subsidy which benefits the relatively well-of population account for more than a fifth of total public expenditure incurred in recent years. Of these the expenditure on defense is highly elastic and that on public administration is relatively elastic while that on subsidy is inelastic. In sum it seems that the burden of unproductive expenditures is substantial and is increasing over time as their elasticity values are greater than that of total public expenditure.

About 5% of total expenditure goes towards servicing debt which accounts primarily to payment of interest and repayment of principal for the outstanding volume of external indebtedness. This is again the highest elastic component of public expenditure indicating increasing dependence of public expenditure on foreign assistance.

Expenditure on fixed capital formation responsible for directly increasing the productive capacity of the economy accounts for less than half (40%) or total public expenditure which is increasing, but only at a marginally higher rate than that of total expenditure as shown by their elasticity values. Therefore, the productive capacity of the economy is not increasing at a rate required even to offset the ever increasing burden of expenditures on unproductive sectors and that of foreign indebtedness, not to speak of achieving accelerated growth of the economy itself.

Expenditures on social overhead, which we argued could be equated with investment for a poor country such as Bangladesh, accounted for less than a fifth of total expenditures. This is also growing at a rate only marginally higher than that of total public expenditure. Furthermore, expenditure on public housing was found to be highly inelastic.

In sum, our public expenditure policy is neither geared towards achieving rapid growth of the economy nor is it addressing to the problem of alleviating poverty at that. On the other hand, it seems that the burden of foreign indebtedness is rising at an ever increasing rate.

### **3. Level, Structure and Growth of Tax Revenue**

Resource mobilisation is primarily conditioned by the public expenditure requirements of an economy. In this section<sup>2</sup>, a brief analysis of the evolving tax policy of Bangladesh—the most important policy instrument mobilising domestic resources— is attempted.

#### **3.1. Tax Effort:**

Ratio of tax revenue to GDP— defined as the tax effort— of Bangladesh, as can be noted from Table 3.1, is one of the lowest in the world. It shows that, except in 1970 and 1980, when the tax effort of Bangladesh was marginally higher than of Nepal, the tax effort of Bangladesh was lowest compared with all the other developing countries of the region for the period covering mid sixties to early eighties.

Table 3.2 shows that the tax effort of Bangladesh fell from 5.8 in 1969/70, the last year before independence, to 4.5 in 1972/73 and surpassed the pre-independent level only in 1975/6. The war of independence followed by such natural calamities as floods and droughts left the economy devastated immediately after liberation. As the economy recovered so did the tax effort similar to that of the share of public expenditure as noted earlier.

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2. This section borrows heavily from the author's recent work, Chowdhury, Omar H., and Mahub Hossain, *Elasticity and Buoyancy of Bangladesh Tax Structure*; BIDS, 1985.

**Table 3.1**  
**International Comparison of Tax Effort 1964/65 to 1979/80**

Name of the countries	1965	1970	1975	1980
Bangladesh	5.6 <sup>a</sup>	5.8 <sup>a</sup>	4.2 <sup>a</sup>	7.8 <sup>a</sup>
Burma	23.4	14.2	9.6	10.2
Fiji	16.4	17.0	15.5	17.8
Hongkong	10.5	9.4	10.0	13.0
India	9.4	8.8	11.6	12.0
Indonesia	...	9.9	16.6	22.6
Iran	...	9.7	16.6	9.6
Malaysia	16.0	18.8	20.3	24.5
Nepal	...	4.7	5.1	7.3
Pakistan	9.2	8.5	10.9	13.6
Papua New Guinea	6.0	8.5	13.5	14.8
Philippines	6.5	6.4	12.5	10.4
Rep. of Korea	7.3	13.8	14.1	16.7
Singapore	13.0	15.3	17.0	18.8
Solomon Islands	8.8	9.8	11.1	15.6
Sri Lanka	19.9	17.8	15.0	15.1
Thailand	11.8	12.1	11.4	12.3

Source : United Nations, Economic and Social Survey of Asia and the Pacific, 1982, Table II. p. 105.

Note : a) Calculated from information supplied by the Planning Commission.

**Table 3.2**  
**Tax Effort and Financing of Total Public**  
**Expenditure by Tax Revenue in Bangladesh**

(Percent)		
Year	Tax/ GDP	Tax/ Total Public Expenditure
1969/70	<sup>a</sup> 5.8	—
1972/3	4.5	27.6
1973/4	4.5	36.8
1974/5	4.2	48.4
1975/6	7.3	50.3
1976/7	7.9	44.0
1977/8	7.3	48.8
1978/9	7.6	47.7
1979/80	7.8	44.0
1980/1	8.3	47.8
1981/2	8.0	47.3
1982/3	8.0	46.2
1983/4	7.2	45.0
1984/5	7.8	46.2
1985/6	—	—
1965/6-1969/70	<sup>a</sup> 5.8	—
1972/3—1974/5	4.3	39.1
1975/6—1979/80	7.6	46.6
1980/1—1984/5	7.8	47.4

Source : Calculated from information supplied by the Planning Commission.

Note : a) Obtained from Mohiuddin Alamgir and Lodewijk J.J.B. Berlage, *The Bangladesh Income and Expenditure, 1949/50-1959/60*, BIDS, 1974.

It can further be noted from the table that the tax effort of Bangladesh after recovering from its pre-independent level in 1975/6 fluctuated over the next few years. An upward trend is, however, discernible from the periodic averages. Ignoring the period covering early 70's (1972/3 — 1974/5), one can see that the tax effort improved from 5.8 for the late 60's (1965/6-1969/70) to 7.6 for late 70's (1975/6—1979/80) and than to 7.8 for early 80's — (1980/1—1984/5). The improvement from late sixties to early

eighties spanning a period of about 20 years is in fact very slow. The table also shows that the share of total expenditure financed by tax revenue also improved but only slightly from around 40% in early 70's to 47.4% by early eighties. Hence, the tax revenue of Bangladesh does not even finance half of the total public expenditure incurred while the tax effort remains one of the lowest among the developing countries of the region.

### 3.2 Tax Structure:

Tax revenue of Bangladesh heavily depends on indirect taxes. Direct taxes comprise of taxes on income (income tax, corporation tax, agricultural income tax) and taxes on property (wealth tax, gift tax, Estate duty capital gains tax etc). Table 3.3 shows that the direct taxes contribute about a fifth to the total yield. There has been an increase in the share of direct taxes due to the improvement in the collection of income taxes. Its share in total tax increased from around 11% to about 15% in recent years. The returns from land revenue, the only direct tax in the agricultural sector, has, however, declined from 2.2% in 1975/6 to around 1% in recent years.

It is further to be noted that about 75% of the total income tax in recent years came from taxes on companies. [2]. Therefore, revenue earnings from individual taxes must be very poor. In fact, less than 0.5% of the population<sup>3</sup>. pay individual income taxes. Very narrow tax base is the primary cause of the poor tax performance of the direct taxes in Bangladesh as agricultural sector, on the one hand, accounting for about half of national output, contributes only around 1% of total tax revenue and on the other, less than 1% of the huge population come under the direct tax net.

Indirect taxes, on the other hand, contribute about four fifths of the total tax revenue. It can be broadly divided into taxes, on domestic goods and services (comprising primarily sales and excise taxes) and taxes on foreign trade (primarily import and export duty).

Table 3.3 reports that the share of the taxes on domestic goods and services generally declined from more than a third to less than a quarter of the total tax revenue over the years. Excise duties accounted for almost the entire tax revenue on account of domestic goods and services in recent years. Furthermore, only a few items accounted for almost the entire revenue earned from excise taxes. For example, taxes on tobacco accounted for almost half (48%) of the total tax revenue on account of excise taxes in 1982/3. Only six items, namely petroleum (5.5%), petroleum gas (12.7%), sugar (5.2%), jute manufacture (2.6%) and cinema entertainment (3.6%) along with tobacco accounted for more than 75% of the excise taxes in 1982/3. Hence, it is clear that only six items primarily contribute to the total tax yield from domestic goods and services. Thus a very narrow tax base is again the primary cause of low tax yield on domestic goods and services.

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3. During 1981-82, the Finance Minister said, the country had only 280,000 paid individual income tax.

Table 3.3  
Tax Structure of Bangladesh 1972/3 to 1984/5

		(Percentage of total tax)												
		1972- 1973	1973- 1974	1974- 1975	1975- 1976	1976- 1977	1977- 1978	1978- 1979	1979- 1980	1980- 1981	1981- 1982	1982- 1983	1983- 1984	1984- 1985
1.	Direct Tax	15.7	14.5	17.9	18.1	19.9	18.4	17.3	17.2	17.7	20.2	21.0	20.0	19.8
	a) Income tax	5.4	6.2	9.2	11.5	14.5	13.1	12.0	12.4	12.4	14.0	15.1	14.3	13.2
	b) Other direct tax	10.3	8.3	8.7	6.6	5.4	5.3	5.3	4.8	5.3	6.2	5.9	5.7	6.6
	Indirect Tax	84.3	85.5	82.1	81.9	80.1	81.6	82.7	82.8	82.3	79.8	79.0	80.0	80.2
2.	a) Taxes on Foreign Tr.	45.3	51.9	38.2	52.0	48.5	54.7	58.4	60.6	58.9	55.7	54.6	55.1	57.0
	i) Import duty	32.6	39.1	28.8	37.1	33.1	37.3	37.7	39.6	38.5	37.9	39.3	38.7	40.1
	ii) Export duty	2.8	0.3	0.0	1.0	2.1	2.1	2.4	2.9	2.3	1.1	0.5	0.5	0.8
	iii) Sales (Import) Tax	8.5	11.4	8.9	13.6	13.0	15.0	18.0	17.7	17.6	16.2	13.9	15.1	15.6
	iv) Other Customs Tax	1.5	1.2	0.5	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.8	0.7	0.5
	b) Taxes on domestic goods and services	38.6	33.2	36.9	28.6	30.5	26.5	23.7	21.9	23.3	23.2	23.5	25.7	24.3
	i) Taxes on domestic goods	35.4	30.8	33.3	27.2	29.1	25.3	22.3	21.0	22.8	22.9	23.1	25.2	23.6
	ia) Excise Tax	30.9	26.8	28.2	24.5	26.2	23.3	20.6	19.4	21.2	22.7	23.0	25.2	23.6
	ib) Sales (domestic) Tax	2.5	2.4	3.0	2.6	2.9	2.0	1.7	1.6	1.6	0.2	0.1	—	—
	ii) Taxes on domestic services	3.2	2.4	3.6	1.4	1.4	1.2	1.4	0.9	0.5	0.3	0.4	0.5	0.7

Taxes on foreign trade contribute the lion's share in Bangladesh. It accounts for more than half of the entire tax revenue. Import duty and sales tax on import primarily contribute to the entire tax yield on foreign trade while taxes on export duty yield less than 5% of the total tax revenue. Hence, taxes on imported goods is the primary source of tax revenue in Bangladesh. It may be noted here that export earnings generally finance between a third to less than a half of the total import bill and the consequent gap is bridged by foreign assistance. Its implication on tax structure will be analysed shortly.

### 3.3. Revenue Productivity :

Productivity of tax revenue is generally measured in relation to the growth of income. Buoyancy and elasticity were two such measures generally used for analysing productivity of tax revenue. Buoyancy is the ratio of percentage change in tax revenues arising out of a given percentage change in income. This may be caused by autonomous changes in income and other variables on which taxes are based. It may also change due to arbitrary revisions in the tax rates and / or bases. The buoyancy measure does not distinguish between automatic and discretionary changes. Elasticity, on the other hand, measures automatic changes in tax revenue due to changes in income. Recently buoyance and elasticity of Bangladesh tax structure has been estimated as reported in table 3.4. It shows that our tax structure is inelastic. Both the direct and indirect tax as a whole are also inelastic with the exception of taxes on foreign trade. The average buoyancy for the whole tax is 1.07 indicating a higher rate of tax yield in response to changes in national income. This is achieved by resorting to discretionary measures which contribute about 16% to such a response of tax yield to national income. In other words, it means that if the historical pattern of discretionary change is repeated in future than each percentage point of growth in national income would result in only 1.07 percent growth in revenue. This explains as to why even after taking discretionary measures into account, the tax effort (tax to GDP ratio) of Bangladesh improved only slightly over a long period of time as noted in section 3.1.

**Table 3.4**  
**Buoyancy and Elasticity of Bangladesh Tax**  
**Structure 1975/6 — 1982/3**

Tax head	Average buoyancy	Average Elasticity	Contribution of discretionary measure (per-cent)
1. Direct Taxes	1.12	0.83	25.9
a) Income tax	1.16	0.98	15.5
b) Other direct taxes	1.05	0.32	69.5
2. Indirect Taxes	1.06	0.93	12.3
a) Taxes on foreign trade	1.18	1.12	5.1
b) Import duty	1.18	1.07	9.3
c) Sales tax on import	1.30	1.29	—
d) Taxes on domestic goods	0.84	0.54	35.7
e) Excise duty	0.93	0.60	35.5
3. Total Tax	1.07	0.90	15.9

Source : Chowdhury, Omar H. and M. Hossain (1985).

Table 3.5 reports the findings on decomposition of elasticity into their component tax-to-base and base-to-income elasticities. It reveals that the tax-to-base elasticities are lower than the corresponding base-to-income

**Table 3.5**  
**Decomposition of Tax Elasticities**

Tax head	Built in Elasticity	Selected Proxy Base	Tax-to Base Elasticity	Base-to Income Elasticity
1. Excise duty	0.60	Value added in industries	0.51	1.15
2. Sales tax on import	1.29	Duty paid value of import	1.05	1.20
3. Import duty	1.07	Dutiable Value of import	0.85	1.21
		Import	1.04	1.01
		Foreign aid without food aid	0.82	1.23

Source : Chowdhury, Omar H. and M. Hossain (1985).

elasticities. The decomposition analysis shows that our earlier finding of low elasticity of excise tax is due to very low tax-to-base elasticity (0.51) although the base-to-income elasticity (1.15) is quite high. In other words, the tax-base responded quite favourably to changes in income but the tax collections failed to keep pace with change in the base. The discrepancy between the component elasticities indicate that tax evasion, tax administration, various exemptions are the primary causes of inelastic tax structure of Bangladesh.

### **3.4. Dependence of Tax Revenue on Foreign Assistance:**

It has already been noted that more than half of our tax revenue is accounted for by tax on import in the form of import duty and on sales taxes on import. That is, taxes on imported items bear the lion's share of our tax yield. Import on the other hand, was found to be primarily financed by foreign assistance. Recently a rigorous analysis by the author showed that the tax effort of Bangladesh is positively and significantly (at 1% level of significance) related to real per capita income and the ratio of foreign aid (excluding food aid) to GDP. Hence it clearly shows that even the internal resource mobilisation in terms of tax revenue is significantly dependent on foreign assistance.

## **4 . Summary and Policy Conclusions**

Only some general conclusions and policy option can be suggested from a brief survey of public expenditure and taxation policy carried out at such an aggregated level as has been done here. Time, space and availability of necessary data came in the way of carrying out a detailed and rigorous analysis required for drawing more specific policy conclusions.

Fiscal policy has been argued to be the most important policy instrument in the hands of a poor developing mixed economy such as Bangladesh for realising its overall economic objectives. The process of fiscal policy determination differs with the stage of economic development of a country and its socio-economic cum potential institutions. This applies to the level and composition of expenditure programmes, and the determination of tax structure, as well as to the use of aggregate expenditure and tax measures to achieve the overall objectives of the economy.

Our analysis of the public expenditure policy of Bangladesh shows that the government's involvement in its economy is very low compared to other developing countries of the region as indicated by its share of expenditure in national income. This low share of public expenditure is again increasing only marginally. On the other hand, a recent study [3;12, Table 1] has shown that around half (49%) of overall budget deficit of Bangladesh is financed by foreign assistance while we have found that less than half of total public expenditure is financed by tax revenue. Share of

expenditures on fixed capital formation contributing directly towards growth of the economy has been found to be less than half ( around 40%) and is increasing at a marginally higher rate than total public expenditure in response to growth of national income. Expenditure on unproductive sectors such as defense, civil administration account for about a fifth of total public expenditure and is increasing relatively faster than public expenditure as a whole. Furthermore, relatively well-off urban population are the beneficiaries of food subsidies while only about a fifth of total expenditures are incurred on social overhead such as education, health and housing. Total expenditures on those items are marginally elastic while that on housing is highly inelastic. Expenditure on debt servicing primarily on account of foreign assistance is rising at the fastest rate among any component of expenditure. In sum, though the public expenditure in Bangladesh is relatively small compared to other countries of the world yet a large portion of that small expenditure is financed by foreign assistance. Furthermore, analysis of the composition and growth of public expenditure showed that it neither contributes to rapid economic growth nor is it conducive towards reducing poverty and / or inequality.

Tax effort of Bangladesh was also found to be very low compared with other developing economics of the region. It has been increasing only marginally over the period. Indirect taxes account for around three-fourths of the total tax yield implying that the tax structure is regressive. Taxes on import, financed primarily by foreign aid account for more than half of total tax yield. In fact, it has been found that our tax structure is significantly (at 1% level of significance) dependent on foreign assistance. Hence, however ironic it may sound, it is true that even our most important source of domestic resource mobilisation such as taxation is heavily dependent on foreign assistance.

It thus follows from our analysis of public expenditure and taxation policies that our fiscal structure is heavily dependent on foreign aid, not conducive to reducing inequality and / or poverty and, has not significantly contributed to economic growth. In fact, our fiscal policy is an anti-thesis of the stated overall objectives of the economy of reducing poverty through rapid self reliant economic growth.

Income elasticity of total public expenditure was 1.06 while that of total taxes was only 0.90. This elasticity gap implies that the automatic productivity of the tax system is insufficient even to keep up with so little increase in expenditure requirement. In fact, arbitrary measures, such as increase in tax base and/or rate, somehow kept (overall buoyancy of 1.07) up with the increasing expenditures. It is argued that the requirements of a poor developing economy such as Bangladesh demands that the present low level of public expenditure should be raised by increasing it at a faster rate. Tax revenue will have to be increased as well, to close the elasticity gap

if dependence on foreign assistance is to be reduced and inflationary process to be kept in check by not resorting to deficit financing.

Our analysis on decomposition of tax elasticities showed that there are wide gaps in tax-to-base and base-to-income elasticities implying that the tax collection failed to keep pace with favourable increase in tax bases. In other words, tax avoidance is one of the primary causes of low tax yield. Strengthening tax administration, simplifying tax structure and doing away with various exemptions can go a long way in improving tax yield from the existing tax bases with given rate structures.

Narrow tax base is another feature of the tax structure resulting in low tax yield. It was found that agriculture directly contributes only around 1% to total tax yield while it accounts for more than half of total national output. Clearly, this sector must contribute to the national exchequer commensurate with its weight in the economy to increase domestic resource mobilisation. This of course does not mean that the generally poor in the rural sector will have to bear the burden of taxation. A recent study [4] has spelt out clearly as to how the contribution of the relatively large land owners enjoying a much higher level of income compared to those tax paying urban population can contribute significantly towards increasing the total tax yield. The proposed alternatives of raising revenue from agriculture are (i) a modified agricultural income tax, the exemption limit and tax rate being fixed on lines of the present urban income tax (ii) a graduated land tax based on either value of land owned at the existing prices or on a presumptive income per acre of land, (iii) a tax on the agricultural produce exported from the locality via the secondary markets.

The very nature of Bangladesh economy primarily based on a large subsistence sector with under developed capital market and almost absence of accounting practices in business operations, forces it to depend on indirect taxes for mobilising resources as is the case with other developing countries under similar circumstances. Under these conditions the primary goal of taxation should be resource mobilisation for meeting the public expenditure requirements of the economy. The other objectives of growth and poverty reduction should be addressed by the proper public expenditure programme. In evaluating the fiscal policy the overall incidence of taxation and expenditure policy should be taken into account.

We have found that only six items account for about 75% of total taxes on domestic goods and services. Obviously the tax base should be increased. The objective should be curtailment of consumption of luxuries and restraining rapid increase in the consumption of non-necessaries. The objective of raising taxes in an equitable way can to a certain extent be met by taxing commodities with a) high income elasticity of demand and b) low price elasticity of demand.

Thus the tax structure will be elastic to mop up a larger share of incremental income as a consequence of economic development. During the period of economic development continuous search for new tax items and sources of finance should be carried out to widen and deepen the tax base so that it can meet the increasing demand of public expenditure required for the development of the economy.

Public expenditure programme, on the other hand, should economise on expenditure in unproductive sectors, increase expenditure on externality-intensive investment programmes such as economic overhead [5] and social overhead-which increase the marginal productivity of capital in the private sector as well. Expenditure on social overhead should be increased substantially to make such basic necessities of life as health, housing, education etc. available to common people not only to raise productivity of the economy but also to directly increase the welfare of the people at large. This will also balance the regressive impact of taxation policy heavily dependent on indirect taxes to raise sufficient revenue.

Increased investment in programmes raising the welfare of the poor and at the same time creating capital such as food-for-work should be taken up [6 & 7]. It was found that FFW increases the welfare of the poor and creates capital assets that contribute to the growth of the economy. But there are large leakages in the form of underpayment to workers, sub-standard construction etc. It was further found that the leakages were low, and projects benefitting the common people were selected only when the selection procedure of the projects involved the local people in a democratic manner.

Finally, it must be emphasised that the very nature of fiscal process generates diversity of responses conditioned by institutional political and ideological factors. The lot of the vast majority of people suffering from hunger, malnutrition and deprivation cannot be changed until and unless they are represented in the decision making body in proportion to their weight in total population. Until that day they will have to remain satisfied with the hope, that the expressed objectives of the plan will some how be materialised while the implication of the policies followed will remain a far cry from that as has been the experience of Bangladesh.

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# Local Government Finance in Bangladesh Problems and Potentials

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## I. Introduction

Local level development and poverty-alleviation are now the off-repeated concerns voiced by the government in this country. So far the concern has been translated into 'action' by the reorganisation of administrative structure and creation of the upazilas. It is claimed that the upazilas are the fulcrum of people-oriented development. To match the promise, the government has pumped in resources for creation of physical infrastructure facilities in the upazila headquarters and also is putting in a fixed sum of money every year into the kitty of the upazila parishads. At the same time the avowed goal of the present government, all governments since December 16, 1971, is and have been greater effort at mobilisation of domestic resources to lessen the country's dependence on external aid, loans and hand-outs. How far this goal has been realised or if there at all is any chance of it being realised is a question which has already been discussed threadbare particularly in the session on 'Self Reliance'. I will not dwell on it any further. I would instead like to draw your attention to the problems of local government finance and the potentials it holds.

Despite the 'emphasis on comprehensive rural development through local level planning and execution of projects'[1] little thought has been given to the generation of resources by the local governments<sup>1</sup>. One searches in vain through Chapter III on Domestic Resources in the Third Five

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\* Senior Research fellow, Bangladesh Institute of Development Studies. The paper draws rather heavily on two of his recent works, namely, Resource Mobilisation for Local Development (Working paper No.6 in Local Level Planning Project) and Local level Resource Mobilisation in Bangladesh (as a part of Taxation Studies Project) both carried out for the Planning Commission. Neither BIDS nor the Planning Commission is responsible for any of the views expressed here.

1 A first scanning through the Plan book discovers only one relevant sentence on page VI-II which is 'The Government has also authorised local parishad to collect some taxes'. The rest of the discussion on local level resources relate to government grant out of national revenue.

Year Plan book for any reference to the potentials of revenue generation at the local level<sup>2</sup>. We would like to argue that this is a serious lapse in view of the emphasis placed on local level development, alleviation of poverty and domestic resource mobilisation. It is possible to generate more than four thousand five hundred (eleven hundred) crore taka from upazilas alone which at one stroke paves ways for viable local governments, reduced dependence on foreign resources and help in supporting the poor through suitable local level programmes.

The rest of this paper is divided into the following sections:

- II Local Government Finance— the Present Situation;
- III Recommendation for an Improved System and Revenue Potentials;
- IV Summary and Conclusion.

## **II Local Government Finance — The Present Situation**

Bangladesh at present has four types of local governments—the union parishad (at the union or cluster of village level), the upazila parishad (at the upazila level), the zila parishad (at the district level) and the pourasabhas (or municipalities and corporations in urban areas). The first two are democratically elected governments while the third is an undemocratic institution run by bureaucrats. Elections to the pourasabhas have been held sometime back with a few notable exceptions which include the municipal corporations of Dhaka and Chittagong. The latter are run by administrators directly appointed by the government. At present there are some 4500 unions, 460 upazilas, 64 zilas and 77 municipalities in the country.<sup>3</sup>

According to official figures, of the total Tk. 1262 crore average domestic revenue generated within the country, Tk. 36.8 crore or just below 3% has been raised by the local governments. More recent figures are not available but those for 1980/81 and 1981/82 indicate slight improvements in the proportion moving up as it did to 3.2% and 3.6% respectively. The total internal resource generated by the local governments in 1981/82 stood at Tk. 94.7 crore [2].

The local governments receive grants from the government for various purposes. Of the total resources available to the zila, union and pourasabhas in 1981/82, some 63% was generated internally, the rest was in the form of grants<sup>4</sup>.

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2 Of course this is but only one instance of the wide gap between hetic and practice. One can find others in the Plan book like the absence of reflection of the findings of the Bangladesh Energy Planning Project sponsored by the Planning Commission itself.

3 The zila parishads here, however, refer to the old twenty prior to the present reorganisation.

4 Obviously, the proportion will probably be much less now as grants have increased tremendously after the introduction of the upazilas. Between 1982/83 and 1983/84 it increased from Tk.68 crores to Tk.218 crores.

There are several mechanisms for internal generation of funds by the local governments. Taxes are imposed as a general obligation on the part of the citizens to bear the cost of running the government. Rates are levied on the promise of supply of certain services. Fees are charged for actual provision of certain facilities. All local governments impose one or other tax, rate or fee. Other sources include property incomes, interest incomes, contributions etc. Most of the local government, however, depend on one or two major sources of revenue.

### **Zila parishad**

The collection of zila parishad revenues are regulated on the basis of the Local Government Ordinance (LGO), 1976 which lists 28 items for the purpose of levy of a tax, a rate or a fee. The relevant schedule was the result of a merger of the schedules for the zila parishad and the union parishad under the Basic Democracies Order (BDO) of 1959. The LGO schedule stipulates that it is to be applicable for both the zila and union parishads subject to the provision that the same taxes may not be charged by both the Parishads from the same tax payer. In reality, the zila parishads imposed but a few taxes, rates and fees. The major tax is the Immovable Property Transfer Tax (IPTT).

The IPTT is levied at 1% of the value of deed of transfer of immovable property like building and land. The tax is administered and collected by the Ministry of Land Administration and Land Revenue which returns 97% of the proceeds to the zila parishads. The rest is kept by the ministry as collection cost.

The IPTT rate is low by international standards. In European countries like France, Germany, Spain and Greece it varies from 4.2 to 16% of sale price of property while in Asia it varies from 2-3% (in Singapore) to 5% (in Nepal) to 7% (in S. Korea) [3;2].

Tables 1 and 2 for two over-lapping periods show the revenue position in the zila parishads. The dependence of the zila parishad on IPTT is clearly visible from the tables.

### **Union Parishad**

The union parishad finances are governed by the LGO, 1976. In fact as zila parishads do not levy any tax (save for IPTT), the result has been practically the application of the BDO Model Tax Schedule for the union parishads.

An in-depth survey for the period 1976/77- 1981/82 in 31 union parishads in three districts, namely, Faridpur, Sylhet and Rangpur revealed that unions levied.

- 5 types of taxes and rates (holding, village police, profession, vehicles and animals plus share of local rate) and

- 11 types of fees (court, market, license, marriage, nationality and birth, slaughter certificate for ownership of animals, boats, trucks and cinema).

Apart from these, there were incomes from pounds and ferries, lease of union parishad land, miscellaneous other incomes and grants. Among the internal sources, the property taxes are the most important. The taxes are the holding tax and the rate for the village police both assessed on the basis of valuation of property. Because of the identity of the base, it is difficult to distinguish between the two and indeed few union parishads are known to do so. Thus what is reported as the Chowkidari tax is an amalgam of the two.

**TABLE—1**  
**ESTIMATED ZILA PARISHAD REVENUES**  
**(1976/77 — 1980/81)**

(Tk. Million)

Sources	1976/77	1977/78	1978/79	1979/80	1980/81
IPTT	50.4 (38)	61.5 (39)	72.1 (44)	99.9 (47)	85.5 (44)
All other internal	22.5 (17)	21.0 (13)	23.5 (14)	29.3 (14)	26.6 (14)
Grants	59.0 (45)	76.7 (48)	68.3 (41)	80.9 (38)	80.1 (42)
Total	131.9	159.2	163.9	210.1	192.2

Note: Figures in parentheses are percentages of total revenue.

**TABLE—2**  
**AVERAGE INCOME OF FOUR ZILA PARISHADS (1979/80-1983/84)**  
**(excl. opening balance)**

(Tk. Lakh)

Source	Dinajpur	Dhaka	Tangail	Faridpur
IPTT	41.3 (49)	152.5 (58)	25.3 (34)	42.3 (39)
Other internal	9.1 (10)	47.8 (18)	7.5 (10)	26.8 (25)
Grants	34.7 (41)	62.2 (24)	41.1 (56)	39.4 (36)
Total	85.1	262.5	73.9	108.5

Note: Figs in parentheses are percentages of total revenue

In 1976/77, the Chowkidari tax contributed 48% of total revenue including grants (31%) in the above 31 unions. By 1980/81, it came down to 35%. Grants contributed some 42%.

More recent evidence from 7 unions in Faridpur and Tangail districts are shown in Table 3. It is clear that the chowkidari tax is the prime source of internal revenue.

The rule for assessment of the chowkidari tax is to demand 2% of the annual rental value of property. In reality that usually never happens. The union parishad decides apparently in a quite ad hoc manner the amount of taxes that needs to be raised, apportion the total among the villages and finally among the households on the basis of a subjective notion of ability to pay. In any case, the assessments per household are low. A survey in 7 Faridpur and Tangail unions shows that among those who were assessed to pay chowkidari taxes 80% or more were assessed at less than Tk. 25 during 1983/84 or Tk. 2 or less per month [4;43]. On the other hand collection efficiency was low. In both the districts, it has fallen from 54% of collection of total demand to 15-20% over 1975/76 — 1983/84.

#### **Upazila parishad**

The upazila parishad finance is governed by the Local Government Ordinance, 1982. The Third Schedule of the Ordinance has identified three types of taxes (profession, amusement and street lighting) several types of fees and lease money from jalmahals (fishing rights) and hats (holdings of markets) as the internal sources of revenue for the upazilas. How far these sources have begun to contribute to upazila funds is not yet known. But until 1983-84, practically all their resources were obtained as grant from the government. In 1983/84, the total amount so received amounted to Tk. 170.9 crore which accounted for 78% of government grant to all local governments in that year. Over the Third Five Year Plan the government hopes to inject Tk. 1250 crore into the upazilas as grant for development activities [5; VIII-5].

**TABLE— 3**  
**AVERAGE UNION PARISHAD INCOME(7 UNIONS)**

(Tk. Thousand)

Source	1979/80	1980/81	1981/82	1982/83	1983/84
Chowkidari tax	25.9 (50)	30.3 (48)	29.2 (45)	22.2 (42)	22.1 (28)
Other internal	3.5 (6)	5.3 (8)	8.0 (12)	5.8 (11)	10.7 (14)
Total internal	29.4 (56)	35.6 (56)	37.2 (58)	28.0 (52)	32.8 (42)
Grants	22.8 (44)	27.7 (44)	27.2 (42)	25.4 (48)	45.4 (58)
Total income	52.2	63.6	64.4	53.4	78.3

Note: Figures in parentheses are percentages of total income.

#### **Pourasabhas**

In 1981/82, pourasabhas generated nearly 40% of the total internal revenue raised by all local governments. On a per capita basis the urban governments thus raised four times as much compared to the zila and union parishads. Historically they are also the least dependent on government grants. Only since 1981/82, they may have begun to receive grants in substantial amount. Unfortunately certain recent acts of the government will erode the capability of the municipalities to generate internal revenues and will make them more dependent on the central authorities. We shall come to that later. The Municipal Ordinance, 1960, later repealed and replaced with the Pourasabha Ordinance, 1977, contained a list of a variety of taxes, rates and fees that could be levied by a municipality. In reality only a few have been resorted to. Since the sixties and upto the beginning of the eighties octroi payments were a significant source. But in 1981, it was dropped and replaced with a compensatory grant.

What remained important all throughout were the taxes and rates based on property. The property taxes include the one on valuation of building and land and the IPTT within the municipal boundaries. The rates based on annual valuation of property are those for water, lighting and conservancy. Information from four municipalities viz, Dinajpur, Faridpur, Tangail and Comilla and also from the Dhaka Municipal Corporation (DMC) show (Table-4) that the property taxes and rates contribute a sizeable bulk of own-source revenue. In case of DMC, other sources are also important.

**TABLE—4**  
**INCOME IN MUNICIPALITIES (1981/82—1983/84)**

(Tk. Lakh)

Source	4-Municipalities average			D M C		
	1981/82	1982/83	1983/84	1981/82	1982/83	1983/84 (R.E.)
Property tax	5.7 (26)	5.7 (19)	6.2 (20)	347.5 (31)	463.1 (25)	780.0 (23)
Property rates	6.4 (30)	7.3 (25)	9.8 (33)	212.2 (19)	265.3 (14)	500.0 (15)
Other internal	9.5 (44)	16.8 (56)	14.1 (47)	544.6 (49)	1116.4 (61)	2090.8 (62)
Total internal	21.6 (76)	29.8 (74)	30.1 (65)	1104.3 (73)	1844.8 (77)	3370.8 (74)
Grants	6.8 (24)	10.3 (26)	16.4 (35)	405.8 (27)	549.9 (23)	1170.0 (26)
Total income	28.5	40.1	46.6	1510.1	2394.7	4540.8

Note: Figures in parentheses in the last two rows are percentages of total income. Those in other rows are percentages of total internal revenue.

One other point needs to be emphasized here. It is the sheer size of the revenue of DMC compared to the district towns mentioned above. In 1983/84, estimated DMC resources were nearly 100 times as large compared to than in an average district town.

#### The Grants System

A discussion on local government finance remains incomplete without any reference to the existing grants system. This is also important in the context of internal resource mobilisation as a specific matching grant makes the local government responsible for its own generation of revenue to match the forthcoming grant.

In Bangladesh there is a wide variety of grants historically acquired. These constitute various compensatory and general purpose grants and are usually termed as normal grants. In addition there are grants given for budget support and for specific purposes. From the view point of resource mobilisation, it is more important to look at the grants by their matching characteristics. These are shown in Table-5.

It is found from the table that within a span of 3 years grants have increased by nearly 3½ times nearly all of which occurred during 1983/84 due to grants to upazilas. The table clearly shows that non-matching grants predominate overwhelmingly. Indeed, the matching grants are all given for salary and honouraria support for the village police and chairmen/members of the union parishads. There is thus little scope for increasing internal mobilisation of resources in the context of such a pattern of the grant system.

### III Recommendations for an Improved System and Revenue Potentials

Theoretically the tax base allowed to the local governments is not quite broad. Actual practice has narrowed it down further by concentrating on only one or two taxes and also through ad-hoc assessments. Further collection efficiency is low.

**TABLE—5**  
**SPECIFICITY AND MATCHING CHARACTERISTICS OF GRANTS**

Characteristics	(Tk. million)					
	1981/82		1982/83		1983/84	
	Amount	Percent	Amount	Percent	Amount	Percent
General non-matching	44.1	9.0	38.1	5.6	85.7	3.9
Specific non-matching (of which upazila grants)	360.2	73.9	565.6	83.2	2002.7 (1709.5)	91.8 (78.4)
Specific matching	83.1	17.1	75.7	11.2	92.0	4.2
Total	487.3		679.4		2180.4	

#### Recommendations

The general recommendation in such a situation shall be to broaden the tax base and improve the tax administration. In what follows we make several recommendations. The recommendations may not always seem obvious as these are based on a more in-depth study by the author than the present one.

#### a. Democracy

The very idea of local government is deeply embedded in grassroot participation and democratic practice. Unfortunately in Bangladesh, for whatever be the reason, this has been singularly lacking. The present

situation is particularly intriguing. Elections have been held to union parishads and upazila parishads and most of the pourasabhas while Zila parishads are yet to be popularly elected and continue to be run by bureaucrats who apparently now have control over the upazila affairs defeating the government's off-repeated claim of making the latter foci of development activities. Then again the elections to the corporations have not been held. No explanation has been given for not holding these elections. One only wishes that the sooner these elections are held, the better.

#### **b. Local Finance commission**

We believe that in our exposition we have only seen the tip of the iceberg. There is much more to local government finance than meets the eye. A Local Finance Commission with a comprehensive terms of reference may be set up. The Commission will not only find out the problems and potentials of local government finance, it will also recommend definite institutional relationships between various organs of the central and local government and also between various tiers of local government. If such a commission is set up it may be composed of eminent economists, political scientists and experts in public administration. Adequate funds and sufficient time (2-3 years) will have to be allowed for the commission to function satisfactorily.

#### **c. Property Valuation Board**

We believe that a permanent Property Valuation Board is essential for a better functioning property tax system, the mainstay of all local government (except the upazila parishads). A beginning can be made by establishing a central office in Dhaka and then within a year opening fully staffed branch offices in the (old) district towns. Within 3-4 years, these may be strengthened to take charge of all pourasabhas and non-pourasabhas within the old districts. Once all the urban areas are covered, their jurisdiction may be extended to the rural areas. However, the latter may be largely unnecessary if cadastral surveys for assessment of Land Development Tax (LDT) are undertaken.

The Property Valuation Board shall be an independent body under the over-all guidance of the government. It will assess property values through periodic surveys and monitoring of the property market for sale and rental. It will also advise on proper classification of properties for valuation purpose.

The nucleus of such a Board is already there as there are assessors in each pourasabha. Thus what is being proposed is in essence a reorganisation of the system into a separate body with definite tasks to be carried out in a coherent, sound manner. The initial budgetary implications of a Property Valuation Board is thus not likely to be large.

#### **d. Reorganised Local Government Structure**

With the upazilas being held out as the basic structure for local level development, it is only natural that in the rural areas upazilas should be the major local government with strong executive and financial powers. To this end the scopes of both zila parishads and union parishads and the structure of at least the former needs to be changed.

We suggest that the zila parishads should have only supervisory and coordinative powers over the upazila parishads. This may be facilitated by restructuring the zila parishad as a Committee of Upazila Chairmen. Each year there may be a chairman of the committee elected from among the upazila chairmen or in a pre-determined fashion by selecting the chairman from the upazilas by turn. The DC's office may function as the secretariat for the zila parishad or it may be composed of the present zila parishad staff under the DC in his capacity as the member-secretary to the zila parishad.

The reorganisation of the zila parishad shall also mean that the parishad will be stripped of all revenue raising powers which will be transferred to the upazilas. This means that the zila parishad expenditures will have to borne by regular transfer of resources from the upazilas to the zilas.

The union parishads, similarly, will be divested of all tax and revenue raising powers. However, as taxes will still have to be collected from the unions, the tax collectors based in the unions will be in the employ of the upazilas. The unions will still remain as expenditure agencies for the upazilas. The unions shall receive the money as grants for carrying out the activities planned by the upazila parishad to fall within specific unions.

#### **e. The Tax Base, Structure and Rates**

The tax base must be broadened for the local government to be able to generate more resources. To this end the proposed Local Finance Commission should make definite recommendations. A few suggestions may, however, be considered right away. Before these are spelt out here two points may be mentioned. The first is that one must shun the 'peculiar' philosophy of reserving lucrative taxes for the centre and allowing only the residual, difficult to collect taxes for the local government. Secondly, here the suggestions are given in a very brief manner [2].

##### **i) IPTT**

The rate of IPTT is among the lowest in the world. We propose that it be raised to 5% over the next ten years.

##### **ii) Tax on Annual Value of Property**

The rate of this tax has been very recently reduced from 10% to 7% in the pourasabhas. The previous rate should be continued; otherwise, there will be a substantial fall in the tax revenue of the municipalities making them more dependent on grants from the central government.

Furthermore, one should find out which type of property taxation is the best, is it the present one, a capital value taxation or a site value taxation? We believe that the basic criterion for judging among them should be the maximization of revenue. In any case this should be a matter of research and debate and reflection by the proposed Local Finance Commission.

**iii) Chowkidari Tax**

One part of the Chowkidari tax is theoretically a tax on annual value of property. The other is a rate for the village police. In reality, the composite tax is imposed more like a poll tax. Given the serious problems of assessment and provided that cadastral surveys for assessment of LDT is not undertaken for quite some years, it would be worthwhile to consider if a head tax can be imposed in place of the chowkidari tax. The tax, if imposed may be levied taking into consideration the ability to pay of the household concerned. In any case if it is possible to introduce the tax its administration at least so far as its assessment is concerned will be greatly simplified.

**iv) Sumptuary Tax on Tobacco Products**

A sumptuary tax at 7-10% on maximum retail value of tobacco and cigarettes to be collected from major wholesalers of cigarettes and bidi manufactures or as a surcharge on the excise tax collected from the cigarette and bidi manufactures. In the latter case which would be administratively simpler the tax will be collected by the excise department and after deduction of collection charges (upto 5% of collection), the amount may be distributed among local governments in proportion to population. We suggest that only upazilas and municipalities may receive the proceeds of the tax.

**v) Road User Tax**

A road user tax may be levied, initially at 5% but increasing to 10% by 1990, on the c.i.f. value of import of motor vehicles, tyres and tubes, petroleum and petroleum products (but excluding kerosene). The tax will be collected by the customs (for excise) authorities at point of entry and after deduction of 5% as collection cost will be returned to the upazilas and municipalities in proportion of surfaced road length.

**vi) Local Income Tax**

In essence this will be the existing tax on profession, trade and callings. At present the tax is no more than a license fee imposed at flat rates which are very insensitive to inflation. It is proposed that the rates of fees once these are decided may be indexed to inflation. As construction of sophisticated indices may be difficult at the local government level, a crude index based on local rice prices may be used.

The above principle may be applied to the numerous wholesalers, retailers and small companies. The tax should, however, be extended to all public employees of class I and II category by requiring them to pay 2–5% of their salary (basic plus ad-hoc, if any). The tax may be deducted from salary and deposited to the treasury. The collection may be divided between upazilas and municipalities in proportion to rural–urban population.

Large private companies may be similarly taxed. But in this case, the tax shall go to the particular jurisdictions in which these are located.

**vii) Land Development Tax**

We suggest that the LDT and all related taxes and sources of earnings be transferred to the upazilas. Ten per cent of the value of gross produce of land may be siphoned away as LDT. To make it a really useful source, one will however, have to make cadastral surveys.

The LDT may be levied with or without exemption. The former is more likely.

**viii) Small Taxes**

There are many small taxes, fees and rates which should perhaps either be withdrawn or put on a more sound basis so that these become buoyant. For example, one really fails to understand the rationale behind, say, a marriage tax. If this is kept in the schedule it may be related to Kabin values. Similarly slaughter fees should be based on price of meat and changed as the price changes.

**ix) Grants**

The whole grant system should be very critically appraised for its modification to enable local governments to predict their level with some certainty and to make the system conducive to increased resource mobilisation. To this end, one may consider the merits of, for example, the Filipino (for certainty) and the British (for resource mobilisation) systems. One should at least consider the proposition that no development grant be given without matching resources from the local authorities.

**The Potentials**

The state of local government finance is not at all good in this country. But provided the above suggestions are implemented and financial administration is overhauled and made efficient there is a tremendous potential for resource generation.

A modest and very conservative attempt has been made to estimate upazila resources<sup>5</sup> on the basis of the above recommendations. The actual methodologies followed for estimation are described elsewhere [2;176-212]. The estimates are shown in Table-6.

The table clearly shows that there is a 3-5 times increase in the resources available in any given year to the upazilas. In fact it may be much more as property income and the like have not been included here.

Most of the resources generated internally comes from the LDT. Taxes transferred from 'higher' and 'lower' local government contribute nearly 7% of total. The rest are mainly due to sumptuary and road taxes.

**TABLE — 6**  
**ESTIMATED UPZILA RESOURCES 1985/86 — 1989/90**  
**(Major Sources Only)**

	(Tk. Million)				
Tax source	1985/86	1986/87	1987/88	1988/89	1989/90
IPTT	251.9 (3.5)	266.2 (3.3)	351.5 (3.9)	371.4 (3.7)	470.9 (4.2)
Chowkidari	262.1 (3.6)	271.7 (3.4)	278.0 (3.1)	282.7 (2.8)	286.7 (2.6)
Sumptuary	294.7 (4.1)	376.0 (4.7)	533.9 (6.0)	679.1 (6.8)	859.4 (7.7)
Road	133.0 (1.8)	174.2 (2.2)	205.5 (2.3)	246.5 (2.5)	291.2 (2.6)
Local income	47.7 (0.7)	50.1 (0.6)	52.7 (0.6)	55.4 (0.5)	58.3 (0.5)
LDT	6226.1 (86.3)	6848.7 (85.7)	7533.5 (84.1)	8286.9 (83.5)	9115.6 (82.2)
Total (Average Upazila)	7215.5 (15.68)	7986.9 (17.36)	8955.1 (19.46)	9922.0 (21.56)	11082.1 (24.09)

Note : The LDT estimate is based on the assumption of an exemption of land upto 2.5 acres per household. There are two other estimates—without exemption and with exemption upto 1 acre. The terminal year respective estimates are Tk. 20257.0 million and Tk. 14179.9 million.

5. No attempt has been made to estimate municipal resources because of lack of sufficient information.

#### **IV Summary and Conclusion**

The discussion in the preceding sections has shown that the local taxes have narrow bases, only a few are utilised and the collection efficiency at least in some cases is not at all good. There are, however, scopes for broadening the base and improvements in the system. To this end the setting up of a Local Finance Commission and a Property Valuation Board and a reorganisation of the local governments have been proposed. Suggestions have been made for introduction of several new taxes and transfer of some of the old ones to the upazilas with their rates modified. It has been shown that an average upazila may generate between Tk. 15 — 25 million each year of over the Third Five Year Plan. The implications are very conducive to efforts at domestic resource mobilisation.

The public sector or the planned part of the Third Five Year Plan is Tk. 250 billion of which the domestic part is Tk. 59.6 billion. The above exercise shows that given political will some Tk. 45.2 billion or 76% of this may be raised from the upazilas alone by relying on the major taxes. If even a third of this amount is raised from the municipalities which is, I believe a distinct possibility the whole of the planned domestic resource component can be generated depending on local level tax efforts. The total plan size then may be increased and/or dependence on external resources lessened.

The resources apparently are thus quite large in comparison to the present level. Still the exercise merely shows the potentials in a low productivity—low income situation. If the resources are ploughed back in terms of investment, economic and social, a higher tax base will be created. The economic investments will increase productivity particularly in agriculture which will further raise LDT and sumptuary taxes while investments in roads will increase road taxes. Similarly social investments for fulfilling basic needs like food, health and education [6] will create an increased awareness among the people about the worth of their money they pay to the government thus creating an increased willingness to pay taxes.

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# Monetary Policy in the Third Five Year Plan

By MOHAMMAD SOHRAB UDDIN \*

## I. INTRODUCTION

The main objective of monetary policy that has been pursued in Bangladesh since its independence is to maintain a steady, non-inflationary expansion of money supply by controlling the rate of expansion of bank credit to the public and private sectors. Although the government has been concerned about the low rate of savings in the economy, the role of monetary policy in influencing private savings and directing them to productive investment for overall economic development of the country seems to have been ignored for a long time. In recent years, however, emphasis has been given to interest rate policy as a means of influencing private portfolio decision. The Plan documents published by the Government of Bangladesh discuss monetary problems and policies in the context of liquidity expansion within a safe limit, that is, it should not exceed what is warranted by the growth rate of real GDP and the permissible rate of price increases for goods and services. However, the Draft Third Five Year Plan attached importance to pursuance of an appropriate interest rate policy to encourage financial savings and direct these savings to productive sectors of the economy.

The basic framework of monetary policy is to fix a target level of money supply ( $M_2$ ) and to use various credit control and support measures to contain the monetary expansion within the target level and allocate credit to various sectors in such a way as to ensure deployment of scarce bank credit in the best possible manner for increasing production, employment and real income. The target level of money supply is worked out by taking into account the projected growth rate of real G.D.P. and the permissible rate of inflation. The rate of monetisation of the subsistence sector is also taken into account. However, the growth rate of velocity is assumed to be zero in the short run in most cases.

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\* General Manager, Bangladesh Bank. The article was written when the author was working as the Director, Bangladesh Institute of Bank Management. The views expressed in this paper are author's own and do not in any way reflect the official views of Bangladesh Bank or BIBM.

In this paper the monetary and credit programmes that have been pursued in recent years and the programmes to be pursued during the Third Five Year Plan are reviewed. This paper also discusses the success and appropriateness of the policy with respect to the objectives of price stability and growth. Section-II of the paper deals with the theoretical framework of fixation of target level of money supply. In section-III, a brief review of monetary and credit developments during the Second Five Year Plan has been made. In section IV an attempt is made to discuss the appropriateness of monetary policy to be pursued during the Third Five Year Plan in the light of the past experience. Concluding remarks are presented in section V.

## II. THEORETICAL FRAMEWORK

### Quantity Theory of Money

Theoretical framework for calculation of target level of money supply, as far as we are aware, has not been discussed in public in detail. However, if we examine the procedure that is followed in the calculation of target level of money supply, it appears that quantity theory framework has been used as the basis. The form of quantity equation, as developed by Irving Fisher, describes a relationship between the money supply  $M$ , the velocity of money  $V_T$ , the real volume of transaction  $T$  and the price level  $P$ :

$$P \cdot T = M \cdot V_T \quad (1)$$

In the literature, a second representation of the transaction equation is also frequently found.

$$P \cdot Y = V \cdot M \quad (2)$$

In place of the volume of transactions  $T$ , the real G.D.P.,  $Y$  appears in equation (2). The income velocity  $V$  replaces the transactions velocity  $V_T$  in equation (1). It may be noted that the transactions velocity of money,  $V_T$  represents the number of times a unit of money physically turns over, and  $V$  the income velocity of money represents the rate of circulation of money relative to the rate of production of real income.

The equation (2) can be expressed in terms of growth rate as follows:

$$\dot{P} + \dot{Y} = \dot{V} + \dot{M} \quad (3)$$

Where the dot (.) over a variable indicates the growth rate of the variable

Equation (3) is the income version of the transactions equation in the form of rates of growth. The sum of the rates of growth of real income and price is equal to the sum of rates of growth of the money supply and the income velocity of money. Under the assumption made by neoclassical theory that the income velocity is constant, the equation (3) may be simplified to

$$\dot{M} = \dot{P} + \dot{Y} \quad (4)$$

In other words, the rate of growth of the money supply  $M$  equals the sum of the rate of growth of real income  $Y$  and the rate of inflation  $P$ . The equation (4) determines the target monetary expansion. However, the factors such as rate of monetisation and substantial amount of excess liquidity in the previous years are sometimes taken into consideration for projection of monetary expansion. If the income velocity of money is not assumed to be zero, the relevant equation for projection of monetary expansion would be  $\dot{M} + \dot{V} = \dot{P} + \dot{Y}$ , where  $\dot{V}$  is the growth rate of velocity of money.

#### Monetary Authorities Account

Table 1 shows the account of the monetary authorities. For our purpose we consolidate the central banks assets and liabilities with the governments currency liability.

TABLE — 1  
MONETARY AUTHORITIES ACCOUNT

Assets	Liabilities
Net foreign assets (NFA <sup>cb</sup> )	
Domestic credit (net) (DC <sup>cb</sup> )	
Credit to government (net) (GC <sup>cb</sup> )	Currency (C)
Credit to other public sector     PBC <sup>cb</sup> )	
Other assets (net) (OA <sup>cb</sup> )	

Net foreign assets includes gold and foreign exchange reserves less liabilities to foreign official holders. Domestic credit (net) is the sum of domestic credit (net) to government and gross domestic credit to the public sector other than the government. Domestic credit (net) to government is the outstanding credit to the government less government deposits with the currency liabilities of the monetary authorities.

#### Consolidated Accounts of Scheduled Banks

Table 2 shows the consolidated balance sheets of all scheduled banks. Net foreign assets includes authorised dealers balances less the liabilities to foreign official holders. Domestic credit is the sum of scheduled banks credit to the government, other public sector and private sector. Other assets (net) is the sum of all other assets less all liabilities except the deposits.

**TABLE — 2**  
**CONSOLIDATED ACCOUNTS OF SCHEDULED BANKS**

Assets	Liabilities
Net foreign assets (NFA <sup>sb</sup> )	Deposits (D)
Domestic credit (DC <sup>sb</sup> )	
Credit to government (CG <sup>sb</sup> )	Demand deposits (DD)
Credit to other public sector (PBC <sup>sb</sup> )	Time deposits (TD)
Credit to private sector (PVC <sup>sb</sup> )	
Other assets (net) (OA <sup>sb</sup> )	

The balance sheet identify of the monetary authorities can be written as

$$NFA^{cb} + DC^{cb} + OA^{cb} = C \quad (5)$$

Where  $DC^{cb} = GC^{cb} + PBC^{cb}$

The balance sheet identify of the consolidated accounts of scheduled banks can be written as

$$NFA^{sb} + DC^{sb} + OA^{sb} = DD + TD \quad (6)$$

Where  $DC^{sb} = GC^{sb} + PBC^{sb} + PVC^{sb}$

### Monetary Survey

Monetary survey is obtained by consolidating the monetary authorities account with the scheduled banks account as follows :

$$NFA + NDA = C + DD + TD = M_2$$

where  $NFA = NFA^{cb} + NFA^{sb}$

$$NDA = \text{Net domestic assets} = DC^{cb} + OA^{cb} + DC^{sb} + OA^{sb}$$

The above monetary identity states that the sum of net foreign assets and net domestic assets of the banking system is equal to broad money supply ( $M_2$ ). The above monetary identity and the quantity theory of money discussed earlier provides the basis for the monetary analysis in Bangladesh.

Given the base year level of money supply and the projected growth rate of money supply, the target level of money supply can be determined. After the target level of money supply is determined, the level of net foreign assets and other liabilities (net) of the banking system are projected to estimate what is called the safe limit to credit expansion.

### III. ACTUAL AND PROJECTED MONETARY EXPANSION

#### **Annual Monetary and Credit Programme**

The safe limits to liquidity expansion, as calculated on the basis of assumed values of parameters, and the actual liquidity expansion for the last three years are given in Table 3. It will be evident from the data given in the Table that there are large deviations of actual monetary expansion from the projected monetary expansion. Money supply (broadly defined) during the year 1982-83 was expected to be changed by Tk. 621.00 crores or 15% as per original projection but the actual expansion stood at Tk.1306.41 crores or 27.69%. During 1983-84 monetary expansion was projected (as per original projection) at Tk.903.93 crores or 15%, but the actual expansion stood at Tk. 2503.12 crores or 41.5%. Large deviation was also noticed during the 1984-85 in which actual liquidity increased by 25.6% against the projected expansion of 16.5%. It may be noted here that while projecting the increase in monetary expansion during 1984-85, money supply was estimated at Tk. 7743.14 crores as at end of June, 1984, which was lower than the actual level of money supply (Tk.8528.19 crores) as at end of June, 1984.

TABLE -- 3

## MONETARY AND CREDIT PROGRAMME 1982-1985

Particulars	1982-83		1983-84		1984-85	
	Projected change	Actual change	Projected change	Actual change	Projected change	Actual change
<b>Changes in Broad Money</b>	<u>+621.00</u>	<u>+1306.41</u>	<u>+903.93</u>	<u>+2503.12</u>	<u>+1278.00</u>	<u>+2148.30</u>
Causative Factors (Expansion (+)/ Contraction(-))						
<b>A Gross Domestic Credit</b>	<u>+816.00</u>	<u>+793.12</u>	<u>+1254.74</u>	<u>+1995.33</u>	<u>+1125.00</u>	<u>+2587.40</u>
(1)+(2)+(3)						
1. Net Credit to public sector						
(including Govt.) (i)+(ii)	+400	+36.73	+376.38	+47.44	+200.00	+611.20
(i) Net Credit to Government	—	-22.83	+135.02	+170.11	+100.00	-66.20
(ii) Gross credit to Public Sector	+400.00	+59.56	+240.36	-122.67	+100.00	+677.40
2. Gross Credit to Private Sector	+416.00	+736.39	+376.38	+1755.55	+985.00	+1976.20
3. Miscellaneous Credit	—	—	—	+192.34	—	—
<b>B. Foreign Sector (net)</b>	<u>-170.00</u>	<u>+413.34</u>	<u>-250.15</u>	<u>+523.68</u>	<u>+255.00</u>	<u>-149.70</u>
<b>C. Other Items (net)</b>	<u>-25.00</u>	<u>+99.95</u>	<u>-100.66</u>	<u>-15.89</u>	<u>-162.00</u>	<u>-289.40</u>

Source : The above table has been compiled from data given in the Bangladesh Bank Annual Reports, the Budget documents of the Ministry of Finance and also from unpublished data available in the various departments of Bangladesh Bank. Miscellaneous credit refers to investments in Two-Year Special Treasury Bonds.

The position as discussed above clearly indicates that each year during the period of our study the actual monetary expansion exceeded the projected monetary expansion. However, even though the actual monetary expansions were much higher than those projected on the assumption of permissible rate of inflation, its effects on the price were not so severe as one would expect.

Increase in the supply of money does not necessarily increase prices. Whether or not the increase in money supply generates inflationary pressures depends on whether the increase gives rise to excess supply of money which in turn generates excess demand for goods and services. In a situation where the increase in money supply is accompanied by a

corresponding increase in the public demand for money, there will not be any excess supply of money which can cause demand for goods to rise. In such a situation, there will hardly be any price escalation. If the increase in money exceeds the demand for it resulting in an excess supply of money, its effect on the prices depends on the supply of goods and services in the economy. If the increased demand for goods and services, caused as a result of excess supply of money, is exactly matched by increased availability of goods and services, there may not be any price rise.

If we examine the data given in the following Table, it will reveal that additional liquidity did not generate higher rate of inflation in the economy. The increase in total liquidity was accompanied by an increase in the asset demand for money. This is partly corroborated by the fact that the share of time deposits in total liquidity increased in recent years. The increase in the asset demand for money was largely responsible for less than the warranted rate of inflation during the period of study. Smaller upward adjustment in administered prices and better management of the economy from the supply side were among the other factors which helped contain increase in prices. The first expansion in liquidity (broad money) did not, therefore, generate higher rate of inflation, rather it created a favourable climate for investment. Therefore, though it appears at first sight that monetary policy adopted by the authorities failed to achieve its objectives because actual level of money supply exceeded the target level substantially, on deeper analysis it becomes evident that the expansionary monetary policy adopted in Bangladesh against the planned restrictive policy did not exert any adverse effects on the economy.

**TABLE - 4**  
**RATE OF INFLATION, GROWTH OF REAL INCOME AND LIQUIDITY**

Year	Growth of Real Income	Projected Growth rate of liquidity	Actual growth rate of liquidity	Inflation Rate
1982-83	3.6	15.0	27.7	9.9
1983-84	4.2	15.0	41.6	9.7
1984-85	3.4	16.5	25.6	10.9

Source of Basic Data: Economic Trends, Bangladesh Bank, July, 1985.

Note : Rate of inflation has been calculated on the basis of the average of the Consumer price indices for twelve months.

We have so far discussed how the actual monetary expansion deviated from the planned expansion and whether the deviations produced any adverse effects on the economy. We now turn our attention to analyse what

are the factors which contributed to such differences between the actual and planned monetary expansion. If we examine the causative factors of the change in broad money we see that there are large deviations in the actual and projected changes in net foreign assets. The differences occurred both in magnitudes and directions. In 1982-83 it was projected that net foreign assets would decrease by Tk. 170.00 crores, but actually it increased by Tk.413.34 crores. Net foreign assets increased by Tk. 523.68 crores during 1983-84 against the projected decline of Tk.250.15 crores during the same year. In 1984-85 net foreign assets was projected to be increased by Tk.255.00 crores, but actually it decreased by Tk. 149.70 crores. The errors in forecast of changes in net foreign assets were, therefore, an important factor in upsetting the monetary programme since increase/decrease in net foreign assets other things remaining same, increase/decrease money supply. In a country like Bangladesh projection of net foreign assets is a very difficult exercise since it depends heavily on extraneous factors over which authorities in Bangladesh have little control. Our development plans are largely financed by the inflow of foreign aid. Any change in the availability of foreign aid upsets all projections. Moreover, Bangladesh is predominantly an agricultural country. Production of majority of the commodities is heavily dependent on exogenous factors such as weather. Bad weather in a year severely affects production raising import requirements and lowering exportable surplus. It is, therefore, not very surprising that such large differences occurred between the actual and projected changes in net foreign assets.

Large deviations were also observed between actual and projected changes in domestic assets. In the last two fiscal years, the actual domestic assets expansion exceeded the target expansion substantially. It is not known why the commercial banks were allowed by the monetary authorities to exceed the assets ceiling to such a large extent. One of the explanations may be that since the fast expansion of liquidity did not generate much inflationary pressure and the commercial banks had substantial excess liquidity, the authorities were liberal in allowing the banks to expand assets beyond the limit prescribed for them. As long as the fast expansion of domestic assets increases the economic activities of the country without producing any pronounced effect on the price level, it seems quite reasonable to follow the expansionary monetary policy. Fixation of a target level of money supply does not necessarily mean that the actual level of money supply has to be always within the target. Actual monetary expansion should depend on the current situation of the economy.

#### **Evaluation of monetary and credit programme during(SFYP)**

In the Second Five Year Plan (SFYP) the projection of safe limit for liquidity expansion was based on the projected growth rate of real GDP at 7.2

percent per annum, the rate of monetisation of the subsistence sector at 1.4 percent per annum and the price increases at the rate of 10% in 1980-81, 8% in 1981-82, 7% in 1982-83 and 1983-84 and 6% in 1984-85. Monetary and credit projections were revised in 1982 in the light of 2 years' actual developments. The actual situation and the original and revised projections of monetary and credit expansions during the SFYP are given in the Table -5. It can be seen from the Table that the total liquidity ( $M_2$ ) increased by Tk.7273 crores during the plan period against the original and revised projected expansions of Tk. 3049 crores and Tk. 4187 crores respectively. If we analyse the causative factors of the changes in liquidity we will see that there are similar large deviations of actual changes of gross domestic assets and foreign assets (net) from its projected changes.

**TABLE - 5**  
**MONETARY AND CREDIT PROGRAMME DURING**  
**THE SECOND FIVE YEAR PLAN (1980-85)**

Particular <sup>a</sup>	Changes During SFYP		As per actual situation
	As per original projection	As per revised Projection	
Changes in Broad Money	+3049	+4187	+7273
Causative Factors (Expansion (+)/Contraction (-))			
A. Gross Domestic Assets	+3756	+6561	+9986
(i) + (ii)			
(i) Gross Domestic Credit	+4147	+6674	+6595
(ii) Other Assets (net)	-391	-113	+339
B. Foreign Sector (net)	-707	-2374	-2713

Note : Data on actual changes have been obtained from Annual Reports, Bangladesh Bank. Data on projected changes have been taken from SFYP.

#### IV. MONETARY EXPANSION IN THE THIRD FIVE YEAR PLAN (TFYP)

The draft Third Five Year Plan envisages monetary expansion of 17.5 percent a year. During the last three years 1982-83, 1983-84 and 1984-85 money supply ( $M_2$ ) increased by 28%, 42% and 26% respectively as against the projected increase of 15%, 15% and 16.5% respectively. The main reason for such large expansions in liquidity is the phenomenal increase in

credit expansion to the private sectors reflecting the shift in policy towards increasing liberalisation and privatisation the economy. Pursuance of positive real rate of interest encouraged fixed deposits which, in turn, also laid the base for credit expansion.

The policy of increasing liberalisation and privatisation of the economy and positive real rate of interest to the savers is likely to continue during the TFYP also. If this is so, the projection of monetary expansion of 17.5 percent per annum will be a very conservative one. Bangladesh Bank made a major upward revision in the interest rate structure in October, 1980. The purpose of such a revision was to offer positive real return to the fixed depositors in order to mobilise financial savings. Since the 1980 revision there was no major change in the deposit rate except minor changes in the interest rate on savings account with chequing facility in rural areas. Following the revision in the deposit rate there has been significant increase in fixed deposits which laid the foundation for credit expansion. The policy of imposition of ceilings on credit expansion in order to contain monetary expansion within the target level seems to be contradictory to the policy of encouraging deposit mobilisation. Increase of fixed deposits creates additional liquidity in the banks. If ceiling on credit expansion is imposed, the profitability of the banks is likely to be seriously impaired. In such a situation, the banks will either exceed ceiling imposed on them, or refuse to accept fixed deposits from the public. While in the case of nationalised banks they may try to influence the monetary authorities, in one way or the other, to allow them to extend credit beyond the limit prescribed for them, the private banks are likely to be unwilling to accept fixed deposits.

The effect of increase in fixed deposits may not be the same as the effect of increase in demand deposits or currency in circulation on the prices. If the monetary expansion is caused due mainly to the expansion of fixed deposits, there will not be any significant pressure on the price level. Since the policy of providing real rate of return to the fixed deposits will also continue during the TFYP, there may be a significant increase in the amount of fixed deposits during the period. Therefore, the targetting of monetary expansion by no more than 17.5 percent a year seems to be a very conservative one. Given the decrease in the growth of income velocity of money, the increase in the demand for money by the non bank public, the rate of monetisation and the permissible rate of inflation of 10 percent a year, and the growth of real GDP by 5.4 per cent a year, the liquidity may expand safely by more than 17.5 per cent a year.

One of the primary objectives of the credit policy of the monetary authorities is to help sustain and increase productive activity in the economy and, therefore, a policy of credit restriction that affects production must be regarded as being inconsistent with this objective. It is true that the people of Bangladesh are greatly concerned about the high rate of inflation, but one

should also realise that in an economy like ours where there is a very high rate of unemployment, the task of lowering the high rate of employment is of much greater concern to the monetary authorities. The monetary authorities cannot, therefore, be expected to follow a restrictive monetary policy.

The plan indicates that the quantum of monetary expansion during the plan period will be limited to 17.5 per cent a year but the plan does not analyse the causative factors of the monetary expansion. There are two components of monetary assets, the foreign component and the domestic component. If the foreign component i.e. foreign assets (net) is expected to show substantial contraction, it will not be too difficult to keep the monetary expansion within the limit. But our past experience shows otherwise. During the last three years foreign assets (net) showed a surplus of Tk.787.32 crores. Though one should not expect that this trend will continue in future years, one can reasonably assume that the trend will not be reversed in such a way that the foreign sector will show substantial contraction during the plan period. The planners should, however, provide an indication about the basis they have used for fixation of target monetary expansion and also an analysis of the factors expected to cause such an expansion.

The relationship between the reserve money of the central bank, i.e. currency liabilities of the central bank and reserves of the banking system with the central bank, and the money supply is represented by the money multiplier. The calculations made few years back indicated that broad money multiplier was over 3; this means that a monetary expansion of Tk. 14000 crores would call for addition to reserve money of around Tk. 4500 crores [7]. Increase in reserve money has to be matched by an equivalent increase in the assets of the central bank. While such an expansion of the monetary assets is an instrument to bring about the expansion of money, the distribution of these assets among the various sectors of the economy such as government, public enterprises, private sector either directly or indirectly through various institutions is required to be done in such a way as to keep it in conformity with the needs of the development programme. In the plan documents no exercise has been attempted for the disposition of the increase in the central bank's monetary assets.

## V. CONCLUDING REMARKS

Monetary and credit programme, as adopted in Bangladesh seems to be based on the quantity theory framework. It has been observed that in each year during the last three years and also during the SFYP the actual monetary expansion exceeded the target monetary expansion substantial. Though there was fast expansion in liquidity in each of the years, the price

increase was much less than what one would expect. The increase in the asset demand for money was largely responsible for less than the warranted rate of inflation. Smaller upward adjustment in administered prices and better management of the economy from the supply side were among the other factors which helped contain increase in prices.

An analysis of the causative factors of the change in money supply revealed that there were large deviations between the actual and projected changes of net foreign assets as also between the actual and projected changes of domestic assets. Deviations between the actual and projected changes in net foreign assets occurred because the projection was based on some assumptions which depended on many extraneous factors over which Bangladesh had little control. Large deviations between actual and the projected changes in domestic assets were also observed during the last three years and also during the SFYP. It is not known why the monetary authorities allowed the commercial banks to exceed the ceiling to such a large extent. It seems, however, that since the fast expansion in liquidity did not generate much inflationary pressures and the banks had substantial excess liquidity, they were allowed to expand credit beyond the limit prescribed for them.

The Third Five Year Plan envisages monetary expansion of 17.5 per cent a year. It does not indicate on what basis this figure has been arrived at, nor it analyses the factors causing such an expansion in liquidity. However, in the light of the past experience and credit requirements of the various sectors of the economy, we could make projection of over 17.5 percent a year monetary expansion during the SFYP.

The plan does not indicate how the increase in monetary assets of the central bank is to be disposed of. An increase of monetary expansion of 17.5 per cent a year is likely to increase the monetary assets of the central bank by around Tk. 4500 crores during the plan period. Disposition of these monetary assets is required to be done most prudently. TFYP remains silent on this issue. The planners must think about this issue and make appropriate policy decision.

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# PROCEEDINGS

## Address of the President of the BEA

BY REHMAN SOBHAN \*

### The goals of the BEA Executive Committee (EC)

All of you, my colleagues of the Bangladesh Economic Association (BEA) did me the singular honour two years ago of electing me unanimously to the post of President. The BEA has a distinguished inheritance which predates the emergence of Bangladesh. The economists of Bangladesh have made their contribution to the emergence of Bangladesh and the Association has frequently served as the vehicle for articulating the concerns of the people of Bangladesh.

Along with my colleagues in the EC we therefore presumed that we had been vested by all of you with the historic task of making the Association a living entity which should provide a standing forum to promote discussion on the critical problems of economics, the Bangladesh and global economy. This should contribute to promote teaching and research in economics and project the role of economists as a major professional body in Bangladesh who should be able to perpetuate a distinguished tradition of service to the people of Bangladesh. In this task we felt it appropriate to involve as broad a cross section of the membership in projecting and organising the activities of the BEA. As part of this task of activating the BEA the EC felt that its activities should not be limited to the metropolitan centre but should extend throughout the country to involve all its members. It was further seen to be appropriate that an Association of such long standing and professional distinction should promote contacts with the economics profession throughout the world by giving BEA members exposure to economists of international reputation through international conferences organised by BEA.

In order to sustain this programmes it was deemed important that the BEA secure its own premises and secure an autonomous source of funding rather than depend on a modest government grant. The EC has had a moderate degree of success in realising some of these goals. But much work remains to be done by the new EC which assumes office after this

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\* Director General, BIDS.

conference, provided that the goals defined by the outgoing EC are acceptable to the members of the Association and the new EC.

### **The Regional Seminar Programme**

The programme to activate the Association and disperse its activities was reasonably successful. It was proposed to organise a series of regional seminars in collaboration with the local university. The first of these seminars was co-sponsored with Dept. of Economics, Dhaka University in February 1984. It was held to commemorate the **Centenary of Marx, Schumpeter and Keynes**. The second regional seminar was held in collaboration with Dept. of Economics, Rajshahi University in May 1984 on the theme of **Problems of Regional Development in Bangladesh**. A third regional seminar was held in Mymensingh in October, 1984, in collaboration with BAU, on the theme of the **Agrarian Transformation of Bangladesh**. The fourth regional seminar was held in Chittagong in August, 1985, in collaboration with the Dept. of Economics, Chittagong University, on the theme of **Bangladesh's International Economic Relations**. Now the 7th Biennial Conference is just drawing to its close in Jahangirnagar University. The EC therefore feels gratified that during its tenure we have managed to involve the faculties of economics in every university of Bangladesh in the activities of the BEA.

Each of these seminars/conferences made it possible for economists, both local and from other centres, to present valuable papers on issues of theoretical and national importance. The seminars were exceedingly well attended in the respective regions where a broad cross section of members of the BEA from the universities and local colleges along with participants from official and business circles could participate. The concerned universities provided excellent support facilities for the seminars in the way of organisation and local hospitality. As a collaborative venture between BEA and the host university, as an exercise in generating debate on issues of general importance and in involving BEA members throughout the country in BEA's professional activities the programme was a success. Four publications will be forthcoming from these seminars. It is therefore recommended to the successor EC that they may consider making the regional seminars a regular feature of BEA activities.

### **The college lecture programme**

The second component of our programme to involve all members was less successful. This was the college lecture series. It was decided by the EC that every month the economics Department of one of the degree colleges would co-sponsor a visiting lecture on a theme of national importance in the area of economics. BEA was to line up, one of our distinguished economists from the BEA and organise the scholar's travel to the college. The college was to assign the date, organise the lecture and host the visitor. Letters and reminders were written to Heads of departments and Principals of all

colleges in Bangladesh providing honours courses in Economics. Direct contact was also established with some local colleges and President, BEA also spoke with a number of colleagues in the BEA from colleges, during the regional seminars. Unfortunately no response was received from any of these colleges. The only activity registered was the inaugural seminar in the series could take place. This was in Eden Girls College, Dhaka in August 1984 which was addressed by Prof. Muzaffar Ahmad. Four other lectures in various colleges were programmed but could not be held because of some local difficulty in the colleges. It is again for the new EC to decide whether to persist with this programme. But more important it is for the members, particularly from the colleges, to decide whether they want and will take the trouble to organise this. It remains my personal view that this programme is important for giving our colleagues from the colleges both teachers and students access to the latest developments in the profession and research work of significance currently underway in Bangladesh. It is also important for those in the metropolis and universities to maintain contact with their professional colleagues in the colleges.

Here it might be pointed out that BIDS, as part of its own contribution to the BEA programme of establishing links with the colleges, is about to launch its Outreach programme. This programme, organised in collaboration with NIEAR and with the collaboration of the Economics Departments of the Universities, will provide refresher courses in economics to college teachers and hopes to generate a programme of collaborative research between BIDS and the respective economics departments where teachers have participated in the refresher course.

### **International Seminars**

The programme of building international linkages between BEA and the global community of economists has again had some success. In January, 1985, BEA organised an International Conference on **South Asian Regional Economic Cooperation**. This was attended by 22 distinguished economists from India, Pakistan, Sri Lanka and Nepal, UNCTAD and ESCAP and was inaugurated by the Executive Secretary of ESCAP. It was the first time that so many economists of international reputation had been assembled by the BEA in Bangladesh for a professional conference.

In August of this year BEA organised a seminar on the occasion of the Board meeting in Dhaka of the International Food Policy Research Institute where a number of distinguished rural development specialists from the IFPRI participated in a discussion of **Agricultural development in Bangladesh** with economists from Bangladesh, specialising on rural development policy issues.

You have all attended at the inaugural session of our biennial conference the presentation of the six internationally distinguished ex-planners and finance ministers on the subject of their national development experiences. This again was a unique privilege not just for the BEA but for planners and policymakers in Bangladesh to draw upon the long experience of these experts with the planning process in giving us a wider perspective to our deliberations on the Third Plan. Here again it is for the new EC to decide whether they would like to continue this practice of inviting internationally reputed economists to interact with us in our professional activities.

### **Institutional support**

Our goal of raising funds and finding a premises still remains to be realised. We have launched a BEA Endowment Fund with a view to realise a target of Taka one crore. The investment income from this fund would make the BEA financially independent. It is for the successor EC to decide whether this goal is worth pursuing and if so to launch a drive to raise contributions to the Fund. In this task we as ordinary members will offer any help we can.

We are still without a premises. At one stage one of the Vice Presidents of the BEA, entrusted with the task of finding a premises came close to having an abandoned property assigned to us. But this commitment was at the last minute frustrated by a more potent claimant on the premises. The new EC may therefore pursue this goal if again they accept the importance of a permanent home for the BEA.

### **The BEA Organisation**

Finally it would be appropriate for me to say that if the BEA is to remain a vital organisation which can energise the economics profession of Bangladesh it will have to be financially independent and have an institutional premises of its own preferably with some full time executive officers. However to play out this role it will need the active support at least of all its EC members and indeed many of its ordinary members. The BEA cannot hope to prosper on the degree of commitment and time that a few people invest in this organisation. This tends to make the organisation a function of the personality and enterprise of its President and some office bearers rather than a reflection of the degree of commitment of all its members. This means that responsibility in running the organisation will have to be fully shared by all EC members and some general members who must contribute not just their ideas but their time and energy to complete tasks assigned to them on behalf of the Association. Given the fact that such services have no remuneration, except from the esteem of their colleagues, and given the rising opportunity cost of the time of members of the economics

profession, such a commitment will be no easy task. The BEA has to derive strength and commitment from the ongoing and active support of its members.

For those who are elected to the EC it must be realised that a full fledged division of labour will have to be accepted by them whereby each member assumes specific responsibilities during their tenureship. Through this process they can exercise their representative role on behalf of those who elect them. Within the EC the principal officials, the President, Secretary and Treasurer must accept a more onerous responsibility where they will need to work as a team to deliver the goods. For this reason and for manifest logistical reasons, on which I speak from experience, it is important that these three incumbents, as far as possible should be physically located in one city. The implications of this operational necessity will have to be worked out by the members in the exercise of their choice of candidates. This is my personal view. Any alternative suggestion which can resolve the problem of multi-polar officials and logistical paralysis deserves considered attention.

#### **The future of the BEA**

The economics profession is one of the few in Bangladesh which has a sufficient professional standing to be accorded national and international recognition. It is for us to justify this recognition and to proclaim our collective personality before the people of Bangladesh by the quality of our work and our capacity to contribute to an understanding and resolution of the problems of the common people of Bangladesh. In doing so a dynamic professional association such as the BEA has a role to play, sustained by the active concern and involvement of its members in its affairs.

It would be presumptuous on my part to suggest that during our tenure we have adequately discharged our historic responsibility to our inheritance to all our members and beyond them to the people of Bangladesh. We have attempted to make a beginning in this direction by vitalising the Association and dispersing its executives. In the process we have liberated the organising capacity of our colleagues in various parts of Bangladesh, harnessed their enthusiasm for working for the Association and projected outside the metropolitan centre to a wider audience that the Association is active. None of this could have been achieved without the support of a wide constituency of our members in Dhaka, Rajshahi, Mymensingh, Chittagong and now Jahangirnagar, composed of teachers, students, officials, businessmen and professionals. It is hoped that these energies once unleashed will continue to be drawn upon by our successors.

In sustaining such a programme I would be remiss if I did not acknowledge the enthusiastic support and willingness to invest

voluntary labour by my colleagues on the EC and indeed by its general members and it was they who shared the price of activating the Association. I would particularly like to acknowledge the support given by the two secretaries during the tenure, Dr. Momtazuddin Ahmad and Dr. A.T.M. Nurul Amin. I would also like to record my appreciation for the wise counsel of my predecessor, Prof. Akhlaqur Rahman in our endeavours. I seek their indulgence if the demands I have made on them have bordered on the unreasonable and record my gratitude for the labours they have invested in our shared endeavour.

Notwithstanding our last efforts we much acknowledge that we have fallen short of our objectives and have to make substantial ground if we are to begin to discharge our wider social responsibilities to the people of Bangladesh. By identifying the potential of the BEA during our tenure I hope that our successors will be much more productive in consolidating the institutional base for the BEA and in both defining the responsibilities of the economics profession and giving its leadership in discharging their historic responsibility to the people of Bangladesh. In this endeavour, as an ordinary member of the Association of 28 years standing, I pledge them my support within the limits of my modest capabilities.

## সাধারণ সম্পাদকের বার্ষিক প্রতিবেদন

মাননীয় সভাপতি, বাংলাদেশ অর্থনীতি সমিতির উপস্থিত সম্মানিত সদস্যগণ।

বাংলাদেশ অর্থনীতি সমিতির ইতিহাসে সংযোজিত হলো আরও দুটি বছর। পৃথিবীর দরিদ্রতম দেশের অর্থনীতি পেশার সদস্য হওয়াতে আমাদের একদিকে রয়েছে বিরাট সামাজিক ও নৈতিক দায়িত্ব। অন্যদিকে পেশাগত উৎকর্ষতা বৃদ্ধিতে অবদান রাখারও দায়িত্ব রয়েছে এই সমিতির। ১৯৮৩ সালের ৩১শে অক্টোবর সমিতির বর্তমান কার্য-নির্বাহী পরিষদ আপনাদের ভোটে নির্বাচিত হয়ে পরবর্তী দু'বছরের জন্য যে কার্যক্রম গ্রহণ করে তা প্রণয়ন ও বাস্তবায়নে উপরোক্ত দায়িত্ববোধ সম্বন্ধে সচেতন থাকার চেষ্টা আমাদের সব সময়ই ছিল। সে প্রচেষ্টায় সফলতা অবশ্যই পুরোপুরি আসেনি। কিন্তু এ ধরনের প্রচেষ্টা বাংলাদেশ অর্থনীতি সমিতি অব্যাহত রাখবে এ আশা ব্যক্ত করে অতঃপর আমি আপনাদেরকে গত দু'বছরের সমিতির কার্যাবলী সম্বন্ধে একটি সংক্ষিপ্ত প্রতিবেদন তুলে ধরিছি।

### ক) সেমিনার অনুষ্ঠান

নূতন কার্য-নির্বাহী পরিষদের প্রণীত কর্মসূচীর মধ্যে অন্যতম ছিল ৪টি আঞ্চলিক সেমিনার সহ বিভিন্ন সেমিনার ও বক্তৃতামালা আয়োজন করা। এই পরিকল্পনা অনুসারে প্রথম সেমিনার অনুষ্ঠিত হয় ২৫শে ফেব্রুয়ারী, ১৯৮৪তে ঢাকা বিশ্ববিদ্যালয়ে। “মার্কা-শুম্পিটার-কেইনস শত-বার্ষিকী” উপলক্ষে আয়োজিত এই সেমিনারে অধ্যাপক মোজাফফর আহমেদ কেইনসের উপর, জনাব আবু আহম্মেদ আবদুল্লাহ শুম্পিটারের উপর এবং জনাব নজরুল ইসলাম মার্কার উপর তিনটি উচ্চ মানের প্রবন্ধ পাঠ করেন।

রাজশাহী, ময়মনসিংহ ও চট্টগ্রামে অনুষ্ঠিত হয়েছে তিনটি আঞ্চলিক সেমিনার। ৮-৯ই মে, ১৯৮৪ তারিখে রাজশাহী বিশ্ববিদ্যালয়ে অনুষ্ঠিত আঞ্চলিক সেমিনারে “বাংলাদেশের উন্নয়ন সমস্যা” নিয়ে ছয়টি প্রবন্ধ পাঠ করা হয়। উত্তরবঙ্গের ব্যবসা ও শিল্প প্রতিষ্ঠানের প্রতিনিধিদের আলোচনা থেকে আঞ্চলিক উন্নয়ন সমস্যার বাস্তবতা সকলের দৃষ্টি আকর্ষণ করে। রাজশাহী বিশ্ববিদ্যালয়ের অর্থনীতি বিভাগের ভূমিকা এই সেমিনারকে সর্বতোভাবে সফল করে তোলে। এই সেমিনারের ধারাবিবরণী সম্বলিত একটি জার্নাল অধ্যাপক আবদুল হামিদের সুযোগ্য তত্ত্বাবধানে ও একটি সম্পাদকীয় পরিষদের সম্পাদনায় প্রকাশিত হয়েছে। কার্য-নির্বাহী পরিষদের সিদ্ধান্ত অনুযায়ী সকল সদস্যরা অর্ধেক মূল্যে এই জার্নালের কপি সংগ্রহ করতে পারেন।

“বাংলাদেশে কৃষির রূপান্তর প্রক্রিয়া” নিয়ে সেমিনার অনুষ্ঠিত হয় বাংলাদেশ কৃষি বিশ্ববিদ্যালয়ে ২৫-২৬শে অক্টোবর, ১৯৮৪ তারিখে। পঠিত পাঁচটি প্রবন্ধ ও তার উপরে অনুষ্ঠিত আলোচনা অধ্যাপক এ. এম. মুয়াজ্জেম হুসেইনের তত্ত্বাবধানে ময়মনসিংহ কৃষি বিশ্ববিদ্যালয় থেকে প্রকাশিত কৃষি অর্থনীতি সংক্রান্ত জার্নালের বাংলাদেশ অর্থনীতি সমিতির আঞ্চলিক সম্মেলন সংখ্যা হিসাবে প্রকাশিত হয়েছে। এই জার্নালও সকল সদস্যরা অর্ধেক মূল্যে ক্রয় করতে পারবেন।

দেশে বিরাজমান পরিস্থিতির কারণে চট্টগ্রামে অনুষ্ঠিতব্য সেমিনারের তারিখ কয়েকবার পরিবর্তন করতে হয়। শেষ পর্যন্ত এই সেমিনার অনুষ্ঠিত হয় ১-২ রা আগস্ট, ১৯৮৫ তারিখে। “বাংলাদেশের আন্তর্জাতিক অর্থনৈতিক সম্পর্কসমূহ” নিয়ে চট্টগ্রাম বিশ্ববিদ্যালয় অর্থনীতি বিভাগের সুযোগ্য নেতৃত্বে অনুষ্ঠিত এই সেমিনারে মোট ১৫ টি প্রবন্ধ পঠিত ও আলোচিত

হয়। এই সেমিনারের ধারা বিবরণী ব্যবসায়িক ভিত্তিতে প্রকাশের জন্য একটি প্রকাশনা প্রতিষ্ঠানের সাথে আলাপ-আলোচনা হয়েছে। চট্টগ্রাম বিশ্ববিদ্যালয় অর্থনীতি বিভাগের ডঃ স্বপন আদনানকে এই জার্নাল প্রকাশের সম্পাদকীয় দায়িত্ব দেয়া হয়েছে। আশা করা যায় এ প্রকাশনার কাজও শিগ্গিরই সম্পন্ন হবে।

১৯৮৪ সালে দেশের বিশ্ববিদ্যালয়গুলি দীর্ঘ সময়ের জন্য বন্ধ ঘোষণা করায় “বাংলাদেশে আয় বন্টন ব্যবস্থা এবং সম্পদের কেন্দ্রীভবনের” উপর জাহাঙ্গীরনগর বিশ্ববিদ্যালয়ে অনুষ্ঠিতব্য সেমিনারটি অনুষ্ঠিত হতে পারেনি। অনেকটা এ কারণে এবং জাহাঙ্গীরনগর বিশ্ববিদ্যালয়ের আন্তরিক উৎসাহে এই ক্যাম্পাসেই ৭ম দ্বি-বার্ষিক জাতীয় সম্মেলনের স্থান নির্ধারিত হয়।

“দক্ষিণ এশিয়ায় আঞ্চলিক সহযোগিতা” শীর্ষক তিনদিন ব্যাপী আন্তর্জাতিক সেমিনার অনুষ্ঠিত হয় ঢাকার কৃষি গবেষণা পরিষদের মিলনায়তনে। ২১-২৩ শে জানুয়ারী, ১৯৮৫ তারিখে অনুষ্ঠিত এই সেমিনারে অংশ গ্রহণ করেন দক্ষিণ এশিয়ার বিভিন্ন দেশের আন্তর্জাতিক খ্যাতি সম্পন্ন অর্থনীতিবিদগণ ও কয়েকটি আন্তর্জাতিক প্রতিষ্ঠানের প্রতিনিধিগণ। সম্মেলন উন্মোচন করেন এসকাপের কার্যকরী পরিচালক জনাব এ, এইচ, এম, এস, কিবরিয়া। উন্মোচনী অনুষ্ঠানে বিশেষ অতিথি হিসেবে উপস্থিত ছিলেন নেপালের অর্থমন্ত্রী ডঃ প্রকাশ লোহানী, বাংলাদেশের পররাষ্ট্র উপদেষ্টা জনাব হুমায়ুন রশীদ চৌধুরী এবং অর্থ উপদেষ্টা জনাব এম, সাইদুজ্জামান। বাংলাদেশ সরকারের পররাষ্ট্র মন্ত্রণালয় ও কানাডার আন্তর্জাতিক উন্নয়ন গবেষণা কেন্দ্রের (আই, ডি, আর, সি) অর্থ সাহায্যে এই সেমিনারের খরচ নির্বাহ করা হয়।

#### খ) ভ্রাম্যমান বক্তৃতামালা

ভ্রাম্যমান লেকচার সিরিজের সূচনা হয় ৬ই আগস্ট, ১৯৮৪ তারিখে। প্রথম লেকচার প্রদান করেন অধ্যাপক মুজাফফর আহমেদ। তাঁর লেকচারের বিষয়বস্তু ছিল “বাংলাদেশে একটি পাঠ্যবিষয় হিসাবে অর্থনীতির প্রাসঙ্গিকতা।” এই লেকচারটি ঢাকাস্থ ইডেন মহাবিদ্যালয়ে অনুষ্ঠিত হয় এবং সেখানকার শিক্ষক-শিক্ষয়িত্রী ও ছাত্রীবৃন্দ আগ্রহসহকারে এ বক্তৃতা অনুষ্ঠানে যোগ দেয়। দুঃখের বিষয় নানা কারণে পরবর্তীকালে ভ্রাম্যমান বক্তৃতামালার কর্মসূচী নিয়ে আর অগ্রসর হওয়া যায়নি।

#### গ) প্রকাশনাসমূহ

“বাংলাদেশ জার্নাল অব পলিটিক্যাল ইকনমি” ষষ্ঠ খন্ডের প্রকাশনা আপনাদের মধ্যে যথা সময়ে বিতরণ সম্ভব হওয়ায় আমরা আনন্দিত। অধ্যাপক আখলাকুর রহমানের নেতৃত্বে গঠিত সম্পাদকমন্ডলী তাঁদের যথাযথ দায়িত্ব পালন করায় এ কাজ যথা সময়ে সম্পন্ন হয়েছে। এ কাজ সম্পাদনে এম, এম, আকাশের অবদান আমাদের সকলের ধন্যবাদ পাওয়ার যোগ্য।

আমরা অত্যন্ত দুঃখিত যে সবরকম চেষ্টা সত্ত্বেও “দক্ষিণ এশিয়ায় আঞ্চলিক সহযোগিতা” শীর্ষক সেমিনারের উপর প্রকাশিতব্য বইটি যথাসময়ে প্রকাশ করা যায়নি। অধ্যাপক রেহমান সোবহানের সম্পাদকীয় দায়িত্বে প্রকাশিতব্য এই বই শিগ্গিরই বাজারে দেয়া সম্ভব হবে, সদস্যরা এই বইও অর্ধেক মূল্যে ক্রয় করতে পারবেন।

চট্টগ্রাম বিশ্ববিদ্যালয়ে অনুষ্ঠিত সেমিনারের ধারাবিবরণী ব্যতীত অন্যান্য আঞ্চলিক সেমিনারের উপর প্রকাশনা সম্পন্ন হয়েছে। পরিভাষা কাজে অগ্রগতি হয়েছে। কিন্তু চূড়ান্ত সম্পাদনার কাজ এখনও অসম্পূর্ণ। এই কাজটি শেষ হলেই পরিভাষা প্রকাশ সম্ভব হবে বলে আমরা আশা করছি।

এ বছরের জানুয়ারী মাসের শেষের দিকে সাধারণ সম্পাদক অধ্যাপক মমতাজ উদ্দিন বিদেশ গমন করেন। বাংলাদেশ অর্থনীতি সমিতির গঠনতান্ত্রিক বিধি অনুসারে সে সময় আমাকে সাধারণ সম্পাদকের দায়িত্ব গ্রহণ করতে হয়। বিদেশ থেকে ফিরবার পর জনাব মমতাজ উদ্দিন ৪-৮-৮৫ তারিখে সাধারণ সম্পাদকের পদ থেকে ব্যক্তিগত কারণে পদত্যাগ করেন। ২২-৮-৮৫ তারিখের কার্য-নির্বাহী পরিষদের সভা সাধারণ সম্পাদকের এই পদত্যাগ পত্র গ্রহণ করে। উক্ত সভা সমিতির কার্য-পরিচালনায় অধ্যাপক মোমতাজ উদ্দিন আহমেদের নিষ্ঠা, আন্তরিকতা ও দক্ষতা প্রদর্শনের জন্য তাঁকে ধন্যবাদ জ্ঞাপন করে। কার্য-নির্বাহী পরিষদের একই সভা সাধারণ সম্পাদকের দায়িত্ব আমার উপর ন্যস্ত করে।

প্রিয় সদস্যগণ, আপনারা সকলেই অবগত আছেন যে, আমাদের সমিতির কার্যকলাপের মধ্যে জাতীয় সাধারণ সভা ও সম্মেলন অনুষ্ঠান একটি বিশাল কর্মকান্ড। এই কাজ সুষ্ঠুভাবে সম্পাদনের জন্য যে সময় ও পরিশ্রমের প্রয়োজন হয় তা প্রদানে আমাদের আরও অনেকের এগিয়ে আসা খুবই দরকার। সমিতির কার্য-পরিচালনায় অল্প কিছুদিনের অভিজ্ঞতা থেকে আমার কতগুলো জিনিষ মনে হয়েছে যা আমি আপনাদেরকে এখন বলতে চাই।

বাংলাদেশ অর্থনীতি সমিতি এখন একটি বিরাট সংগঠন হয়ে দাঁড়িয়েছে। এই সংগঠনের সুষ্ঠু পরিচালনার জন্য সমিতির একটি নিজস্ব অফিস অপরিহার্য হয়ে উঠেছে। বর্তমানে ঢাকা বিশ্ববিদ্যালয়ের সামাজিক বিজ্ঞান অনুষদ অফিসের কতিপয় কর্মচারীর খন্ডকালীন দায়িত্বের ভিত্তিতে অনুষদ সংলগ্ন অফিস থেকে সমিতির কার্য পরিচালনা করতে গিয়ে নানা প্রকার বাঁধা বিপত্তির সম্মুখীন হতে হয়। অনেক দিন থেকেই সমিতির স্থায়ী অফিসের প্রয়োজনীয়তা অনুভূত হয়ে আসছে। বর্তমান কার্য-নির্বাহী পরিষদের কার্যকালে এক পর্যায়ে অফিসের জন্য একটি স্থান পাওয়ার সম্ভাবনা দেখা দিলেও তা পরবর্তীকালে বাংলাদেশ অর্থনীতি সমিতিতে না দিয়ে অন্যকে বরাদ্দ করা হয়।

সমিতির জন্য একটি ট্রাস্ট ফান্ড গঠনের ব্যাপারে কিছু উদ্যোগ গৃহীত হলেও এ বিষয়ে তেমন কোন অগ্রগতি এখন পর্যন্ত হয়নি। সমিতির কোন নিজস্ব তহবিল না থাকতে পরিকল্পিত কর্মসূচী বাস্তবায়নে সকল সময়েই থাকে শেষ মুহূর্ত পর্যন্ত এক নিদারুণ অনিশ্চয়তা। আগামীদিনের কার্য-নির্বাহী পরিষদকে এ দুটি ব্যাপারে অগ্রগতি অর্জনের জন্য সচেষ্ট হতে হবে।

পূর্বের মতো এ বছরও জার্নাল প্রকাশের পূর্ণ খরচ এবং সম্মেলনের খরচের বড় অংশ প্রদান করে এশিয়া ফাউন্ডেশন। এ বছরের সম্মেলনে আন্তর্জাতিক সেশনে আমন্ত্রিত অতিথিদের খরচ নির্বাহ করে ইউ, এন, ডি, পি। বাংলাদেশ অর্থনীতি সমিতির কার্যক্রমে এ সকল প্রতিষ্ঠানের সহযোগীতার জন্য আমরা তাদের প্রতি কৃতজ্ঞতা প্রকাশ করছি।

পরিশেষে সমিতির বিভিন্ন কর্মসূচী গ্রহণ ও বাস্তবায়নে আন্তরিক উদ্যোগ, অস্লান্ত পরিশ্রম এবং অদম্য উৎসাহ প্রদানের জন্য বিদায়ী কার্য-নির্বাহী পরিষদের সভাপতি অধ্যাপক রেহমান সোবহানের প্রতি আমার আন্তরিক কৃতজ্ঞতা প্রকাশ করছি। একই সঙ্গে ধন্যবাদ জানাচ্ছি বিদায়ী কার্য-নির্বাহী পরিষদের সদস্যবৃন্দকে যারা প্রতিটি কাজেই আমাকে সহযোগিতা করেছেন।

স্বাক্ষর/-

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ভারপ্রাপ্ত সাধারণ সম্পাদক  
কার্য-নির্বাহী পরিষদ, ১৯৮৩-৮৫  
বাংলাদেশ অর্থনীতি সমিতি।

## ৭ম দ্বি-বার্ষিক জাতীয় সাধারণ সভার কার্য- বিবরণী

১৭ থেকে ১৯শে ডিসেম্বর পর্যন্ত উন্মোচনী অনুষ্ঠান, 'উন্নয়নশীল দেশের অর্থনৈতিক পরিকল্পনার অভিজ্ঞতা' শিরোনামে আন্তর্জাতিক সেমিনার এবং 'বাংলাদেশের তৃতীয় পাঁচশালা পরিকল্পনা' শিরোনামে অনুষ্ঠিত সেমিনার শেষে ২০-১২-৮৫ তারিখে সমিতির সভাপতি অধ্যাপক রেহমান সোবহানের সভাপতিত্বে ৭ম দ্বি-বার্ষিক জাতীয় সাধারণ সভার কাজ শুরু হয়।

সাংগঠনিক অধিবেশনের (বিজনেস সেশন) শুরুতে পরবর্তী দু'বছরের জন্য বাংলাদেশ অর্থনীতি সমিতির কার্যনির্বাহী পরিষদের নির্বাচন অনুষ্ঠিত হয়। ভোট গ্রহণ সম্পন্ন হলে ভারপ্রাপ্ত সাধারণ সম্পাদক ডঃ এ, টি, এম, নূরুল আমিন তার বার্ষিক প্রতিবেদন সভায় উপস্থাপন করেন। এর পরে সমিতির কোষাধ্যক্ষ অধ্যাপক আজহার উদ্দিন সমিতির বার্ষিক হিসাব পেশ করেন। সাধারণ সম্পাদক ও কোষাধ্যক্ষের প্রতিবেদনের উপর আলোচনায় অংশ গ্রহণ করেন জনাব আবদুল ওদুদ, ডঃ জাহাঙ্গীর আলম, অধ্যাপক এম, এ, হামিদ, জনাব শাহ মোঃ হাবিবুর রহমান, জনাব এম, এ, সান্তার ভূঁইয়া, জনাব মুজিবুর রহমান, জনাব আলী আশরাফ, জনাব জহিরুল হক, জনাব মঈনুদ্দিন, অধ্যাপক মমতাজ উদ্দিন আহমেদ, জনাব মোঃ আলি ভূঁইয়া, অধ্যাপক আইয়ুবুর রহমান ভূঁইয়া। আলোচনায় অংশগ্রহণকারী সদস্যগণ সমিতির কার্যাবলী পরিচালনার ব্যাপারে বিভিন্ন পরামর্শ প্রদান করেন। এ সকল পরামর্শের মধ্যে সমিতির কার্যাবলী বাংলায় পরিচালনার প্রয়োজনীয়তা, সমিতির জন্য একটি মনোগ্রাম করা, ঢাকার বাইরের সদস্যদের থাকা খাওয়ার সুবন্দোবস্ত করা, অর্থনীতি গাজেটদের চাকুরীর সুবিধা বাড়ানোর প্রচেষ্টা গ্রহণের সুপারিশ অন্যতম। সম্মেলনে পঠিত পেপার সমূহ উপস্থিত সদস্যদের মধ্যে সৃষ্টিভাবে বিতরণের প্রতি গুরুত্ব প্রদানের অনুরোধ জানিয়েও সদস্যগণ বক্তব্য রাখেন।

আলোচনার শেষ পর্যায়ে ডঃ কাজী খলিকুজ্জামান আহমেদ সাধারণ সম্পাদক ও কোষাধ্যক্ষের প্রতিবেদনের উপর ধন্যবাদসূচক প্রস্তাব আনয়ন করেন এবং তা সর্বসম্মতিক্রমে গৃহীত হয়।

সাংগঠনিক অধিবেশনের পরবর্তী পর্যায়ে সদস্যদের পক্ষ থেকে বাংলাদেশ অর্থনীতি সমিতির গঠনতন্ত্রের উপর কয়েকটি সংশোধনী প্রস্তাব উত্থাপিত হয়। প্রথম প্রস্তাবটি উত্থাপন করেন ঢাকা বিশ্ববিদ্যালয়ের অর্থনীতি বিভাগের অধ্যাপক ডঃ মোশাররফ হোসেন। আলোচনায় অংশগ্রহণ করেন জনাব এম, এল, রহমান, অধ্যাপক মোঃ ইউসুফ, অধ্যাপক আইয়ুবুর রহমান ভূঁইয়া ও জনাব আবদুস সান্তার ভূঁইয়া। ছাত্র সদস্যদের পক্ষ থেকে উত্থাপিত একটি সংশোধনীও সভায় আলোচনার জন্য সমিতির সভাপতির নিকট আসে। শেষ পর্যন্ত আলোচনার মাধ্যমে ঐক্যমত প্রতিষ্ঠিত হয় যে, গঠনতন্ত্র সংশোধনের জন্য একটি পৃথক সাধারণ সভা ডাকা প্রয়োজন। এ ধরনের সভা অনুষ্ঠানের পূর্বেই সদস্যদের মধ্যে প্রস্তাবিত সংশোধনী বিতরণ করার প্রয়োজনীয়তাও কোন কোন সদস্য উল্লেখ করেন।

পরবর্তী এক বছরের মধ্যে একটি সাধারণ সভা করে গঠনতন্ত্রের প্রয়োজনীয় সংশোধনী সংক্রান্ত সিদ্ধান্ত গ্রহণের জন্য বর্তমান সভা নব নির্বাচিত কাঃনির্বাহী পরিষদকে আহ্বান জানায়।

সমিতির বিদায়ী সভাপতি অধ্যাপক রেহমান সোবহান ও কার্যকরী পরিষদের অন্যান্য সদস্যদের উদ্দেশ্যে তাঁদের কার্যকালে সমিতির কাজ সুষ্ঠুভাবে পরিচালনার জন্য ধন্যবাদ জানিয়ে একটি প্রস্তাব গৃহীত হয়। বিদায়ী কার্যকরী পরিষদের পক্ষ থেকে অধ্যাপক রেহমান সোবহান নব নির্বাচিত কাঃনির্বাহী পরিষদকে স্বাগতঃ জানান। নবনির্বাচিত কাঃনির্বাহী পরিষদের পক্ষ থেকে সভাপতি অধ্যাপক মোজাফফর আহম্মেদের কৃতজ্ঞতা প্রকাশ ও ধন্যবাদ প্রদানের মাধ্যমে ৭ম দ্বি-বার্ষিক জাতীয় সম্মেলন ও সাধারণ সভার কাজ সমাপ্ত হয়।

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তারিখ : ২৪-৮-৮৬

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PRINTED BY : BACE PRINTING & PACKAGING 140, MOTIJHEEL C/A DHAKA