

Agribusiness Potentials for Bangladesh – an Analysis

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Abstract: *Bangladesh cannot sustain long-run economic progress without having a strong agriculture sector accompanied by a dynamic agribusiness sub-sector. This study has been undertaken as an exploratory study to assess the role and significance of agribusiness in Bangladesh along with the current status and future potentials. Various institutional and other weaknesses and challenges are deemed to exist in the country that prevent full realization of the potentials of this industry. At a general level, the paper recommends various structural, institutional, and market-friendly policy reforms accompanied by infrastructural developments in order to encourage entrepreneurship, innovation, and investments along with better and more effective strategic management of this sector. Such reforms are expected to promote better utilization of scarce resources to promote a strong, dynamic, and sustainable agribusiness sector that would be able to contribute substantially to industrialization and economic development of the country.*

Keywords: *Agribusiness, Agricultural trade, Bangladesh, infrastructure development, institution-based view, policy reforms*

JEL classification codes: *C60; C50*

Introduction:

Bangladesh is a developing country in South Asia with a large population base (about 150 million), living in a small land area covering only about 55 thousand square miles, and having the highest population density in the world (ignoring the city state of Singapore). Bangladesh's per capita income is USD 1,190 <http://bdnews24.com/economy/2014/05/21/bangladesh-s-per->

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capita-income-1190). The country is primarily agriculture-based with a large proportion of population formally and informally depending on this sector for food, income, employment, and livelihood.

Agribusiness is one of the most challenging businesses in the world. Bangladesh depends heavily on agriculture, but the prospects and potentials for agribusiness for this country is yet to be adequately understood or studied, and its enormous potential explored. This sector is at best in an emerging but nascent stage of development. Bangladesh cannot sustain long-run macroeconomic stabilization and economic progress without having a strong agriculture sector accompanied by a dynamic agribusiness sub-sector. Given the high importance of this topic, this exploratory study has been undertaken to assess the role and significance of agribusiness in Bangladesh along with the current status and future potentials. The study is conducted within an institution-based view of the world and examines the institutional and non-institutional factors that may prevent the country from realizing its full potential from agribusiness. The paper argues that various institutional, structural and policy reforms be made and effectively implemented so that the sector can contribute significantly towards the country's economic development.

If properly encouraged, promoted and managed, agribusiness may have the potential to play a strong role in providing rural income, employment, food security, poverty alleviation, and improved external balance position, and thereby contribute to overall industrial and economic development of the country. As Bangladesh suffers from serious unemployment problems due to over-population and given that food availability is becoming scarcer in the country over time as population increases, income grows, and urbanization takes place, the potentials and prospects for agribusiness in the country should be viewed and explored as critical for the development of the country. As such, a strategic management of agricultural business and trade is extremely important so that core competencies could be created and proper supply chain management along with vertical and horizontal integration could be established in the process of promoting and developing agribusiness in the country. Further, one can safely argue that proper development and better management of the agribusiness in the country can also improve the country's scarce natural resource utilization and help achieve better ecological balance and environmental management in the context of the unfolding global warming and climate change.

The study has been undertaken with a few limited objectives in mind: first, to assess the current situation of agribusiness in Bangladesh and its future potentials; second, to examine whether structural, institutional, infrastructural, and policy reforms will be needed to help achieve a viable and successful agribusiness sector in the country; thirdly, to provide some policy implications for proper strategic management to develop agri-business. The study is purely exploratory in nature.

As such, the study is conducted primarily based on information obtained from secondary sources. Exact sources will be mentioned in the paper in inside-text citations and end of paper references.

Given the above limited objectives of this study, the next section (section 2) provides a working definition and scope of agribusiness industry followed by a providing a framework for analysis of the paper. The section that follows deals with a brief review of literature, including a discussion on the current status of agribusiness in Bangladesh. This is followed by a section (section 4) on potentials of agribusiness in Bangladesh. Section 5 deals with institutional weaknesses facing the industry followed by a discussion of institutional strategies and policies for agribusiness development of the country. The sixth and last section gives the concluding remarks with a discussion of the shortcomings and limitations of the study and providing direction for further research.

2. Definition and Scope of Agribusiness Sector

Before proceeding further, it will be useful to define agribusiness sector and what activities this sector encompasses. From a practical perspective, agribusiness can be defined as various value-adding and synergy-enhancing activities based on agro-based products along with its related upstream and downstream activities ranging from improved seed development to soil cultivation to production and processing of various agricultural products, marketing and distribution, storage and transportation, new product development, export promotion, and many other value adding activities. From this perspective, it would be obvious that agribusiness and agricultural trade may include myriads of activities mentioned above done on a commercial basis and utilizing more modern and scientific production methods and technologies.

According to Beierlein and Woolverton (1991), the term agribusiness is important to visualize on the basis of the following three sub-sectors: the agricultural input sector, the production sector, and the processing-manufacturing-distribution sectors, which are highly interrelated as part of a system in which the success of each part depends heavily on the proper functioning of the two others. Further, Kohls and Uhl (2002) argue that the agricultural markets are joined together among various components of the food industry, the farm supply sector, the farm sector, the food marketing system, among others, within the national economy. The input supply and farm markets are often referred to as agribusiness. According to online encyclopedia Wikipedia, agribusiness is a generic term for the various businesses involved in food production, including farming and contract farming, seed supply, agrichemicals, farm machinery, processing, marketing, wholesale and retail distribution (Wikipedia 2012).

Role of Agriculture and Agribusiness in Bangladesh

Bangladesh is primarily an agrarian country with a very low level of economic development and the country is still designated by the World Bank as a low-income poor developing country. Since independence in 1971, the country has been striving to improve economic performance and reduce poverty and to become a middle-income country. In this striving, the agricultural sector in general and the agribusiness in particular has the potential to perform a number of critical roles in transforming the country in the desired direction. The sector can provide food for the rising population and the rising urban sector, generating income and employment opportunities for rural population, supplying labor as well as materials for the rising manufacturing and services sectors, providing a market for the country's growing industrial sector, and generating investable surpluses and foreign exchange earnings that could be utilized for developing the country-side as well as the entire economy. On the other hand, the industrial sector of the country can provide critical support to the agricultural sector in the form of supplying agricultural implements, various other critical inputs (such as fertilizers), improved technology, additional agribusiness-related investments, and providing ready markets for rising agricultural and agribusiness output.

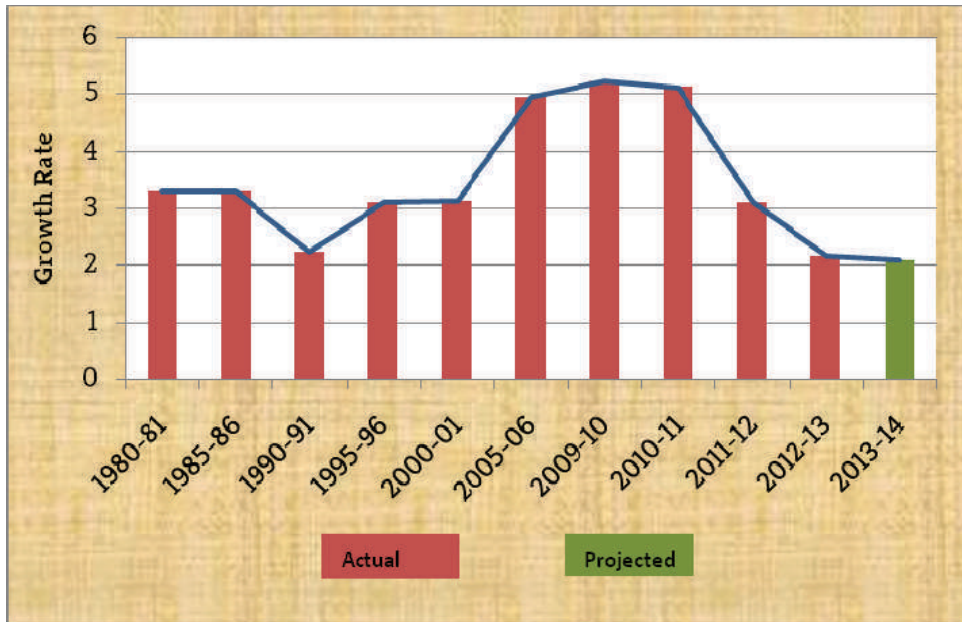
Mujeri(2014) argues that despite significant structural transformation, the policy framework should continue to view agriculture as an active and co-equal partner with industry and other sectors during the post-MDG period. This is mainly due to two considerations: first, agriculture produces goods that directly satisfy basic human needs, and second, agriculture production combines human effort with natural resources. As such agricultural growth must match population growth at the least to avoid Malthusian trap and stagnant development. Moreover, the later generation dual economy models make it apparent that functions that agriculture and industry sectors must perform are totally interdependent. Agriculture sector must release resources for industry, which in turn must have the absorbing capacity. Growth can occur only if release-cum-absorption of labor and capital are efficient. This conceptual framework no longer identifies either sector as leading or lagging.

In Figure 1, the rate of growth in agriculture sector of the country is shown from the period of 1980-81 to 2013-14. In the figure, we observe that the highest rate of growth in the agriculture sector occurred in 2009-10. In 2012-13, the rate of growth of agricultural sector declined.

The country has an important agricultural sector with a growing manufacturing sector and a dominant services sector (Figure 2). The time trend of the sector-wise share (%) in GDP of the three major sectors, agriculture, manufacturing, and services for Bangladesh from 1980 to 2009 is shown in Figure 2. Unlike other

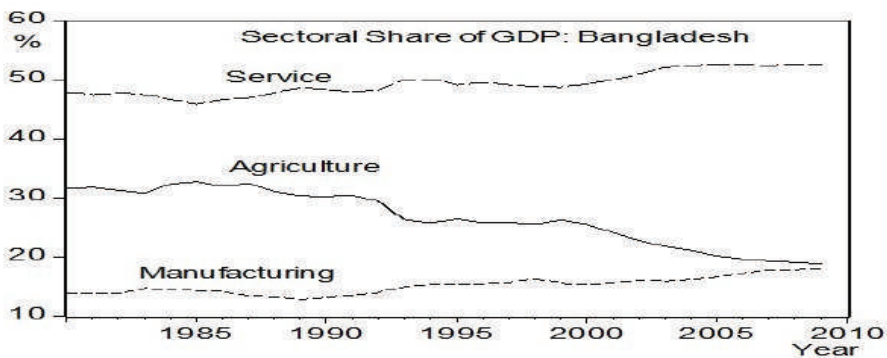
advanced countries in their experience in early stages of their development, the share of the services sector in GDP in Bangladesh is the highest followed by the share of agriculture and then closely by manufacturing. The share of agriculture was higher than that of manufacturing in the 1970s and 1980s, but it has been declining with the process of development and currently the share of the two sectors is converging to around 20% each. Agriculture, therefore, remains quite prominent in its contribution to the economy, being at least as important as the manufacturing sector.

Figure 1: Rate of Growth in Agriculture Sector: 1981-2014



(Source: Bangladesh Economic Update, March 2014, Unnayan Onneshan)

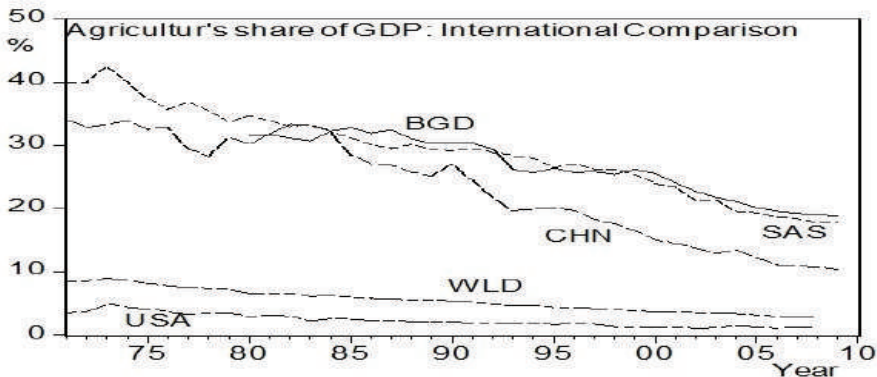
Figure 2: Sector-wise Share (%) of GDP in Bangladesh: 1980 - 2010



Source: World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org

The significance of agriculture for Bangladesh vis-à-vis some other selected countries is depicted in Figure 3, which shows the sector-wise share in GDP in Bangladesh compared to the South Asian average (SAS), China (CHN), the U.S. (USA), and the world (WLD). It seems that the share of agriculture in Bangladesh has declined over time, a pattern observed in most countries with the process of growth and development of an economy from an agrarian society to a more modernized economy. The declining pattern of change for Bangladesh is similar to what is observed for the South Asian average as well as China (a large and high growth economy in Asia). But compared to China, the world average, and the U.S. (a rich and matured industrialized country), the share of agriculture in GDP for Bangladesh is much higher than the other comparator countries or groups mentioned here. Thus, the role of agriculture in this country of around 20% of GDP remains more prominent than other countries in international comparison with the world average being around 5-6% and the U.S. around 2-3% of respective GDPs in 2009.

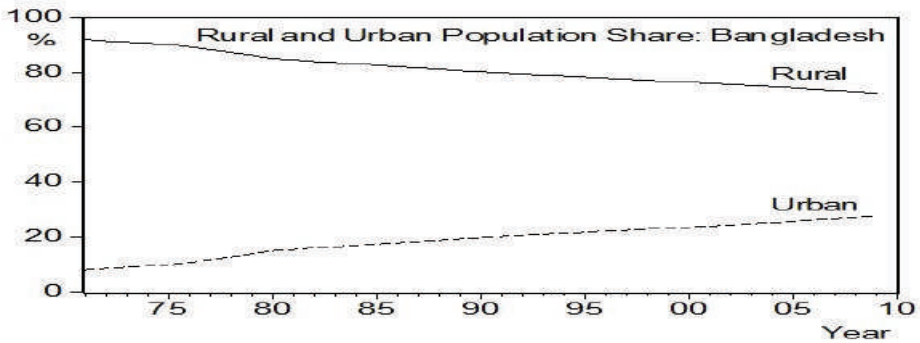
Figure 3: Agriculture's share of GDP in International Comparison: 1970 - 2010



Source: *World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org*

The prominent role of agriculture in Bangladesh is also demonstrated in Figure 4, which shows the time trend in the distribution of population between the rural and urban sectors of the country. As expected to happen with economic development, the share of population living in rural sector has been declining and that of the urban sector has been rising on a secular basis. However, it is clearly observed that the population share in the rural sector remains quite high (around 70%) even in 2009 with the corresponding share of the urban sector being around 30%. It is thus clear that a large share of population in the country still relies on the rural and agricultural sector for production, employment, and livelihood.

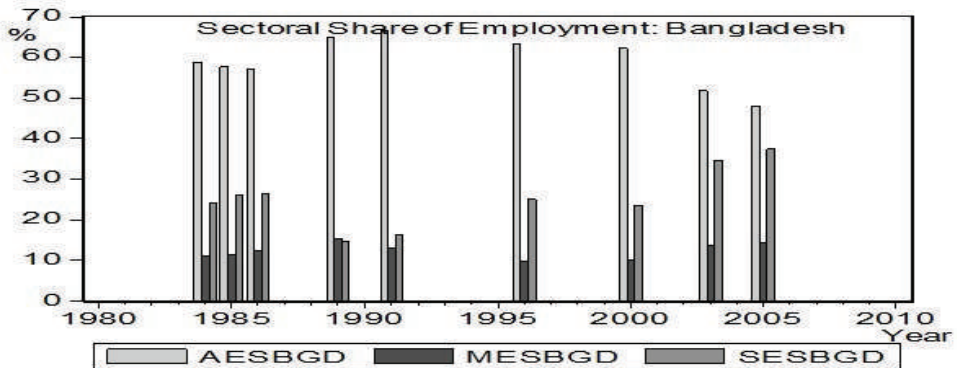
Figure 4: Distribution of Rural and Urban Population in Bangladesh



Source: World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org

Figure 5 shows the distribution of employment in Bangladesh by three major sectors, agriculture, manufacturing, and services. The share of employment in Agriculture (AESBGD) as percentage of total employment vis-à-vis the manufacturing share (MESBGD) and the services sector (SESBGD) for selected years from 1980 to 2009 shows that agricultural employment remains the dominant form of employment in the country. This is not surprising given that an overwhelming majority of population still live in the rural areas as shown in Figure 3 earlier. The employment share has declined somewhat from 1980s from around 60% to around 50% in recent years as shown in Figure 4.

Figure 5: Sector-wise Share of Employment in Bangladesh



Source: World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org

A Framework of Analysis

In order to have a better understanding of this sector and to gain important insights that could be utilized in formulating strategies and policies related to agribusiness, a general framework of analysis would be helpful. This paper proposes to utilize what is now widely known as the “institution-based view” of the world. Institutions generally refer to the so-called “rules of the game” within which decisions

are made and policies and strategies implemented. The formal part of these institutions involves laws and regulations, including the legal, administrative, regulatory, political, and economic systems and the informal part comprising the culture, customs, traditions, languages, and religions, among others.

Since the pioneering work of North (1990; Peng 2002; Peng 2003), it is now gradually recognized in the literature that “institutions” and “policies” matter and matter significantly in determining the economic outcome and performance at both macro (country-level) and micro (firm and industry) levels. The traditional classical/neoclassical view is that of the existence of a well-functioning, flexible, and efficient market-based institutional framework to allocate resources in an optimal manner, a view that dominated the world of economics for centuries. However, such an institutional environment, even if it exists in a county, may still be imperfect, inflexible, and inefficient. This could be more so in poorer developing and emerging economies where formal institutions are far from being fully developed and which are just evolving over time from a very nascent stage.

As such, developing an appropriate institutional framework is relevant and critical for a poor developing country like Bangladesh and various other emerging economies where institutions are either missing or weak at best and where institutions and policies are continuously evolving to influence business strategy and performance (Peng 2002; Peng 2003; and Peng, Wang, and Jiang 2008; and Hitt et. al. 2004). In addition, choices and policies in developing strategic alliances and partnerships across the globe could be strongly influenced by the institutional framework and policy environment in the country (Peng 2003; Hitt et. al. 2004; and Saebi and Dong 2008). In the ensuing discussion, this institution-based framework will be kept in mind to analyze and understand the development of the agribusiness sector and in the formulation of appropriate strategies and policies.

Bangladesh cannot fully realize its agribusiness potentials because of various institutional, policy, and structural weaknesses that have been and continued to constrain its growth potential. Many of these weaknesses facing Bangladesh have been already mentioned in previous studies related to agribusiness development within the domestic economy. Beyond the domestic economy, further institutional reforms in opening up the country to more foreign trade, business, and investments would be needed to accelerate the growth and sustainable development of the sector. Such institutional developments may include but not be limited to creating a business-friendly environment to encourage investment and entrepreneurship, improving law and order, strengthening the legal, administrative, and regulatory systems to reducing red tape and delays, among others, and in investing in and improving physical infrastructure (better roads and highways, sea- and air-port facilities, improved information and telecommunication technology), educational infrastructure (improving schools, colleges and universities), and technological

infrastructures (telecommunications, broadband, and information technology) would be critical in developing the agribusiness sector in the country, in attracting foreign investments in this sector, and in encouraging strategic alliances and partnerships with overseas businesses and Bangladeshi expatriate communities to help develop this industry.

However, these potentials have not yet been realized nor will be realized in the future because of well-documented institutional weaknesses involving unstable political system and unhealthy political culture, weak judicial and legal environment to enforce property rights and contract enforcements, inefficient and corrupt public administration, ineffective regulatory framework, inadequate and ineffective policies and policy implementations, and severe infrastructural deficiencies, among others. Because of these limitations and constraints, doing international business in Bangladesh is quite difficult and is reflected in the low ranking by the World Bank based on various indicators of doing business in Bangladesh vis-à-vis other countries in the world. These institutional weaknesses are considered by the authors as primary stumbling blocks for the country to realize its full potential from agribusiness. If these weaknesses could be corrected or improved upon, Bangladesh could truly be able to develop this agribusiness sector which can contribute significantly to agricultural development, industrialization, employment creation, poverty alleviation, achieving food security, and overall economic development of the country.

3. A Brief Review of Literature

The extant literature on agribusiness related to Bangladesh is very scarce and those that exist are mostly disjointed and deal at most with very specific or narrow area within this sector. In spite of this, a brief review of the literature is done in this section with a view to understanding the current state of the industry and various institutional and other weaknesses and challenges the industry is facing. Such analysis will be conducted within the institutional-based framework discussed above so as to provide guidance and insights in making any policy recommendations for improvement of this industry in order that that this sector can play its vital role in the development of the country.

Drummond and Goodwin (2004) depict that in the contemporary industrial style integrated agricultural system of the United States, most of the farm activities and functions are performed by extremely sophisticated and specialized business firms at all stages of the production and distribution chains and networks. According to them, these specialized firms have become known collectively as agribusiness. As such, the study of the management, financing, and marketing decisions of agribusinesses is a specialized branch of agricultural economics in most major universities and this business is an integral part of the U.S. Corporate sector.

In the context of India, Meeakshi and Poleman (1994) report for Andhra Pradesh that excellent infrastructural facilities have contributed to achieve dramatic rates of growth in agriculture and have contributed strongly to increased rural employment and decrease seasonality in agricultural production. Focusing on the role of micro level management, Erickson et al. (2002) argued that a successful agribusiness manager must understand what a firm does that contributes to the bottom line, and the successful manager uses this understanding to improve the bottom line in the future.

Several studies for Bangladesh can be highly insightful to understand the role and state of this industry and its institutional and other weaknesses. Khan and Hossain (1989) reports that due to high pressure of population and limited opportunities for non-agricultural occupations, land in Bangladesh is cultivated mostly in very small scale farms. So, development of agribusiness should be challenging in this institutional context and it should be taken into account in strategy development. Islam and Sarker (2003) studied the livestock and poultry population and production in north-western part of Bangladesh and report that the livestock sector, which is composed of cow-buffalo and goat-sheep production, registered very slow growth rate while the poultry sector made of fowl and duck grew at an appreciable rate. They found that the rapid growth of the Poultry sector was still inadequate to meet the growing domestic demand. This study thus indicates that there is perhaps strong need for and prospect of development of the poultry sector in the country.

In a related study, Ali (2011) observes that fish and cattle production requires a longer production time whereas poultry production is relatively faster and easier, and therefore has greater potential for expansion provided both public and private sector initiatives work together. He also argues that Poultry is most probably the only sector that can grow vertically and produce maximum amount of eggs and chickens using the minimum amount of country's scarce land. Moreover, from the poultry industry, biogas and organic fertilizers can be prepared as a complementary byproduct. In a different study, Rahman (2004) argues that the markets for poultry inputs in Bangladesh such as markets for chicks, poultry feeds and medicines are oligopolistic in nature, where prices are determined probably in consultation with others reflecting cartel-type price-fixing behavior to the detriment of farmers and growers. He further argues that successful agribusiness development requires strong entrepreneurship and innovative approaches through combining different attributes of productivity, experimentation, innovation, risk-taking, efficiency, effectiveness and synergy.

Sabur and Rahman (2004) examined various factors that contributed to different varieties of rice production in Bangladesh. They reported that agricultural extension services, human labor, seed, fertilizer, age and experience were main contributors to increased production of Boro variety of rice. For Aus variety, the

main contributors were location and bullock power that had positive effects whereas extension service, area, and bullock power have had positive effects on Aman production. Dobson and Quader (2005) examined the Shrimp industry in Bangladesh and observed that the value of the services provided by middlemen are not readily apparent to others in a supply chain, as such, the middlemen are invariably criticized extensively for the problems facing this rising agro-based industry in the country.

Efficient and effective marketing is of great importance for the success of agribusiness. On this issue, Junaid (2005) argued that marketing of agricultural products in the country is not efficient and hence a proper and effective management of different functions within agricultural marketing will provide better price opportunity to farmers and growers during both peak and off-peak seasons and thereby help increase agricultural production. In a related study, Jahangir (2009) observed that the existing poor marketing system and lack of adequate cold storage facilities have been depriving the growers of perishable products like vegetables and fruits for a long time in this country.

According to Quasem (2008), agricultural productivity in the country is low, as new technologies are not widely used or spread, especially in non-rice crops. To thrive in the competitive global business environment, proper agricultural planning and management should be done so as to achieve competitive advantage and economies of scale in production. He reports that harmful speculative motive in the agriculture sector is strong and vibrant that hurts agricultural production and distribution. As a result of these practices, farmers and growers in many situations are deprived of getting their due and fair share for their valuable contributions towards agricultural production. Further, with respect to the institution of intermediaries, Dobson and Quader (2005) observed that the role of middlemen in the agribusiness is not very efficient and needs to be streamlined and improved so that the gains to consumers and producers can be improved.

Regarding the prospects for organic farming within agribusiness, Ali and Nupur (2009) finds that awareness among farmers of such farming is very low and that such awareness and interest among the producers and consumers can be improved by providing timely and better quality information through methods ranging from simple field training, media programs, leaflets, cell phones, updated websites and comprehensive campaigns.

In a different context, Orr (1993) opined that past gains in agricultural productivity in different countries have contributed significantly to the problem of global warming. Actually Bangladesh has also been facing serious global warming problem which may cause danger in agribusiness. Salinity problems, coastal area problems, flood problems, water-logging, river erosion, river basin surface runoff, drought etc. are creating problems for production of agricultural products as a

whole. This has been accompanied by high growth rate of population. As such proper techniques, innovations, adaptability, mechanization, and policy framework and implementation of the policies are required for agribusiness management of Bangladesh.

In the context of a global economy, poor developing countries get some preferential access to rich country markets for some of their agricultural and other primary and semi-processed exports through the GSP (Generalized System of Preferences) schemes that countries like Bangladesh can take advantage of. In this context, Brenton and Ikezuki (2005) argue that having access to trade preferences is not a panacea for success but rather should be seen as just one part of a strategy to boost export-led growth and development. In their view, the challenge is to find preference schemes that complement the domestic reforms that developing countries must undertake to improve the returns on their exports without stifling diversification and multilateral trade liberalization. They further observe that successful agribusiness can reduce trade deficit and contribute to income generation and economic development in the country. Further, Deb (2008) suggests that Bangladesh agriculture has potential for further diversification in its product lines. However, in order to achieve this, Bangladesh must invest in road infrastructure, strengthen and implement the WTO's health and quality standards, which are critical for agribusiness exports in global markets.

With respect to financing, Hossain and Bayes (2009) found that business activities in rural areas are mostly financed by own sources, and the role of the credit institutions, formal or informal, is minimal. They report that household's own savings meet about three-fourths each for the required initial (start-up) and investment capital with commercial banks supplying only 10 percent of the initial capital and nine percent of investment capital. The role of NGOs in this case has also been meager – only three and four percent, respectively. On the other hand, moneylenders and friends/relatives were found to supply one-tenth of the total credit needs in business. Before the crop is ready for harvesting/cutting, the farmer may not have any money to survive and hence become heavily dependent on informal sector high interest rate financing.

Current Status of Agribusiness in Bangladesh

As defined in the introduction, the scope of agribusiness could be quite broad and span across many sub-sectors and product lines within agriculture and agro-based processing industries at higher and higher value adding activities and services. In assessing the state of the agribusiness sector, this section will draw upon several studies done by other researchers in this area as well as the information collected and reported for this paper. As discussed earlier, several authors have shown that the agribusiness sector has made progress over the years, but the sector still lags

behind compared to its potential as elaborated below. This is so in spite of the initiation of the green revolution during the sixties to maximize the benefit of agricultural output and the governmental efforts through various public institutions such as the BADC (Bangladesh Agricultural Development Corporation), Krishi (Agricultural) Bank, rural extension services, agricultural subsidies, among others, to promote and support the sector since independence in 1971. In spite of all these efforts, the agribusiness development has remained much below expectations and surely much below its potential.

In an important study related to the status of agribusiness in Bangladesh, Deb and Zaman (2007) argued that agribusiness-related production in Bangladesh has substantially increased during the last 35 years. Production of crops, livestock and fisheries has increased significantly. They report that rice production has increased from 9.90 million metric tonnes in 1972/73 to 26.53 million metric tonnes in 2005/06. Similarly the production of many other crops including potato, maize, fruits, vegetables and other value creating activities have also increased. However, they report that production of wheat and sugarcane has decreased and the area under jute cultivation has declined though production increased slightly due to increased yield. Gani(2012) describes that Bangladesh produces 0.08 million ton domestically and import 1.3 million ton, mainly from India.

Zhu and Sur (2008) argued that the demand for food in Bangladesh and around the world is changing rapidly. Driven by economic growth, rising incomes, and urbanization, demand is shifting away from traditional staples toward high-value food commodities such as fruits, vegetables, spices, fish, and livestock products, many of which need processing before reaching the market.

Further, the milk production now is about five times while fish production is about 2.9 times of the production in 1972/73. Shrimp production has increased to 110 million tonnes in 2004/05. Thus, agricultural production system in Bangladesh has been gradually transformed from a subsistence oriented system to a commercially driven production system, which is very much responsive to prices, policies and trade liberalization.

According to the Bangladesh Board of Investment (BOI 2010), over 90 varieties of vegetables are grown in Bangladesh, yet for such a fertile land, there are huge gaps in local resources and under-utilization of the country's agricultural capacity. According to the BOI, these gaps present many opportunities for investors seeking to develop and process agricultural products to meet the rapidly growing local demand and for exports. Here are just some of the investment opportunities: building cold storage facilities to serve all stages of the supply chain; develop processing plants for local and foreign markets, increase production of fertilizers; developing new and improved seed varieties, develop eco-friendly jute and other agricultural production, increase shrimp farming; increase milk and dairy prod-

ucts; develop high value added foods for exports such as herbs, spices, nuts and pulses, among others (BOI 2010).

Talukder and Chile (2013) find that although all groups of rural households experienced a moderate to high increase in real income, non-farm households experienced a larger increase than farm households due to a large reduction in consumer price. Farm households gain from the increase in productivity but experienced losses from producer price reduction. The two opposite forces – increase in productivity and reduction in producer price – offset the effects of each other, thereby affecting the income growth of farm households. Amongst the farm households, large and medium farmers gain the most and small farmers gain the least from the growth in real income, indicating that rich households experienced a much higher increase in real income than poor households – thereby adversely affecting the distribution of income and widening the income gap between rich and poor households.

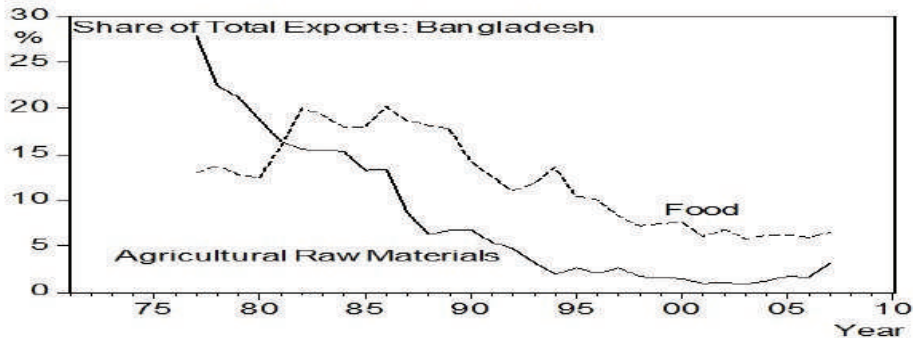
Bangladesh Agribusiness report(2014) states that while it comes from a low base, structural problems still plague the industry. In the medium term, for example, the frequent occurrences of strikes, or hartals and road blockages will keep our optimism for the industry at bay as these often aggravate the logistical challenges of food transportation within the country, causing the biggest loss to the farmers. Industry estimates place last year 's damage to the poultry industry BDT 3.8 bn between October and December 2013, also causing 30% of farms to shut down. Over the long term, we believe that there is much more room for growth and improvement in sub-sectors such as grains and livestock. That said, as the agriculture sector in Bangladesh employs close to 70% of the working population but contributes to only 20% of the country's GDP, there is also an obvious need for improvement in efficiency of operations. Key Forecasts: Rice production growth to 2017/18: 9.0% to reach 37.7mn tonnes. Over the longer term, the introduction of an 'input distribution card' to 9 mn small farmers will very likely help them to obtain cash subsidies for these inputs and boost productivity; Wheat consumption growth to 2017/18: 12.7% growth to 4.9 mn tonnes. The main drivers of this growth will be increased per capita consumption and population growth, with the population of Bangladesh forecast to grow by 5.9% to 166.0 mn people in 2018, from 156.6 mn in 2013; Poultry production growth to 2017/18: 12.2% to 239,000 tonnes. Better economic conditions and higher disposable incomes will help to drive demand for meat. Better disease control is also expected to support the recovery of the sector(source: <http://store.businessmonitor.com/bangladesh-agribusiness-report.html>,access date:23.06.14).

One important development to note is that Bangladesh is gradually entering in external trade in agribusiness products. For example, Bangladesh is now exporting

frozen vegetables, frozen fish and fish products, and a number of other semi-processed and processed agribusiness type products in the European, Middle Eastern, Asian, and North American markets. This process opens new avenues to private sector investment in the areas of agricultural production of high value of crops and production of seeds.

Demonstrated for the two major product categories within Agribusiness for which long period time series data could be obtained are (1) food and (2) agricultural raw materials, which are shown in Figures 5 and 6.

Figure 5: Share of Food and Agricultural Raw Materials in Total Exports: Bangladesh: 1977-2010



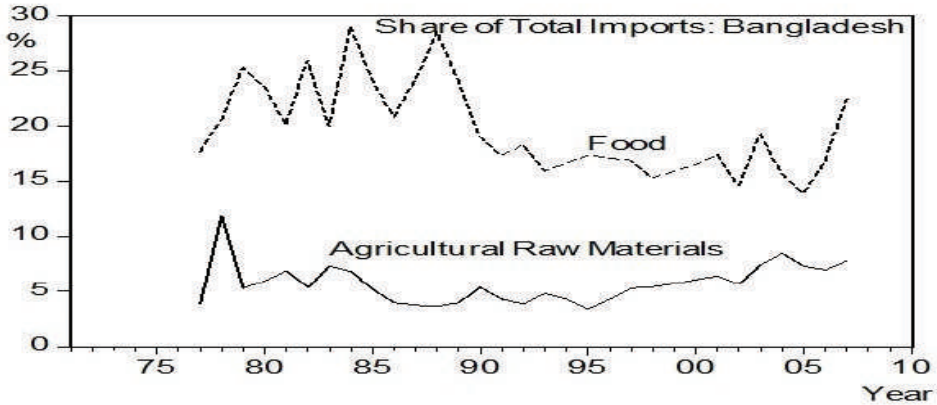
Source: World Bank (2012), *World Development Indicators*, Washington DC, USA, www.worldbank.org

In Figure 5, it is observed that the share of the two items separately for food and agricultural raw materials in total exports of the country over time from 1977 to 2008 have consistently declined until 2001 with a slight upward trend since then. The recent rise in the export performance is encouraging, but the rate of increase is quite slow as shown by the slow upward trend in the relevant curves in Figure 5.

The trend in the share of two agriculture related import categories, imports of food and agricultural raw materials, from overseas over time is shown in figure 6. The import share of these two product categories has declined over time until early to mid 1990s and it started to show upward trend since then. The rise in the import share of food is attributable to rising population in the country and rising income of the people with economic progress. Unfortunately, domestic production of food could not keep up with the rising population and income, resulting in the rise of the import share of food. In addition, the rise in the import share of agricultural raw materials is attributable to the growing industrialization of the country requiring much needed raw materials from abroad to support manufacturing sector growth and manufacturing exports. It is to be noted that if the agribusiness sector in the country developed faster and further, the need to import in these two areas could

have been reduced, thus helping to improving the country's perennial balance of payment deficits.

Figure 6: Share of Food and Agricultural Raw Materials in Total Imports in Bangladesh: 1977-2010



Source: World Development Indicators, World Bank, Washington DC, USA, www.worldbank.org

4. Potentials for Agribusiness in Bangladesh

As already observed in discussions, the share of agriculture in Bangladesh is quite large and significant but the size of the agribusiness sector in the domestic economy is quite small and growing only slowly. Further, the share of agribusiness in country's total exports is also negligible. With a large current population of about 160 million people which is growing rapidly along with rising income and rapidly growing urbanization, it could be safely argued that the need for food and various other agricultural and agribusiness products in the country would rise rapidly. For similar reasons, the demand for food and agribusiness products would rise at the global stage, thus opening up more export opportunities for the country. In this context, a growing and vibrant agribusiness sector can help achieve food security, rural employment and income generation, poverty reduction, and thereby contribute to the commercialization of agriculture with concomitant industrialization and economic development of the country. In addition, Bangladesh can also exploit the global market place in exporting agribusiness products that can provide further contributions to economic development, including improving the country's balance of payments position and in reducing foreign exchange constraints. Thus, there are ample opportunities for the country in developing the agribusiness sector for domestic and export markets.

In response to this situation, some commercially oriented agribusinesses are taking roots in the country over the years to meet the growing home and foreign demand for agricultural and agribusiness products. However, this sector is quite small in both upstream (input supply) and downstream (production, processing, marketing

and distribution) markets and these provide ample room for growth and expansion. Further, breadth of products offered is very narrow, mostly in low processing and low-value adding activities and which are characterized by low productivity, low quality inputs, lack of modernized technology, inefficient product development, poorly developed supply chain and its management, inefficient transportation system and distribution networks, unacceptable level of product labeling and product standards, among others. Further, the industry is mired by various institutional and non-institutional weaknesses that are preventing the realization of its full potentials. The resulting progress of this industry is quite inadequate compared to the need of the time or its great potentials.

5. Institutional Weaknesses and Challenges Facing the Agribusiness Sector

As discussed in previous sections, the agribusiness sector of Bangladesh started to evolve, but it is still very weak and its contribution to the economy and to external trade is still very low to marginal at best. At the same time, this weak contribution indicates that there is ample opportunity for growth and development of this sector from its current nascent but emerging state. Currently, the sector's scope is very limited covering only narrow range of product lines. First, there is ample opportunity for different agribusiness-related product lines that can be developed over time. Second, the sectors where the value-adding agribusiness activities have already been emerging, productivity and efficiency needs to be improved to make them internationally competitive. Both of the above would lead the industry towards providing a broader product line with higher level of efficiency and productivity than before. But various institutional and non-institutional factors are hindering the industry to realize its full potential. Some of which are discussed below.

First, there are severe weaknesses from getting timely supply of critical and complementary inputs such as seed, fertilizer, gasoline, agricultural implements, and irrigation facilities, etc. at reasonable prices from the market as well as from the governmental institutions in charge of providing these critical inputs to the farmers. Weaknesses in this area tend to lower productivity, increase cost, and reduce profitability. Second, a critical problem for businesses is to market their products when there is the lack of good supportive infrastructure and extension services such as transportation and communication including roads, highways, storage facilities, distribution and marketing channels, among others. Weaknesses in this area tend to provide less revenues and profits for the agribusiness operators.

Third, lack of easy access to financing, especially from financial institutions (both public and private banks and specialized institutions) during harvesting and selling seasons causes serious setbacks to producers and operators to meet their financing their needs on a timely manner and at reasonable charges. This factor also affects

the productivity and profitability of the agribusiness operators. Some improvement has taken place in recent years with the advent of microfinance from some microfinance institutions such as the Grameen Bank, but this source of finance has not proven to be adequate to seriously mitigate the problem for majority of the farmers and agribusiness operators, many of whom would not qualify for the microfinance loans. Fourth, like many other institutions in Bangladesh, various publicly supported and sponsored financial institutions such as the Bangladesh Krishi (agricultural) Bank that were developed to provide institutional support towards promoting and developing agricultural and agribusiness activities has been mired by inefficiency, inflexibility and unresponsiveness, bureaucratic red tapes, rampant corruption, among others, thus rendering these institutions to be much less effective than what were intended or expected. As such, their contributions in helping the development of the agricultural sector in general and the agribusiness sector in particular had been very limited at best.

Fifth, the BADC (Bangladesh Agricultural Development Corporation), a government agency, put efforts to promote and develop the agricultural and the agribusiness sector since independence of the country. But it became crippled due to poor governance, inadequate funding, lack of political will and rampant corruption. Similar poor performance has been observed for other public projects, initiatives, and policies for the agricultural and the agribusiness sectors.

Sixth, an institutional environment and the related incentive structure is weak in encouraging and fostering private and public sector cooperation and partnership can improve this sector. It is also critical to take steps to improve technology and increase productivity. However, policy makers and businesses have to keep in mind that Bangladesh is a labor-abundant but land-scarce economy and as such the type of technology chosen should be land-saving and labor-using type as much as possible. Public sector and public institutions should create an institutional environment where various critical inputs such as fertilizers, improved seed, irrigation facilities, financing, and other complementary inputs are made available at reasonable prices and on a timely basis.

Seventh, in a global context, weak institutions such as weak export capacity, lack of marketing and managerial skills to explore global markets, lack of a broad product lines for exports, weak or non-existence regulatory structure to enforce global health and quality standards for agribusiness exports, weak enforcement of property rights and contracts due to weak public policies and ineffective judicial systems that discourages much needed foreign investments and foreign cooperation in this sector, are hindering the realization of this sector's global potentials. Institutional reforms in the external policies leading to greater openness of the could bring much needed foreign investments in this sector along with modernized technology and global connections.

Further, in the global context, the country can develop closer relationship with the Bangladeshi expatriate communities across the world, who can provide networking opportunities with foreign companies and agents, invest their own remittances in the agribusiness sector, and help bring new technology and knowledge, and provide a market to buy and consume expatriate's home country agribusiness products, all these helping the growth and development of this sector, particularly in the foreign markets around the world. Such external linkages can increase exports of agribusiness products which will bring more foreign currencies, and thereby help reduce persistent and large trade imbalances of the country.

To summarize, a review of the extant literature in the previous section along with the discussion made in this study in previous sections points to a number of institutional, infrastructural, and policy weaknesses prevailing in the agricultural and agribusiness sub-sector of the country. These weaknesses range from weak physical, and technological infrastructure, lack of information and awareness of agribusiness potentials and efficient practices among various agents (farmers, consumers, intermediaries, and government officials), poor and inefficient input supply systems, inefficient production system involving small scale farming with a low a level of technological integration, poor distribution and marketing systems with inefficient and exploitative middlemen and their oligopolistic and cartel-type behavior, highly inadequate credit and financing system, poor governance with administrative and regulatory environment mired with red-tape and corruption, public policies that are highly ineffective and poorly implemented, lack of incentive structure to encourage entrepreneurship, innovation and investments in the sector, weak public and private sector partnership, poor export capacity with low level of exposure to foreign markets, weak or non-existence of health and quality standards and their enforcements, lack of diversified agribusiness products for exports, lack of foreign investments in this sector, among others.

Thus, for this sector to realize its full potential, a number of industry-supportive and enabling changes in both institutional and non-institutional areas need to take place. It is thus clear that much progress needs to be made in promoting and developing the agribusiness industry, if it is to contribute significantly to the economic development of the country. Reforming the current institutions, developing new institutions and policies, and making institutions and policies function better and more efficiently could be critical for the success of the agribusiness revolution.

Institutional Strategies and Policies for Agribusiness Development

The discussion in the previous section clearly shows the importance of the agricultural sector in Bangladesh in providing employment opportunities and contributing to the country's GDP. It is also clear from the literature review and discussions made above that agribusiness in Bangladesh is poorly developed and the country is far behind in realizing its full potential. The number of areas agribusiness is

currently conducted is very narrow and there is a lot of scope to widen the variety of products in which agribusiness potential exists. Further, the level of productivity in the current agribusiness production is quite low and there is room for further improvements. In addition, the external trade from the agribusiness sector is at a very low scale and hence there is strong potential for its development in the future. Again, institutional factors are weak and poor infrastructure remains a serious challenge. Also, various public support programs can be significantly improved to provide further impetus to the development of this sector.

Since institutions are important and critical for the development of an economy or industry as discussed earlier, the formulation and effective implementation of appropriate market-oriented and market-friendly public policies to encourage private sector investment and entrepreneurship along with the provision of institutional support in the upstream input markets (seed, fertilizer, energy, irrigation facilities, agribusiness extension services, credit and financing, etc) and downstream (production, processing, promotions and distribution networks) accompanied by infrastructure development (roads, highways, port system, telecommunication and information systems) by government would be critical to realize the potential of this sector. In addition, strategic management of agribusiness in the private sector is required so as to develop core competencies in this sector, which will require diversification to new product lines through creating various value-adding horizontal (product market expansion and development), vertical (upstream and downstream areas), and other linkages (such as credit and financing) within the framework of an efficient and dynamic supply chain and its management to meet the challenges of the agribusiness development of the country. Further, various weaknesses in institutional framework and policy formulation and implementation would go a long way in helping accelerate the development of this industry.

In developing and improving the institutional framework, there is need for improving and strengthening the “rules of the game” involving laws and regulatory structures (such as those dealing with quality and health standards), and their effective implementation. Further, the existing public institutions such as the BADC and the Krishi Bank, need to be made efficient, transparent, accountable, and responsive to the needs of this industry. In the making of reforms in public policy areas, a strong and effective incentive structure (such as those dealing with taxes, subsidies, and tariffs as appropriate, pricing and procurement policies, input supplies and their timely deliveries, availability of adequate financing from formal financial institutions such as public and private banks) needs to be developed to encourage private sector entrepreneurship, innovation, product development, and investments to promote the long-term sustainable growth of this industry to exploit potentials in both domestic and foreign markets.

In terms of infrastructure development, improvements in roads, bridges, highways, waterways, railways, airways, port facilities, and information technology infrastructure would improve shipping and transportation of agribusiness products throughout the country as well as to explore foreign markets could go a long way in developing this potential industry. Such infrastructure developments are, of course, highly expensive and time consuming. But proper government policies and initiatives can generate more funds from private investors at home and abroad, international institutions (such as the World Bank), and foreign governments having high investable surpluses and technologies (such as China, India, Malaysia, to name a few) that may complement significantly funds from government sources.

Further, to explore foreign market potentials, further institutional developments are needed to encourage export capacity expansion, coupled with trade policies to encourage exports of home exporters and developing market-friendly investment policies to encourage much needed foreign agribusiness-related investments at home that can bring both technology and foreign market connections and distribution channels. All these can promote agribusiness development of the country by bringing in more foreign currencies that can help reduce trade and payments imbalances, and also contribute to overall industrialization and development of the country. However, encouraging agribusiness-related foreign investments could have harmful effects on the country in terms of market power of these multinational agribusiness companies *vis-a-vis* home entrepreneurs (Wilkinson 2009) and appropriate regulatory and supervisory framework would be needed to deal with such investments to protect the interests of the country.

6. Concluding Remarks, Implications and future agenda for research

Traditionally, the agricultural activities in Bangladesh have been devoted primarily for home consumption as indicative of the subsistence nature of these activities characterized by low productivity and facing localized limited market size with very little scope for realizing scale economies (producing at a larger scale for a larger market that may reduce cost and improve efficiency) and scope economies (through expansion of product lines that may provide further opportunities for cost reductions) in production, processing, promotion and distribution. On the positive side, a gradual commercialization of these activities in the form of production for markets and profits beyond meeting home needs is taking roots. With appropriate institutional, structural, and policy reforms and infrastructure developments taking place as discussed above, the home market would be widening and even the global market opportunities could be explored.

The potential for expansion in an enlarged market with the possibilities of realizing scale economies and scope economies in production, processing, new product

developments, distribution, marketing, and supply chain management in both upstream and downstream markets is great and can be availed of. The gradual development of agribusiness in the country is a testimony to that effect. It is suggested in this exploratory paper that further and more accelerated development of the agribusiness sector to serve both local and foreign markets is not only possible, but is also critical for the realization of the country's need for food security, employment and income generation, poverty-reduction, mitigating trade imbalances, and overall industrialization and economic development of the country. The above-mentioned reforms and changes can unlock these possibilities for the country.

Finally, although the Green revolution was initiated in the country during the sixties to maximize the benefit of agricultural output, the impact of that revolution has now faded and hence a new revolution in agribusiness needs to be ushered in. However, one needs to keep in mind that such agribusiness revolutions may have significant adverse impacts in the global warming and climate change front facing the country. Given the well-documented vulnerability of the country to the adverse impacts of global warming and ecological imbalances, and many other vagaries of nature (floods, droughts, water-logging and salination, deforestation, among others), there is need for environment-friendly management of agribusiness so as to minimize the adverse impacts of the growth of this sector on further ecological imbalances and environmental degradation in the country.

Before concluding, however, a few limitations of the paper need to be mentioned as follows. First, given the exploratory nature of the study, the paper refrained from rigorous primary data collection and evaluation on the agribusiness sector. Second, the paper did not go into details on the analysis of any specific sub-sector within agribusiness, such as fisheries, poultry production, or fruit and vegetables processing. Third, the paper did not discuss and evaluate the status, effectiveness, and weaknesses of any specific agribusiness policy of the government. Fourth but not the least, the recommendations suggested in the paper remain at a very general level without going to recommend any specific policies and programs.

The authors hope that despite its weaknesses and limitations, the study should be useful in giving direction to and encourage further research by others in this area. As mentioned before, the level of current research on agribusiness in Bangladesh is limited at best. Much further research and detailed analysis and evaluation would be needed in order to understand this important sector. It is hoped that such research would be forthcoming in the future for the benefit of academics, researchers, practitioners, and policy-makers of the country.

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