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Prospects and challenges of agro-industry in Bangladesh: An agripreneur view

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Agriculture sector plays an important role in overall economic development of Bangladesh. A plurality of Bangladeshis earns their living from agriculture. Agriculture is the largest employment sector in Bangladesh. Bangladesh is a fertile agrarian country where agriculture and its related branches have been acting as the main livelihood of major portion of citizen since independence. Agro-industry is playing increasingly important role in achieving sustainable development goal as well as faster economic growth in many developing countries like Bangladesh. To meet the domestic food demand and to create self-employment, young generation has diverted their profession to this potential sector by being an agripreneur. Considering the prospect and challenges of agro-industry, it is evident that agro-industry friendly attitude of the government as well as essential policies are necessary for the development and growth of this sector. Vibrant agro-industrial activities can expand the markets for primary agricultural products, add value by vertically integrating primary production and food processing system and minimize post harvest losses. With few exceptions, the agro-industrial sector of Bangladesh remains elementary, underdeveloped and largely without significant institutional, technical and financial support. However, the present study focuses on identifying the problems and prospects of agripreneurship in Bangladesh and the researchers also endeavored to provide some suggestions for the sustainable agripreneurship development.

Key words: Entrepreneur, agripreneur, agri-business, agro-Industry, Bangladesh.

INTRODUCTION

Bangladesh is an agrarian country. Agriculture has been the main occupation since thousand years due to fertility of the land of this country. The economic cycle of this country runs by agriculture. Most of the industries have established in this country, directly or indirectly, based on agriculture. Farmers harvest different types of crash crops based lad characteristics as well as season. Paddy is the largest harvested crops in Bangladesh. It is also main food in this country. Different part of this country has fame for different types of paddy. Governments as well as non-government research institutions have been innovating hybrid paddy by continuous research on agriculture to coherence between supply and demand of rice. Bangladesh is a populated country. The youth

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people ratio is 39.73% (male 30,094,014/female 32,614,286). Bangladesh's population reached 163.65 million people in June 2018. The country's Labor Force Participation Rate increased to 56.50% in December 2017. Bangladesh's unemployment rate increased to 4.37% in December 2017, from 4.35% in December 2016. Total dependence ratio is 52.6%. Agriculture is the main occupation of this country and this is one of the emerging sectors for attaining sustainable development. Entrepreneur in agriculture sector plays an important role in reducing unemployment problem. At present, agripreneur is a new term to define entrepreneur in agriculture sector (www.ceidata.com/bangladesh/unemployment).

LITERATURE REVIEW

Many researchers have conducted research works on different aspects regarding agro-based industry and policies for development. Several important empirical research findings have been taken into consideration.

Hock-Eam et al. (2015) in their study used a sample of 22 established agropreneurs and identifies 28 predisposed factors. Using the individual level or self-fulfillment factors, interest and satisfaction being entrepreneur, are ranked the most important. The social network and soft skills (creativity and innovation, problem solving) are also ranked among the top. On the other hand, the institutional factors such as degree of entrepreneur is ranked bottom. Finding of this study suggests that the individual level factors are the most important predisposed factors, and it can be complemented by the social and institutional level factors. Using a sample of fresh graduates, it is found that there is a substantial amount of graduates who intended to be entrepreneurs. Results also reveal that there are around one third of salaries graduates and around half of unemployed (or economically inactive graduates) are miss-intended to be entrepreneurs. Thus, government is able to increase the number of graduate agropreneur by facilitating or smoothing the realization of this intention.

Owoade (2017) found that agropreneurs need a system of mentorship, handholding, and bridging support to launch them into higher-value food production using modern agriculture and agribusiness methods. The paper posited that bolstering food security and sustainability is not just a matter of helping existing rural small-holder farmers but also recruitment of innovative new ones. The paper also identified challenges to agropreneurs development to include restricted market access, poor management practices, low entrepreneurial skills, poor infrastructural facilities, non access to information, land, money and capital market, etc. To promote agropreneurs development, the paper recommended creation of an enabling agribusiness environment, adoption of consistent and enduring government protection policies and risk sharing strategies, mentoring and establishment of agricultural parks and incubation centers.

Rahman (2017) study sketches a brief scenario of agriculture sector in Bangladesh. The agricultural sector remains an irreplaceable driving force for economic growth of the country. Based on secondary data, the study intends to describe the role of agriculture in the economy of Bangladesh with a focus on problems and challenges of the sector. The main reason behind the loss of agricultural land in Bangladesh is the growth of rural housing followed by urbanization and industrialization. Residences of increasing population of the country are expanding at the cost of agricultural land. Despite many prospects of agriculture sector, some challenges are still present there. In order to address the challenges, a number of collaborative and coordinated steps should be initiated. As the food security is a major concern for Bangladesh, necessary steps should be taken to conserve agricultural land from its shifting to non-agricultural utilization.

Quddus (2009) mentioned that agro industry contributes a significant portion of national income and the prospect of employment generation is increasing at the higher extent for the sectors food processing, tanning and leather finishing, leather industry, saw milling and wooden furniture. Food processing, fish processing, tanning and leather finishing, leather fabrication, livestock, and poultry were the key sectors of the Bangladesh economy. Agro-industry and high value-added agricultural sector is proposed as the key sector to improve inequality problems, smoother employment transformation, generate high growth and induce high output production. The study showed that some of the agricultural production sectors and most of the agricultural processing sectors have better potential to generate more income to different households to create better income distribution and to induce more savings in the country. The high value of multipliers in the case of agro-industries indicates that the knock on effects are relatively large compared with the initial impact of increased output.

Sharma (2014) in his study concluded that the study was pursued to ascertain the existing internal and external factors, alternative strategies and priorities of the strategies applied in enhancing beef cattle agribusiness at Pabna and Sirajganj districts in Bangladesh. The primary data and present study were collected by employing various techniques such as survey, FGD, KII and observation methods. The total sample size was 180 which were selected through convenience sampling technique. The following analytical tools used were employed (i) IFE-EFE analysis, (ii) SWOT analysis, (iii) SWOT matrix, and (iv) QSPM model. By analyzing all the factors from SWOT four strategies were developed to determine the beef cattle development. The best strategy was selected by using QSPM matrix. The results IFE is 2.610, EFE is 2.438 and the total weighted score is 5.833

indicating that beef cattle sub-sector agribusiness are opportunity to explore their strengths and minimize their weaknesses. The beef cattle agribusiness development through the implementation of the integrated or contract farming that supported to backward and forward linkage and support services.

Mahboob and Islam (2014) in their study concluded that Bangladesh cannot sustain long-run economic progress without having a strong agricultural sector accompanied by a dynamic agribusiness sub-sector. 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.

Olusada et al. (2018) examined the new trends in innovation and entrepreneurship for sustainable development. These trends were specifically examined using the Nigerian context. Also, the advantages and shortcomings of these new trends were looked at and solutions proffered were necessary. Entrepreneurship has come to stay and it is a great way of reducing poverty if not eradicating it; it is also a way of empowering young people and women and other people in the economy that are disadvantaged. Subscribing to entrepreneurship by any economy can improve greatly such economy.

Objectives of the study

(1) To identify the prospect of agro-based industry in Bangladesh in the view point of Agropreneur.
(2) To understand the challenges faced by the agro-based organizations in Bangladesh.
(3) To provide some policy implication for development of agro-based organizations in Bangladesh.

METHODOLOGY

The study followed a quantitative approach to achieve the objectives of this study, which was descriptive in nature. Both primary and secondary data have been collected for the purpose of the study. The primary data have been collected through personal interview from the agro based industry entrepreneurs and workers. In this regard, one set of interview schedule prepared in the light of objectives of the study. The interview schedule has been filled up directly by the researcher. Secondary data is the data that have been already collected by and readily available from other sources. The secondary data have been collected from published economic review of Bangladesh, related books, journals, articles, seminar paper, publications from national and international research institutions, report of different financial institutions, public records and statistics, different research reports, etc. Purposive sampling and judgment sampling have been used under non-probability sampling techniques for sample design. So the sample selection has been chosen as per the following ways. A total of 40 agro industry was visited for collected the data, 10 located in Kushtia district, 04 located in Jhenaidah district, 09 located in Chapainawabgong district, 12 located in Naogaon district and 05 located in Bogura district. The descriptive statistics like frequency distribution and SWOT analysis method used to analyze the data.

EXPLANATION OF THE TERMS ENTREPRENEUR AND AGRIPRENEUR

An entrepreneur is an individual who, rather than working as an employee, found and run a small business, assuming all the risks and rewards of the venture. According to Timmons and Spinelli (2003), entrepreneur is an innovator or developer, who recognizes and also seizes opportunities, converts those opportunities into a workable or marketable idea, adds value through time, effort, money or skills, assumes the risks of the competitive marketplace to implement these ideas and realizes the rewards from these efforts. Based on this, they classified entrepreneurs into four types:

(1) Innovating entrepreneurs: Innovating entrepreneurs are those who introduce new goods, inaugurate new method of production, discover new market and reorganize the enterprise. It is important to note that such entrepreneurs can work only when a certain level of development is already achieved, and people look forward to change and improvement.

(2) Imitative entrepreneurs: These are characterized by readiness to adopt successful innovations inaugurated by innovating entrepreneurs. Imitative entrepreneurs do not innovate the changes themselves, they only imitate techniques and technology innovated by others. Such types of entrepreneurs are particularly suitable for the underdeveloped regions for bringing a mushroom drive of imitation of new combinations of factors of production already available in developed regions.

(3) Fabian entrepreneurs: Fabian entrepreneurs are characterized by very great caution and skepticism in experimenting any change in their enterprises. They imitate only when it becomes perfectly clear that failure to do so would result in a loss of the relative position in the enterprise.

(4) Drone entrepreneurs: These are characterized by a refusal to adopt opportunities to make changes in production formula even at the cost of severely reduced returns relative to other like producers. Such entrepreneurs may even suffer from losses but they are not ready to make changes in their existing production methods.

Beside the previously discussed type of classification,

entrepreneurs are classified into different types based on different classifications as mentioned in the following.

Based on the use of technology

(1) Technical entrepreneur: The entrepreneurs who establish and run science and technology-based industries are called 'technical entrepreneurs.' Speaking alternatively, these are the entrepreneurs who make use of science and technology in their enterprises. Expectedly, they use new and innovative methods of production in their enterprises.

(2) Non-technical entrepreneur: Based on the use of technology, the entrepreneurs who are not technical entrepreneurs are non-technical entrepreneurs. The forte of their enterprises is not science and technology. They are concerned with the use of alternative and imitative methods of marketing and distribution strategies to make their business survive and thrive in the competitive market.

Based on ownership

(1) Private entrepreneur: A private entrepreneur is one who as an individual sets up a business enterprise. He/She is the sole owner of the enterprise and bears the entire risk involved in it.

(2) State entrepreneur: When the trading or industrial venture is undertaken by the state or the government, it is called 'state entrepreneur.'

(3) Joint entrepreneurs: When a private entrepreneur and the government jointly run a business enterprise, it is called 'joint entrepreneurs.'

Based on the type of business

(1) Trading entrepreneur: As the name itself suggests, the trading entrepreneur undertakes the trading activities. They procure the finished products from the manufacturers and sell these to the customers directly or through a retailer. These serve as the middlemen as wholesalers, dealers, and retailers between the manufacturers and customers.

(2) Manufacturing entrepreneur: The manufacturing entrepreneurs manufacture products. They identify the needs of the customers and, then, explore the resources and technology to be used to manufacture the products to satisfy the customers' needs. In other words, the manufacturing entrepreneurs convert raw materials into finished products.

(3) Agricultural entrepreneur: The entrepreneurs who undertake agricultural pursuits are called agricultural entrepreneurs. They cover a wide spectrum of agricultural activities like cultivation, marketing of agricultural produce, irrigation, mechanization, and technology.

Agripreneur

Agriculture is the main occupation of this country and this is one of the emerging sectors for attaining sustainable development. Entrepreneur in agriculture sector plays an important role in reducing unemployment problem. At present agripreneur is a new term to define entrepreneur in agriculture sector. Agripreneur defined as "entrepreneur whose main business is agriculture or agriculture-related" Agripreneur = Agriculture + Entrepreneur.

Agripreneurship

Agripreneurship defined as "generally, sustainable, community-oriented, directly-marketed agriculture. Sustainable agriculture denotes a holistic, systems oriented approach to farming that focuses on the interrelationships of social, economic, and environmental processes". Agripreneurship is an employment strategy that can lead to economic self-sufficiency of rural people. Agripreneurship development through training is a key elements for the promotion of Micro, Small and Medium Enterprises (MSMEs), particularly, the first generation agripreneurs. These can result in improved performance of an individual that can contribute to employment generation, poverty reduction and Human Resource Development (Nagalakshmi and Sudhakar, 2013).

ROLE OF AGRICULTURE AND AGRO-INDUSTRY IN BANGLADESH

Agro-industry can play a strategic role in pro-poor growth strategies, particularly in developing countries, like Bangladesh where major percentage of the poor live in rural area. The development of agro-industry has an important impact on the local agricultural sector as well as the livelihoods of small holder farmers.

GDP from agriculture in Bangladesh increased to Tk.10117.30 million in 2017 from Tk. 9922.80 million in 2016. GDP from agriculture in Bangladesh averaged Tk. 8747.38 million from 2006 until 2017, reaching an all-time high of Tk. 10117.30 million in 2017 and a record low of Tk. 7017.10 million in 2006 (Figure 1).

Figure 2 shows that agricultural growth is constant in recent years. It was high in 2009 to 2010 due to dome positive factors. In comparison with other two sectors,

Figure 1. Bangladesh GDP from agriculture.
Source: Trading economics.com/Bangladesh Bureau of Statistics.

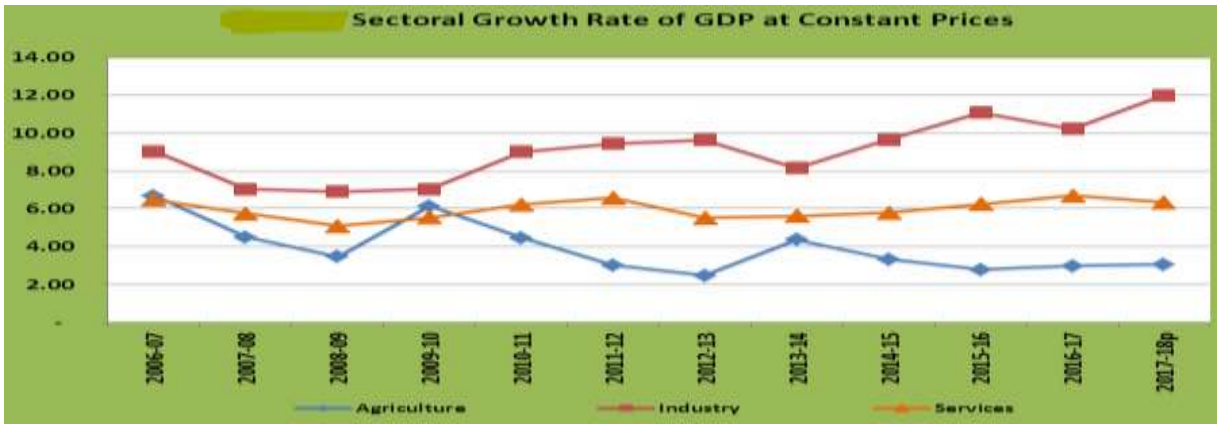

Figure 2. Sector wise share of GDP at constant price.
Source: National Accounts Statistics (2016-2016).

Figure 3. Distribution of employment by economic sector of Bangladesh
Source: Share of total employment from (https://www.statista.com/statistics/438360/employment-by-economic-sector-in-bangladesh/).

though it provides lower GDP growth but the industrial and service sector's growth is high. So it is high time to collaborate agriculture with industrial sector by establishing balanced agro-industries all over the country.

Figures 2 and 3 show that agricultural sector contributes a lot of employment since 2014 in our country. It happens for generic ability of farming knowledge of large labor forces and rapid expansion of

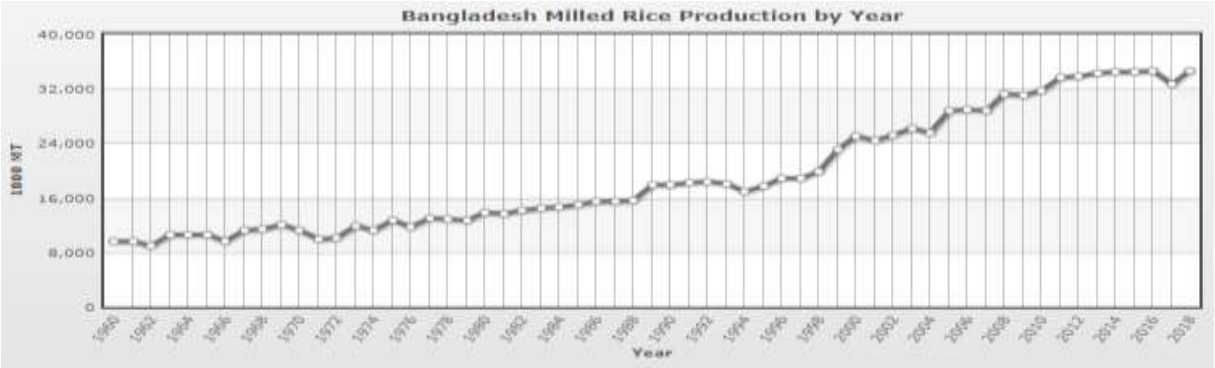

Figure 4. Bangladesh milled rice production by year.
Source: https://www.indexmundi.com/agriculture/country

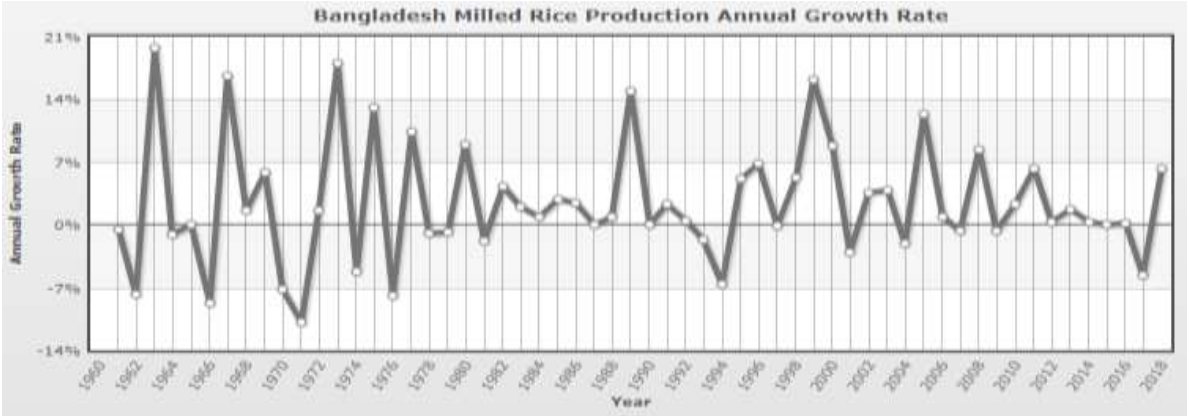

Figure 5. Bangladesh milled rice production annual growth rate.
Source: https://www.indexmundi.com/agriculture/country

agripreneur and agro based industries.

RICE MILLING INDUSTRY IN BANGLADESH

Paddy is the largest harvested crops in Bangladesh. It is also main food in this country. Different part of this country has fame for different types of paddy. Governments as well as non-government research institutions have been innovating hybrid paddy by continuous research on agriculture to coherence between supply and demand of rice. Twentieth century adds new technology in harvesting (e.g. soil testing, seed producing, cutting paddy, processing, using insecticides, using internet to detect disease of crops, etc.) before 2006 to 2007 farmers used to follow traditional procedures to make rice from paddy to sell commercially after fulfilling their own family demand. Where rice production and selling were totally dependent on season. By the advancement of science and technology as well as globalization, the production of paddy to rice conversion, everywhere it has seen tremendous changes. Nowadays, it has become an industry with home; it creates new employment as well as investment. Traditional and semi auto rice mills create jobs, particularly for women. Rice husking mills have roles in building stocks at local levels. Over the last few years, hundreds of automatic and semi-automatic rice mills were in different rice producing zones. Naogaon, Ghapainawabganj, Dinajpur, Kushtia and Noapara of Jessore are some diistricts that have attached investment to set up big automatic rice mills. At present more investments are coming up to set up automatic rice mills (Figures 4 and 5). In 2005, there are only 200 semi-automatic and automatic rice mills. The number has tripled to more than 600; now a body of about almost 17,000 mills. This sector has attracted many large investors to set up big automatic rice mills as demand for rice processed at automatic mills has risen. Industry insiders link the growth in numbers of automatic rice mills to changing consumer preferences. The ultimate consumers want better quality rice, a longer shelf life, less broken qualities and rice that is almost free from inedible substances, such as stones.

Table 1. Prospects and challenges of agro-industry in Bangladesh SWOT analysis.

SWOT analysis
Strengths:
Suitability and availability of raw materials
Low labor cost
Rice is the main food for Bangladeshi inhabitants
Market demand of this finished product is very good
Opportunities:
Rice mills also create a large number of employment opportunities
It has potential market demand
Develop technology and create important by product
Increase gross domestic product (GDP)
Weakness:
Capital problem
Lack of research and technology and technical support
Seasonality of crops
Sub-optimal use of processing facilities and equipment
Poorly trained personnel and a lack of qualified food technologists
A lack of proper hygiene and sanitation practices
Weak or non-existent market development
Threats:
Inappropriate or obsolete processing and ancillary equipment
Inappropriate packaging materials
Absence of good management of the processing facility once commercialized
Poor and inconsistent quality of processed products
Backdated technology and dependency on other countries
Lack of proper control on imported product
Natural calamities

Source: Personal Survey

DISCUSSION AND ANALYSIS OF THE STUDY

Ownership style: The ownership style out of the 40 organizations; 03 was sole proprietorship, 21 was partnership, and 16 was private limited company.

Types of Organization: From this 36 was an auto rice mill, 03 was semi auto rice mills, and only 01 was rice bran oil.

Capital: Only 01 entrepreneur performs their business in own capital. 11 entrepreneurs own and loan capital ratio was 75:25. 18 entrepreneurs own and loan capital ratio was 50:50. And 10 entrepreneurs own and loan capital ratio was 25:75.

Raw materials: 100% entrepreneurs think that their raw materials are available.

Supply and demand relationship: Out of 40 entrepreneurs, 36 realize that their product supply and demand relationship was positive and only 04 realize that their product supply and demand relationship was negative.

Business environment: Out of 40 entrepreneurs, 35 provide positive attitudes toward their business environment. Only 5 entrepreneurs face negative impact from the business environment.

Government co-operation: Out of 40 entrepreneurs, 17 find out government co-operation for the growth and development of agro-industry is less than required level; on the other hand, 14 entrepreneurs think moderate co-operation from government in this issue. Only 9 entrepreneurs get spontaneous government co-operation for their venture. It summarizes subjacent co-operation from government.

Government support: From 40 entrepreneurs, only 17

provide positive reply in this issue; on the other hand, differently 23 entrepreneurs figure out negative support for this sector. This result implies negative support from government.

Trading system: Among 40 entrepreneurs, 36 perform only domestic trading, 02 entrepreneurs are related with import and export simultaneously. It identifies that domestic trading is the main trading system in the present agro-industry.

Products market potentiality: Out of 40 entrepreneurs, 14 show satisfactory, 13 entrepreneurs think high, 5 entrepreneurs find out moderate and only 8 entrepreneurs denote low satisfactory level of market potentiality of their products.

Opportunity of the agripreneur: Out of 40 entrepreneurs, 6 foresight high opportunity, 6 perceive very little opportunity and 28 entrepreneurs claim very little opportunity for the entrepreneurs of the agro-industrial sector.

Creation of new product: Out of 40 entrepreneurs, 7 realize high opportunity, 12 figure out limited opportunity and 21 of 40 entrepreneurs think very little opportunity for creation of new product for the expansion of this agro-industrial sector.

Demand of customers: Out of 40 Entrepreneurs, 34 face no impact on changing demand of customers and consumers; on the contrary, only 6 entrepreneurs face moderate impact on constant changing demand of customers and consumers of this agro-industrial sector.

Government and industrial law: Out of 40 entrepreneurs, 23 face no hazardous impact on government and industrial law but 17 entrepreneurs think it partially impact on the business functionality.

Competition: Among 40 entrepreneurs, 7 face some problems due to low existence of unhealthy competition. Among them, 30 entrepreneurs find out no existence of unhealthy competition; differently, only 3 entrepreneurs incur loss due to high existence of unhealthy competition.

PROSPECTS OF AGROPRENEURSHIP IN BANGLADESH

(1) Paddy is the only raw material of rice industry. Easy collection of paddy is one of the major forces of recent success of this industry. As Bangladesh produces huge amount of paddy, so the cost of collection of raw material is easy.
(2) In the last decade, there was commonly three variety of paddy. But by the development of science and technology in harvesting and research field now farmers are producing a large variety of paddy almost all over the year. Rice research institutes as well as agriculture universities have invented new variety of rice every year.
(3) In Bangladesh, rice is the staple food, so it has high production as well as demand. It is hard for traditional system of rice mills to meet the domestic demand of rice, as a result noticeable number of auto rice mills has been established each district. An auto rice mill can produce a large quantity of rice by using low land as well as labor and paddy.
(4) Rice mills create a large number of employment opportunities. Though the machine is automatic but to input paddy to machine and to transport and marketing rice mills employ large number of labor and staffs. It helps entrepreneurs of rice mills to create self-employment.
(5) Most of the auto rice mills produce more than 4 types of rice like Minicate, Shorna, Najirshail, Basmati sugondhichaul, etc. As consumers consumption pattern has changed so different consumers demand different types of rice. So consumer's increasing demand helps to rapid expansion of agro industries. It has potential market demand.
(6) At present, new rice milling machines are available in our country. Most of the rice mills use China and Indian technology as it is cheap and very easy to install and also easy to replace. Different parts of China's machines are available. These machines also produce God quality rice.
(7) Finance is the most vital and challenging part for an entrepreneur of agro industry. In our country it is almost easy to get necessary capital from bank. Government has declared single digit interest based loan for agro-industries which implementation is under processing.
(8) Electricity is the main energy source of rice mills. As electricity is available, so the number of traditional rice mills are being converted to automatic rice mills. Government also provides uninterrupted electricity supply to agro-industry areas.
(9) Availability of labor with a cheap wage rate also foster the growth of agro-industries like garment sector. As most of the rural side labor of this country has farming experience, so they can work easily with a little training. Besides, youth employed educated personnel works in rice mills. It is very easy for agro-industries to maintain a healthy number of human resources.
(10) Government support for this industry is spontaneous. They provide as much support as they can from establishment to maintain of agro-industries. Government provides infrastructural support to less developed rural areas to ensure balanced agro based industrial development.
(11) Quality is maintained and controlled by proper authority. BSTI frequently visits ago-industries to examine quality, besides peripatetically court frequently check the retailer rice to ensure quality.
(12) Law and enforcement authority plays a very helpful

role in this sector. For any kind of criminal activities like snatching of transport, rough-neck, local violence, etc., they provide utmost help to industrialist.
(13) Processing of input and marketing of finished goods is essential for proper establishment and growth. Rice millers use variety of channels for collection of raw material as well as, marketing. After collection of raw materials (paddy); it was processed to rice by using modern technology after that it was sent to market through using supply chain.
(14) Rice mill not only produces rice but also it produces various kinds of byproducts such as broken rice, polish, rice bran, etc. which are used as raw material of other industries like animal feed industry, rice bran oil industry, etc., rice bran oil is a faster growing industry. It helps consumer by providing better quality edible oil. Rice bran oil has huge domestic as well as international demand. This by product makes a large portion of profit of agro-industries.

Besides a large number of prospect factors, there are some weaknesses and threats faced by the entrepreneur and established agro-based company in Bangladesh. These challenges are common in almost all kind of agro-industries in Bangladesh.

CHALLENGES OF AGROPRENEURSHIP IN BANGLADESH

(1) To establish and run an agro-industry, the entrepreneurs need to arrange a large number of capital. Most of the agro-industries are dependent on external source of financing, rather internal financing. It mostly depends on government and commercial banks. To arrange capital from external source, they have to bear a large amount of cost of capital. The interest rate also fluctuates time to time. Though government has declared single digit interest based loan for industrial sector but the implementation is under processing. When market falls or decreases in market demand of rice due to imported rice, it becomes difficult for industrialist to repay the installment on time. Sometimes they are declared as bankrupt.
(2) Maintaining market share and creating potential market is one of the big challenges for agro-industry. Consumers are more aware and health conscious than previous in selection of consumer goods. Most of the consumers demand better quality; as a result industry needs to ensure good quality product within the budget of consumer. As there are lot of competitor are continuously trying to inaugurate new variety of product so having qualified marketing agent and maintaining a competitive marketing channel is a must. But most of the industries do not have excellent marketing channel and they are less bothered of rapid expansion of existing market.
(3) Trading system faces great challenges. Most of the industry has to sell product to wholesalers or retailers on due basis. It is almost impossible to make all transaction in cash basis as a result creation of bad debt is unavoidable and the number of bad debt rate is high in this sector. Sometimes, there is a problem of trustworthiness of the customer and retailer.
(4) Technology is a great challenge to small scale agro-industries. Though there is availability of modern rice milling machines and technology but almost all the technology installment expenditure is high. We do not have our own technology for auto rice mill and other agro-industry. So we have to purchase manufacturing and service providing technologies for this sector from abroad paying a high value for patent issue. Though some Bangladeshi technologies are used in semi auto rice mills, but there is no Bangladeshi technology in the market for automatic rice mills. Import tax is high for purchasing machines. Spare parts are not available; as a result it causes shut down of factory for shortage of machine parts or little troubles. It takes high investment for small and medium scale firm to adopt technology with high production capacity as well as low production cost like England, Japan technology so they use India or China technology.
(5) Lack of managerial knowledge is the main challenge. As most of the automatic rice mills, are converted from traditional small scale rice mills to auto rice mill, as a result, the executives have lack of knowledge and management ability to us; their industrial resources efficiently and effectively. They follow self-assumptions and previous business experience to deal with recent and upcoming challenges. There is noticeable number of system loses which could eliminate by using effective management practices.
(6) Very few agro-industries are connected with research institutions but almost all the agro-industries has no connection; even they do not feel the need of connection with research organization. An industry can prosper if it continues research for generating or upgrading product and business procedures. Though there are various consulting agencies and agro-based government and non-government research institutions, universities who work on development of new variety of raw material, finished goods, human resource development, entrepreneurial development, marketing, accounts maintaining, operation development, etc., but they are reluctant in connecting with medium and small scale agro-industries. So connecting with this research institution and maintaining co-operative relation is a challenge.
(7) Industrial law, environment law and labor law are not properly followed by the firm. So appropriate implementation of this law is mandatory for proper growth of this sector. But most of the industry do not practice all the law related with agro-industry. Millers follow self-created payment structure for labor and employees. Most of the time, they do not follow the proper environment

law; they haphazardly establish factory beside populated area. There prevails poor drainage system, smoke emission system, storage system in almost every firm. Bangladesh standard and testing institute (BSTI) though visit occasionally to ensure better quality but their presence and proper steps for quality assurance was not found in the survey.
(8) Illegal competition prevails in this agro-industry in case of government procurement of rice and other agro-based products. Powerful industrialist gets more allocation than their capacity as a result small scale firm's faces challenges.
(9) Lack of proper control on imported product creates threat for domestic agro-based industries. When natural calamities destroy crops the time government reduce taxes on imported product but government do not demotivate import on the time of surplus production of agro-product like rice.
(10) Transport is a vital factor for the success of marketing of the agro-industries. Though very few of the well-established industries have its own transportation system but most of the agro-industries have to depend on rented transport which increase the cost of product on the other hand this transport agencies are not very trustworthy.
(11) There is deficiency in services of law and enforcement authority. In case of transport snatching, local miscreants, product snatching in road and highway, etc., industrialist infrequently gets support from law and enforcement authority.
(12) Lack of infrastructural support is one of the biggest challenges for these agro-based industries. Most of the industries situated far away from the town or locality. In rural site, there is lack of infrastructural support like road is narrow, lack of central drainage system, lack of high speed internet facilities, etc.
(13) Natural calamities are one of the biggest challenges. It causes scarcity of raw materials as a result production cost becomes higher than as usual. It also hampers each and every elements of supply chain as our country is a riverine country and has seasonal impact so unexpected flood, storm, hailstorm, and river corrosion are common natural calamities which is a challenge of this agro-industries.

RECOMMENDATIONS TO FACE THE CHALLENGES

(1) A complete package for the benefits of young agripreneur programs needs to be introduced which provides technical advice, land management ideas, easy access of funding, continuous guidance/monitoring, and services on marketing.
(2) Single digit loan from government as well as other specialized and non-government organization and attractive foreign investment are needed to boost up the ago-industrial sector.
(3) Government should ensure proper infrastructural facilities to rural areas to create overall employment opportunity and to stop rapid migration by establish agro-industries.
(4) Law and enforcement authorities (industrial police) need to perform their duty properly to ensure free and fair trading domestically and in abroad.
(5) Government should provide realistic and agro-industrial friendly national as well as international trading policies, to ensure market stabilization.
(6) Research organizations need to be connected with agro-industries to ensure sustainable industrial growth, employment creation, introduce varieties of product line and to explore exclusive managing process.
(7) Environment friendly and renewable energy based agro-industries need to be established as it is a national as well as international demand.
(8) Millers could provide employment opportunity for both men and women of the rural areas. Compared to other major industries, employment scope in the agro-industries was observed high at the national level.

Conclusion

Bangladesh is still an agro-based economy where real economic development depends on the improvement of this sector, which is why the government always patronizes this sector. The agricultural activities in the country are pursued intensively for the crop as well as allied sectors and in conditions of scarce natural resources. The performance of this sector has great impact on macroeconomic situation like employment generation, poverty alleviation, food security and nutritional attainment. Rice is the staple food in the everyday diet of Bangladeshis. The production of rice, which can be harvested 2 or even 3 times a year. However, due to weather conditions, the production of rice and wheat fluctuate greatly, forcing Bangladesh to import food from the international market or turn to international aid. The agro-industrial sector remains elementary, underdeveloped and largely without significant institutional, technical and financial support. Finally, in general agripreneur, the agro-industrial sector of Bangladesh remains elementary, underdeveloped and largely without significant institutional, technical and financial support.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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