

THE ROLE OF BANGLADESH ARMY IN NATIONAL FOOD SECURITY MANAGEMENT

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Introduction

Bangladesh, with a high population density suffers the wrath of poverty since its independence in 1971. Threat of food insecurity shadowed too until 1980s after which the country came on track to self-sufficiency in food. The country with the utmost hard work of the scientists and farmers grew rice almost three times more than it grew in 1970s. Bangladesh tried to cope with various causes of food insecurity but, yet to fulfil all the criterions.

In last one decade or so, Food security situation in Bangladesh has improved, especially on the availability side. Bangladesh could overcome the scarcity of food, but still we have lot of rooms for improvement in the food accessibility, affordability and utilisation perimeters. Government initiative to mitigate food security has reduced the percentage of low-calorie intake people but, due to poor management from crop field to consumer we are yet to ensure sustainable food security for our country.

Army as part of Defence Forces is basically equipped and trained to protect the sovereignty of a nation. Armies of other countries are now not only seating tight by only preparing for war. Rather, they are contributing to the economy and food sectors by their men, material and knowledge. Besides its primary role, it has also extended its support for nation building and various 'In aid to Civil Power' duties. As a disciplined and accountable force, it is likely to contribute more not only in the physical security of the country but, also in the National Food Security Management. In this study effort is taken to identify the limitations and challenges of National Food Security Management System with a view to recommending the measures to be taken by Bangladesh Army in support of concern government machineries.

Conceptual Clarification of Food Security Management

Concept of Food Security

Food security as a concept originated in the mid-1970s, in the discussions of international food problems at a time of global food crisis. In 1983, FAO expanded its concept to include securing access by vulnerable people to available supplies, “ensuring that all people at all times have both physical and economic access to the basic food that they need”.¹ A process of international negotiation followed, leading to the World Food Summit and a definition of food security was formulated. They defined it as “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices”.²

Reasons of Food Insecurity

Food Insecurity is the state of being without reliable access to a sufficient quantity of affordable, nutritious food. The FAO defined food insecurity as: “A situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life.”³ With the growth of population in the world the food production increased manifold too. But it is until 1980s and 90s the situation reached at a critical juncture which virtually was a wakeup call for the world. The causes of food insecurity are diverse and complex in nature. Some of the direct and indirect causes of food insecurity is population growth, food shortage, increase of price, climate change, reduced crops land, unsafe food, poor market monitoring and poor market access.

1 FAO, 2002. Trade and Food Security: Conceptualizing the Linkages Expert Consultation. Rome, FAO, p.2.2.

2 FAO, 2006. Food Security. Policy Brief, June, Issue 2, p.1.

3 FAO, 1996, Report of the World Food Summit.

Relation between Management and Food Security

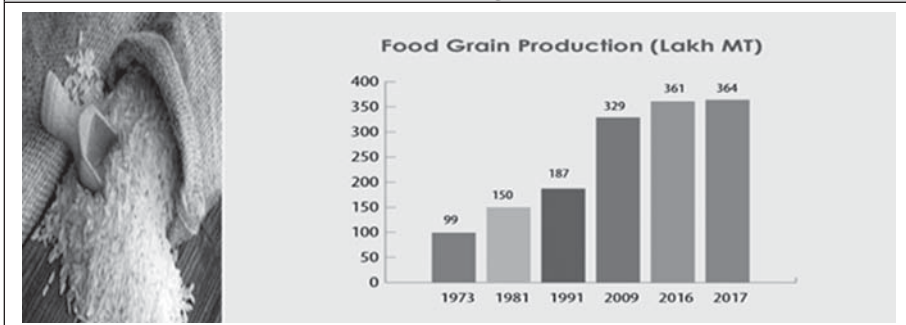
The Food Security Management System (FSMS) allows demonstrating the ability of the organization to control food hazards and to guarantee that the food is secure for human consumption.⁴ This standard applies from the farm to consumer throughout the supply chain. Management of all dimensions of food security i.e. availability of food, access to food and nutrition and utilization of food through country's proper information and implementation system could be considered as National Food Security Management (NFSM).

NFSM: The Bangladesh Perspective

Food Security Purview

Bangladesh's production of food grain has shown a steady increase since independence, increasing from about 10 million metric tons in the 1973 to more than 36 million metric tons in 2017, see figure 1. The production increased in general although the population grew in parallel. Except pulse and wheat all crops increased in production as the time passed. Rice, Maize and potato increased remarkably from 2001.

Figure 1: Food Grain Production Bangladesh



⁴ SGE-Consultores, 2018. 'ISO 22000 Food Security Management Systems', Available at: <http://www.sge-consultores.com/en/certifications/iso-22000-food-security-management-systems/> accessed on 25 May 2018.

Bangladesh is one of the malnourished countries of the world. This means many citizens do not eat a balanced and nutritious diet, even in good harvest years. The calorie intake of Bangladeshi people has improved from year 1990. But still it is less than other neighbouring countries like India, Nepal, Maldives and Myanmar.⁵ For people in most developing countries, the daily calorie average is 2,828. In Bangladesh, that average is only 2,190.

Food Security Analysis of Bangladesh

One of the most densely populated country in the world besides city states, Bangladesh graduated to lower-middle-income country status in 2015. Despite huge population increase and serious hunger problem there has not been any incident of death due to hunger since last three decades. Can Bangladesh be then termed as hunger free or food secured country? The answer is probably not that easy to find out. For a prudent and truthful answer, indicators of food security (availability, access and utilization) are examined in Bangladesh context subsequently.

Availability: Domestic production, external trade and the efficiency of distribution through market and other channels determine “availability” of food. There has been substantial improvement in the availability of food in Bangladesh in recent decade. Table 1 below shows per capita availability of food grain increased from 442 gram in 2010 to 510.5 gram in 2012.⁶

5 Ritchie, M. R. a. H., 2018. ‘Our World in Data.’ Available at: <https://ourworldindata.org/food-per-person> Accessed on 10 July 2018

6 Yunus, M. H. a. M., 2016. ‘Estimates of Per Capita Consumption of Food Grains in Bangladesh’. Bangladesh Development Studies, XXXIX, March-June(1&2). P.107.

Table 1: per capita availability of food grain <i>(in grams)</i>						
	Authors' Estimates			HIES 2010 ²		
	National	Rural	Urban	National	Rural	Urban
Cereals ^a	510.5	566.1	341.9	442.0	464.9	377.8
Rice	468.9	538.6	257.6	416.0	441.6	344.2
Wheat ^b	41.6	27.5	84.3	26.0	23.3	33.6
<p>Note: a. It may be noted that the definition of “cereals” in this exercise, which comprises rice and wheat flour, differs from the one used by the BBS in its HIES which includes “all others” in addition. b. Wheat consumption in the analysis is actually wheat flour in order to make Authors’ and HIES estimates comparable.</p>						
Source: BIDS Field Survey, 2012 and HIES, 2010 (Yunus, 2016)						

Accessibility: Accessibility of food refers to affordability, allocation and preference. Poverty has a direct role in ensuring affordability of food. Poor people are unable to buy sufficient food resulting in consuming fewer intakes (Calorie) than needed. A good percentage of people of the country cannot afford required food for some period of time or throughout the year. The agricultural land of the country cannot produce same type and amount of crops for natural reason. The char areas of Kurigram district or the hilly areas of Sylhet districts cannot produce sufficient cereals for their local cultivators. At the same time when at Dhaka potato is sold with taka 18-20 per kilo, the poor farmers at Nilphamari is getting only taka 1-2 per kilo. Poor dispersion of food limits, allocation of required food to all people and also restricts the choice of foods.

Food Utilisation: Ensuring nutritional value, social value and food safety are the key factors of Food utilisation. Utilization is ensured through access to appropriate diet, safe water, sanitation and health care. Bangladeshi diet is more of a carbohydrate heavy diet. Most of our people are not aware of balanced diet with a good combination of Protein, Carbohydrate, Fat, minerals and vitamins.

Bangladesh in the Global Food Security Index

Using the definition adapted from the 1996 World Food Summit, the Global Food Security Index (GFSI) considers the core issues of affordability, availability, and quality across a set of 113 countries.⁷ On 2017, Bangladesh stands on the 89th position -- the lowest among the South Asian countries. Bangladesh scored 39.7 out of 100 which is 1.3 score more than previous year (2016). There are seven major challenges identified. These are insufficient Public expenditure on agricultural R&D, Corruption, inadequate diet diversification, Gross domestic product per capita (US\$ PPP), Micronutrient availability, Protein quality and Food consumption as a share of household expenditure.⁸

Causes of Food Insecurity in Bangladesh

Over Population: With the population growth the domestic demand is increasing every year. Therefore, with the increase of population food security is directly affected.⁹

Shrinking of Agricultural Land: Due to industrial and population growth the cultivatable land is decreasing by 1% annually. This had direct impact on production of food.

Poverty: Food insecurity is an analogy of poverty in Bangladesh. According to the statistics about 23.2% of 166.33 million people of Bangladesh live below poverty level. i.e. their daily calorie intake is less than 1800 kilo calorie as set by the World Bank.

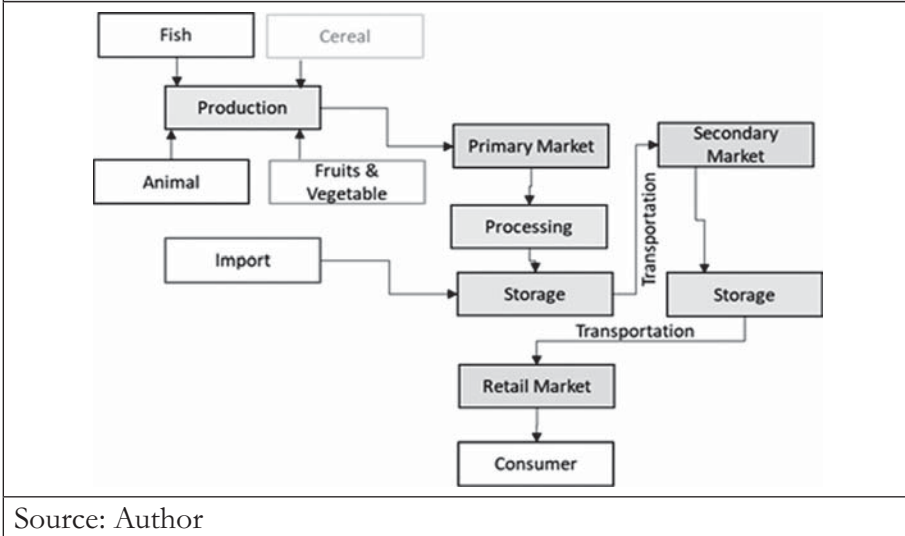
Food Supply Chain in Bangladesh: The farmers or producers seldom have the access to the retail market. Through middlemen and retailers, the food commodities are sold to consumers with 3 to 5 times higher than the original field price. From Garden or farm to consumer food supply chain is as shown in figure 2.

7 The Economist, 2017. 'Global Food Security Index.' Available at: <http://foodsecurityindex.eiu.com/> Accessed 22 May 2018, p.41.

8 Ibid.

9 Sunon, Shaoli., 2018. Ministry of Food, Interview, taken on 02 August 2018.

Figure 2: Food Supply Chain



Source: Author

Slow Modernization of Agricultural cultivation: In agriculture sector, despite attempts since last two decades, progress of modernization is slower than it expected.

Effects of Climate Change: Bangladesh is one of the worst sufferers of climate changes in the world.¹⁰ Between 30 and 50 percent of the country suffers severe climate shocks every year, with detrimental impacts on the lives and livelihoods of the still predominantly rural population.¹¹

Natural Disaster: By nature Bangladesh is a disaster prone country. About 50% of its population, mostly poor, lives in the disaster prone areas.

Malnutrition: This is a condition that results from eating a diet in which one or more nutrients are either not enough or are too much such that the diet causes health problems. Our food is carbohydrate heavy and lack of other good nutrients.

Lack of Safe Food: Ensuring safe food is a pre-requisite for National Food Security. Adulteration of food has become a common threat to

¹⁰ Ibid

¹¹ WFP, 2018. 'Bangladesh.' Available at: <http://www.wfp.org/countries/bangladesh>, Accessed on 03 June 2018.

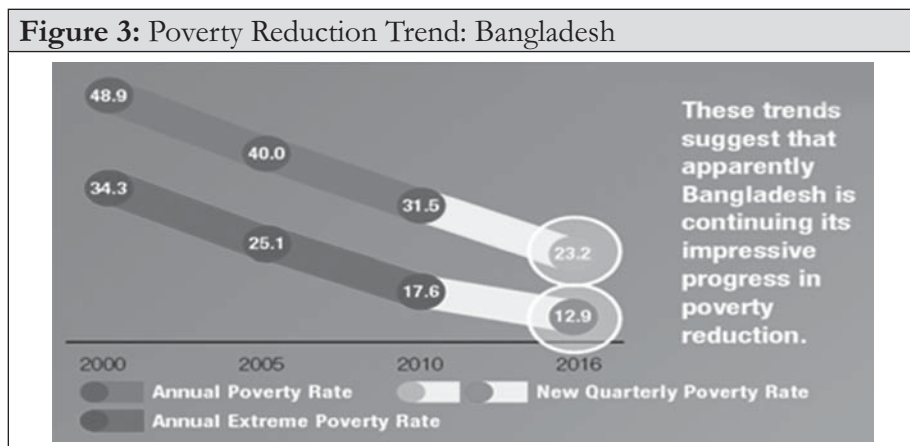
human health. Maintenance of food safety standard is a prerequisite for healthy life.

Government Initiatives towards NFSM

National Food Policy 2006: Bangladesh Constitution (article 15 a) made food as a fundamental right of its citizen and warranted the government to ensure it. The National Food Policy 2006 is to ensure a dependable food security system for all people of the country at all times. The objectives of the food policy are:

- To ensure adequate and stable supply of safe and nutritious food;
- To enhance purchasing power of the people for increased food accessibility; and
- To ensure adequate nutrition for all (especially women and children).

Poverty Reduction: GoB is on the right track of Goal-1 of SDG. Poverty reduction trend suggest that apparently Bangladesh is continuing its impressive progress in poverty reduction.¹² See Figure-3:



¹² World Bank Group, 2017. National Poverty Level of Bangladesh. Available at: http://203.112.218.65:8008/WebTestApplication/userfiles/Image/LatestNews/Infographic_HIES_2016.pdf, Accessed on 22 June 2018.

Social Safety Net Programs: Food for Works (FFW), Vulnerable Group Feeding (VGF), Vulnerable Group Destitute (VGD), Test Relief (TR) were some of the initiatives by the government. Since September 2016, government is distributing food through “Food-Friendly Programme for the Ultra-Poor”, targeting some 5 million poor families across the country. The scheme aims to provide poor families the opportunity to buy up to 30 kg of rice per month in September, October, November and in March and April during the lean season at a price of taka 10 per kg.

Water Management and Irrigation: Steps are being taken to increase water catchment areas for irrigation. Every year efforts are made to bring more land under irrigation for better production. Bangladesh Water Development Board and LGED try to maintain river embankments and dams. Beside regular dredging efforts are made to undertake capital dredging for holding more water and reduce flash flood.

Storage and Procurement: Every year Ministry of Food fix a target to procure food as buffer stock to sustain the shocks of natural calamity and external issues. Government aim to have food grains storage capability from 0.5 million metric ton to 2.44 million metric ton by the end of 2018. Government has taken steps to build up small silos at coastal and flash-flood zones, each with 100kg storage capacity, to help 5 lakh families store rice to use in times of disaster.

Scientific Research for Crop Diversification: The government research and development agencies like, BRRI, BARI, BJRI, BFRI, BINA, BWMRI, BTRI have successfully contributed to develop new varieties seeds and cultivating accessories.

Identifying the Limitations and Challenges of NFSM

Ineffective Market Management: The links of our food supply chain between producer, buyers and consumers are sometimes too far, not by distance but by price. Throughout the chain of supply the food items are subject to extortion. The government does not have any effective

regulatory system to control the price hike or unethical stocking of food items. Lack of market intelligence on domestic and international markets often results rise of essential commodity.

Poor Transportation Infrastructure: Inadequate infrastructure including communication networks created hindrance to achieve food security issues. The railway lines and Rail Track Wagons (RTW) are very meagre than our domestic requirement. The cheapest mode of carrying goods is river route. But, due to lack of navigability we are unable to use this mode with optimal output.

Lack of Adequate Food Storage: During scarcity of food due to natural calamity, one of the main reasons of food insecurity is government's failure to maintain a sufficient amount of buffer food stock. Last year (2017) after two consecutive floods at greater Sylhet area due to shortage of buffer stock (below the threshold level of 0.8 million metric tons) Bangladesh had to buy rice from Myanmar having a strain relationship due to Rohingya crisis.

Bureaucratic Ineffectiveness: Despite good numbers of achievements on poverty reduction and food production, our bureaucratic efficiency is still under criticism. There are allegation against some of the government officials serving at the rural areas that they are displaying lack of initiative and responsibility. Farmers are sometimes not confident about the quality of seeds distributed by BADC.¹³ Alleged corruptions in the concerned government agencies at various level reduce the overall efficiency of the government to ensure sustained NFSM.¹⁴

Lack of Implementation of Laws: To ensure safe food, there are rules or policies encompass the offences like fake licenses, poor quality of food, substandard infrastructure and lack of hygiene, food adulteration, food impurity, incorrect information on food packages, selling products with

13 Alam, M. S., 2015. Dilemma in Quality Rice Seed Production. Available at: <https://www.thedailystar.net/dilemma-in-quality-rice-seed-production-37652>, Accessed on 28 July 2018.

14 Bangladesh Corruption Report, 2018. Business Anti-Corruption Portal. Available at: <https://www.business-anti-corruption.com/country-profiles/bangladesh>, Accessed 30 July 2018.

expired date etc. There are lot of gaps and overlaps in the existing food safety acts and regulations.¹⁵ Problem lies in their sustained and appropriate implementation by coordinated and synchronized effort by the credible authorities.

Army in Food Security Management: Selected Global Experience

Military in Food Security

An army is a purposive instrument, rationally conceived to fulfil certain objectives; its central purpose is to fight and win wars in defense of the state. Throughout the world, with few exceptions, armies represent professional, highly structured, hierarchal organizations characterized by high levels of discipline and motivation. By virtue of their function and training, armies also acquire highly prized skills and values, such as the capacity for intercommunication, an esprit de corps, and self-sufficiency. A military's unique structure facilitates rapid decision making and efficient execution of these decisions. These institutional characteristics provide military organizations with the potential to undertake social action well beyond the defense function.¹⁶

Employment of Army at Food Security: Selected Global Cases

Chinese People Liberation Army: China has reportedly reassigned over 60,000 soldiers to plant trees in a bid to combat pollution by increasing the country's forest coverage. It comes as part of China's plan to plant at least 84,000 square kilometres (32,400 square miles) of trees by the end of the year, which is roughly equivalent to the size of Ireland.¹⁷ The aim

15 Haque, M. M., 2018. 'Bangladesh Food Safety Authority.' Interview taken on 14 May 2018.

16 Gotowicki, L. S. H., 1997. 'The Role of the Egyptian Military in Domestic Society.' Accessed on 24 May 2018.

17 Osborne, S., 2018. 'China reassigns 60,000 Soldiers to Plant Trees in bid to Fight Pollution.' The Independent, 13 February, p.1.

is to increase the country's forest coverage from 21 per cent of its total landmass to 23 per cent by 2020¹⁸.

Nigerian Army: Nigerian Army's Barracks Investment Initiative Programme has announced the establishment of a vast cattle ranch in Giri area of the Federal Capital Territory (FCT), Abuja. The ranch establishment is the first of the military initiative programme and aimed at achieving food security and supporting the nation's agricultural potentials. The cattle that will be bred from such ranches will add to the national stock, and serve both military and civilian interests.¹⁹

Egyptian Army: The military's role in Egypt's economy is represented in four primary sectors: military industries, civilian industries, agriculture, and national infrastructure. The huge quantity of arms and equipment production creates a good scope of employment and indirectly helps poverty alleviation. A good number of non-profitable civilian industries are given to Egyptian Army. With their good management the Army turned them into profitable industry. Under the auspices of the Food Security Division of the National Service Products Organization (NSPO), the military set a goal of 100 per cent self-sufficiency in food stuffs. In the early 1980s, the NSPO began to develop a broad network of dairy farms, milk processing facilities, cattle feed lots, poultry farms, and fish farms.²⁰

Indonesian Army (Tentara Nasional Indonesia-TNI): Indonesian government is moving quickly to create a big impact in the agricultural and food sectors by imposing two big agenda. The first is to boost rice production to achieve 100 percent self-sufficiency. The second is to graduate from 100 percent rice self-sufficiency to be a rice exporting nation. To achieve these targets, the Ministry of Agriculture (MoA) recently planned to re-utilise the military's (TNI) civic mission (TNI Manunggal Masuk Desa) through the Village Supervisory Non-Commissioned Officers (Babinsa) as quasi-agricultural extension officers. Amran Sulaiman, the minister argued that

18 Oliver, L., 2018. 'China has sent 60,000 soldiers to plant trees.' Accessed 01 on July 2018.

19 Mohammed, Z., 2018. 'Food Security: Nigerian Army Establishes Cattle Ranches and Farms.' Accessed 08 April 2018, p.1.

20 Raphaeli, N., 2013. 'Egyptian Army's Pervasive Role In National Economy. Inquiry & Analysis Series Report,'29 July.Issue 1001.

“50,000 Babinsa across the country would be a big help to cover the deficit of 20,000 agricultural extension officers (AEOs).”²¹

Kenyan Army: The Kenyan scholars have correctly identified that the main duty of the army is to supplement the other organs of the state to provide National Security.²² Kenyan Army’s engineering units working hard by provisioning of access roads in rural areas for food security and disaster management. There veterinary and farm corps of Kenyan Army are working side by side with the government machineries to enhance the agricultural products like crops, fisheries and cattle stocks of the country.

US Army’s FSM in Afghanistan: In Afghanistan, US Army instructors are focusing on row planting, pest control, livestock care, and green house management; all important techniques that will enable farmers to increase crop yields and pass along the requisite knowledge, skills, and abilities of sustainable farming to future generations.

US Army’s FSM in Iraq: The US Department of Defense (DOD) requested for support from US Army’s Veterinary Service, which is source of expertise for animal care and food safety. Military veterinary are contributing in important ways to economic development of Iraq as part of US Army’s Stability Operations. US Army considered that better animal stocks and agricultural products result more availability of food source and therefore ultimately ensures sustained Food Security.²³

Role of Bangladesh Army in NFSM

Army’s Current Engagements and Steps towards FSM

Bangladesh Army has become an inspirational institution for nation building activities. As a disciplined and motivated force it is always eager

21 Lassa, J. A. a. A. P., 2015. Jokowi’s Food Sovereignty Narrative: Military in the Rice Land? S. Rajaratnam School of International Studies (RSIS) Commentary, Nanyang Technological University, Singapore, 27 February.

22 Kibicho, F. M., 2005. The Role of Military in National Development: A Case Study of Kenya. Nairobi: s.n, p. 65.

23 Moore, M. a. G. F., 2008. Toward the Effective Use of Military Veterinarians in Stability Operations. Available at: <www.rand.org> Accessed on 02 April 2018.

to shoulder any responsibility given by GoB. It has trained manpower, adequate resources and capable to complete any given task within shortage possible time. Having the ability to work 24/7 with systematic approach to solve any challenge, made Bangladesh Army a unique and reliable government machinery. Bangladesh Army as part of their nation building activities has done a good number of works. Some of these works has direct and indirect effect on our NFSM:

- **Remount Veterinary & Farm Corps:** The prime responsibility of Remount Veterinary & Farm Corps (RVFC) is to produce milk product for armed forces personnel, animal husbandry of horse for ceremonial purpose and dogs for security purpose.²⁴
- **Infrastructural Development:** As part of counter insurgency operation and nation building activities, numbers of road construction projects have been accomplished by Bangladesh Army for which the communication network for the hilly people developed remarkably enabling them to sell their agricultural products in the plain land.²⁵ Bangladesh Army is also involved in building number of roads and culverts.
- **River Maintenance:** As part of nation building activities and in aid of civil administration duties, Bangladesh Army often called to maintain embankments and river dams to protect the agriculture land from flash flood.
- **Recovery of Canals and Minimise Pollution:** In response to agricultural and industrial water pollution, Bangladesh army was involved to regain the flow of some rivers and canals. Their recent work at HatirJheel, Dhaka project is praiseworthy.

24 Hannan, Abdul, Brigadier General, 2018. 'Role of RVFC in National Food Security Management,' Interview taken on 12 June 2018.

25 Armed Forces Division, 2014. 'Armed Forces in Nation Building Activities.' Available at: <https://www.afd.gov.bd/images/pdf/Army%20Suppliment%20English%20Page%2002%202013.pdf>, Accessed on 24 June 2018.

- **Storage Capabilities:** Storage of food plays a significant role on Food Security.²⁶ Like any other country's army, Bangladesh Army has the capacity to have self-sufficiency in case of food for 6 months. Army has a well distributed and coordinated storage system to store rice, flour, pulse, edible oil, salt, sugar, tea etc.
- **Distribution of Relief:** In any post disaster relief operation Bangladesh Army has to assist local government administration for smooth distribution of food and other life saving commodities to affected or victims of cyclone, flood, land slide etc.
- **Bangladesh Machine Tools Factory (BMTF) Limited:** It is a state- owned limited company under the management of Bangladesh Army. The primary objective of BMTF is to conceive and pursue on any special project related to transport, agriculture, energy and other viable sectors, with a view to making the factory economically and operationally vibrant in multidimensional fields as the changing situations demand.
- **Sena Kallayan Sangstha:** Sena Kalyan Sangstha (SKS) started its journey as Post War Services Reconstruction Fund. SKS has 8 industrial units, 5 commercial units and 6 real state units. It offers numbers of products and services like construction materials, food items, electronic products, energy plant, garment items, insurance etc. With all these activities it provides employment and directly and indirectly contribute to the national food security.
- **Bangladesh Diesel Plant (BDP) Limited:** BDP Limited is one of the prevalent manufacturers of different types of spare parts for machineries, die-mold, concertina wire, irrigation pipe and several types of industrial items. BDP Limited is actively engaged in the renewable energy sector to meet both rural and urban needs.

26 Tovma, L. a. D. E., 2013. 'Improving Food Security Military units of Internal Troops Manning the Military Under Contract Service.'Scientific Works of Kharkiv National Air Force University, Volume 4(37).

- **Army Aviation Group:** Army Aviation Group is also equipped with good numbers of utility aircrafts including various types of helicopters. With its new and enhanced organisation Army Aviation Group has started its journey from 2016 and will be fulfilled its aircraft requirement by 2021.
- **Transformation of Unused Land:** Bangladesh Army plants more than a million trees as part of Yearly Plantation Program. The troops deployed at Swarno Deep transforms this abandon coastal island to a green island keeping an example to nation.
- **Swarno Deep:** A Bangladesh Army Model for Food Security Management. Army is doing integrated farming at Swarno Deep Noakhali close to the Bay of Bengal. They are producing fish in the ponds (prepared as fresh water reservoir by Army), vegetables on the banks, rice and nuts on the field, fodder on the low lands, poultry (chicken and duck) over the ponds and canals, pigeons on the fruit trees (which was also planted by army). Army has started farming buffalo. From these buffaloes we are getting fresh milk, producing ghee and butter.²⁷

Limitation of Bangladesh Army in NFSM

- In the Food Policy Working Group there is no planned participation of MoD or Armed Forces Division. That limits Army as a stakeholder to involve in the speedy and overall implementation of National Food Policy.
- The resource constraint especially manpower and equipment related to NFSM is another mentionable limitation for Army.
- The potentiality of RVFC is not fully utilised by government due to lack of policy to involve them in the NFSM.
- Due to lack of policy initiative the capability of BMTF and BDP are not utilised in the NFSM issues.

²⁷ Hannan, loc. cit.

- In the AHQ there is no civil response directorate (Military operations other than war Directorate) which will be responsible for nation building, disaster management, FSM etc. Presently the Military Operation Directorate is looking after this.
- The training of Bangladesh Army is basically for the preparation of war with few segments of Military operations other than war (MOOTW). There is no training or course or package of instruction for Army's involvement in NFSM.

Recommendations

Analysing the large amount of variables involved and the enormous tasks at hand, a pragmatic 'way forward', as assessed by the researcher to bring about 'the role of Bangladesh Army in NFSM' recommends certain measures. These are as follow:

- **Utilisation of RVFC:** RVFC of Bangladesh Army is to be utilised for cattle, poultry and vegetable production at remote and interior unused lands. They can be utilised to train the trainers of concern persons working under Ministry of Fisheries and Livestock. They also can contribute in the NFSM offering their Laboratory facilities to local farmers.
- **Utilisation of Army owned Factories:** Besides producing a good number of loads carrying transports, BMTF may produce agricultural equipment for ploughing, sowing, harvesting for our farmers. BDP also can produce various types of tube well, irrigation pumps for our cultivation. SKS can also increase the number of food products (including fodder) to contribute to the sustained NFSM.
- **Supporting Social Safety Net Program:** Bangladesh Army can be asked to monitor, distribute of relief and food stuffs through VGF, OMS etc. to the poor and disaster affected people in support to local administration.

- **Propagation on Safe Food:** Army can be a part of National Awareness Program on Food Safety during its training and non-operational deployment at the rural areas.
- **Improvement of Transportation Network:** Bangladesh Army will be a great asset for GoB to utilise them for construction and improvement of road network of the country. Bangladesh Army can also be utilised to keep the river flows or channels fit to take riverine cargo vessels in close coordination with concerned ministries.
- **Using the Assets of Army Aviation Group:** Aviation Group can be utilised for rapid carrying of food, relief materials and affected people during any disaster. The aviation assets can also be employed to spread the seeds of mangrove trees at our coastal areas.
- **Water Pollution:** To ensure clean and fresh water, monitoring and implementation of policies against agricultural and industrial pollutions can be ensured by sharing the responsibility to Bangladesh Army. The R&D wings of BMTF Limited and BDP Limited can be asked to prepare cheaper water treatment plants for our industries to reduce water pollution.
- **Protection from Sea Level Rise:** Army Engineer assets can build and repair numbers of dykes, embankments and dams to protect our cultivable lands. We can also dig numbers of water reservoirs for storing fresh water for cultivation and household use at coastal areas.
- **Initiatives responding Climate Change:** To mitigate and reduce climate change effects Bangladesh Army can be utilised to convert unused lands to cultivable lands at the chars of her rivers. Army can also be employed to restore and transform coastal areas to green belt by planting mangrove trees.
- **Best use of Storage Facility:** With the close coordination of MoF, Bangladesh Army can be asked to ensure best utilisation of the storage capacity (Private and Government owned) within the formation areas during the time of need.

Conclusion

With growing requirement of food, restoring the food security of the country is a great concern for Bangladesh. Though we are about to become self-sufficient in food, because of various reasons still we could not fulfil the right to food to our 100% citizens. In this study after threadbare analysis the causes of food insecurity of Bangladesh are identified as: over population, inaccessibility of food due to poverty, shrinking of agricultural land, climate change and natural disaster, slow modernisation of agro machineries, water pollution, internal and cross border displacement etc.

After identifying the causes of food insecurity in Bangladesh efforts have been taken to find the limitations of present NFSM. These are: poor market system, lack of market monitoring and intelligence, lack of road network to interior, insufficient food storage facilities, lack of ensuring safe food, lack of implementation of laws, unofficial bribe during transportation, scarcity and utilisation of resources. We must not be satisfied with our growth in various index. Instead we need to improve bureaucratic inefficiency, corruption, lack or poor training, lack of foresight and forecasting ability and lack of coordination amongst the other stake holders.

At the final stage of the research an effort has taken to study the utilisation of other armies in the food security management process. The various nation building activities, MOOTW and In aid to civil power duties of Bangladesh Army are analysed subsequently. We found that Bangladesh Army is a tested organisation which worked for infrastructural development from capital to interior part of the country. Bangladesh Army also have the capability to grow live stocks with its RVFC. The Army owned industries like BMTF, SKS and BDP can contribute by producing modern agricultural equipment, food stuffs etc. From that study we could come to a conclusion that if equipped meticulously Bangladesh Army with its manpower, resources and training can work more for attaining the sustained NFSM with close coordination with MoF, MoA and other government machineries.

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