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NUTRITION BASED FOOD SECURITY FOR HUMANITARIAN AND STATE'S SECURITY REASON : AN EMPIRICAL INVESTIGATION

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Abstract : Food insecurity can be a source of grievances that motivate participation in rebellion. In fact, acute and severe food insecurity has a dampening effect on conflict behavior. Food insecurity and food aid problems could increase significantly over the short, medium and long run and a number of factors are responsible for that. It is predicted that, although, population growth rate have been declining, the world's population is expected to increase by 2.6 billion by 2025. As a consequence, even with modest income growth, world food supplies will have to at least double by that year. In the case of Bangladesh, it is projected that, in 2015 there will be a surplus of 1.2m MT of food grains but an overall deficit of all others food items.

Keywords : Communal Conflict, Malnutrition, Food Aid.

Introduction

Nutrition based food security is an essential needs of human survival in an emergency situation. Although, right to nutrition based food is equal for everyone including refugees and displaced people, the marginalized populations, particularly of developing and least developed countries (i.e. African states, South Asian states including Bangladesh) are vulnerable to food insecurity because of poverty. As of 2012, approximately 1 billion people in the world failed to ensure sufficient nutritious food and are living below the minimum survival levels (Food Prices and Political Instability, 2012).

Up to 2012, the state of food insecurity in the world represents new estimation which indicates that, in terms of the distribution of dietary energy supply, the proportion of undernourished people is going back to 1990. With almost 870 million people chronically undernourished in 2010–12, the

number of hungry people in the world remains unacceptably high and the vast majority of them are living in developing countries, where about 850 million people, or slightly fewer than 15 per cent of the population, are estimated to be undernourished (FAO, 2012).

Asia is still account for about one-half of the world's undernourished population, of which two-thirds are from South Asia (FAO, 2012). However, in the past decade, the annual undernourishment reduction rate of the South Asian states was 1.7 percent but the failure to reduce the absolute number of the undernourished remains a major cause of concern for the region.

In South Asian region, the case of Bangladesh is too severe. Study revealed that, in Bangladesh, every year fifty thousand children die of malnutrition for lack of adequate planning in the health sector¹. The state of malnutrition and food insecurity becomes too acute following the 2007/2008 food crisis, which provoked "hunger riots" in many countries including Bangladesh.

There is a circular link between food insecurity and conflict which put the concept in a complex web of political arena. Study argued that, communal conflicts tend to occur against a backdrop of chronic food insecurity, where the effects of rapid changes in food access are less clear. As such, improving food security from humanitarian ground by the developed states can reduce tensions and contribute to more stable environments.

On the basis of analysis of the complex, diverse and risk-prone nature of overall food security of the world's states, this article endeavors to discuss the urgency of nutrition based food security for humanitarian and state's security reasons.

Methodology of the Study

The Methodology for this research article is quantitative analysis, including the data and relevant information, facts and articles, which are used to support the analytical method to understand and recommend the trend of food security outlook and the urgency of international food aid on humanitarian ground for state's security reasons. The information in this research is mostly from secondary sources: updated articles, news concerning the issue form books, newspapers, magazines and websites including relevant research papers and studies addressing on this issue were also studied.

Conceptual Knowledge about Food Security and Nutrition

Food security and nutrition tend to use different conceptual frameworks. The food security definition introduces four main dimensions – availability, access, utilization and stability. Food utilization is often seen as the 'nutrition dimension', making nutrition a (small) component of food security. For nutrition, the well-known UNICEF Conceptual Framework and its adaptations

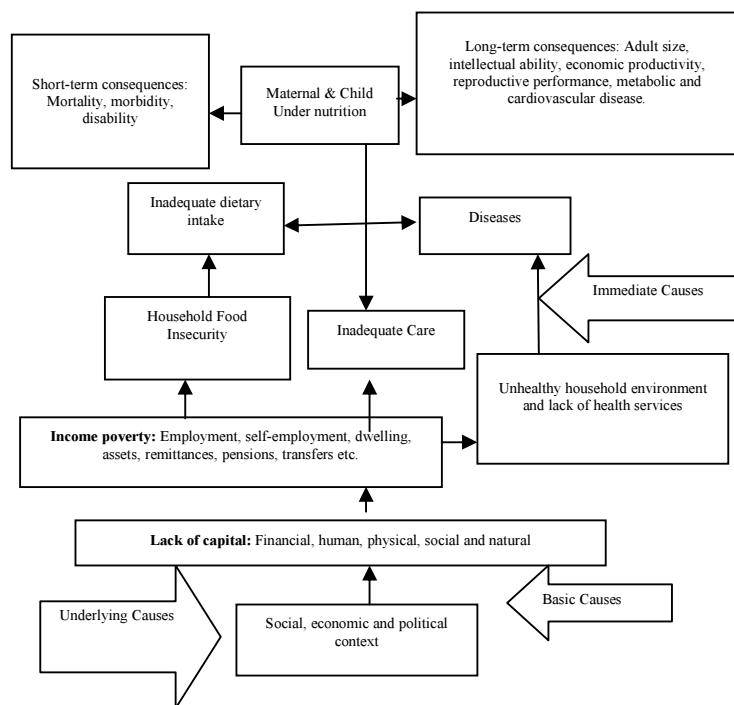
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(see diagram 1) is the standard. It makes household access to food a component of nutrition².

Diagram 1: Nutrition conceptual framework (adapted from UNICEF)



Source: Lancet, 2008

Current Status of Food Security: Global Context

At present nearly 12.5 percent of the global population or one in eight people are surviving without food security (IFAD, WFP & FAO, 2012). Through a comparative study it is found that, although the rate of decrease has slowed thereafter, the number of undernourished people in the world is estimated to have declined more steeply than previously estimated until 2007.

The current assessment pegs the undernourishment estimate for developing countries at slightly more than 23.2 percent of the population in 1990–92 (substantially higher than previously estimated), thus implying an MDG target of 11.6 percent for 2015. If the average annual decline of the past 20 years continues to 2015, the prevalence of undernourishment in developing

countries would reach 12.5 percent, still above the MDG target, but much closer to it than previously estimated.

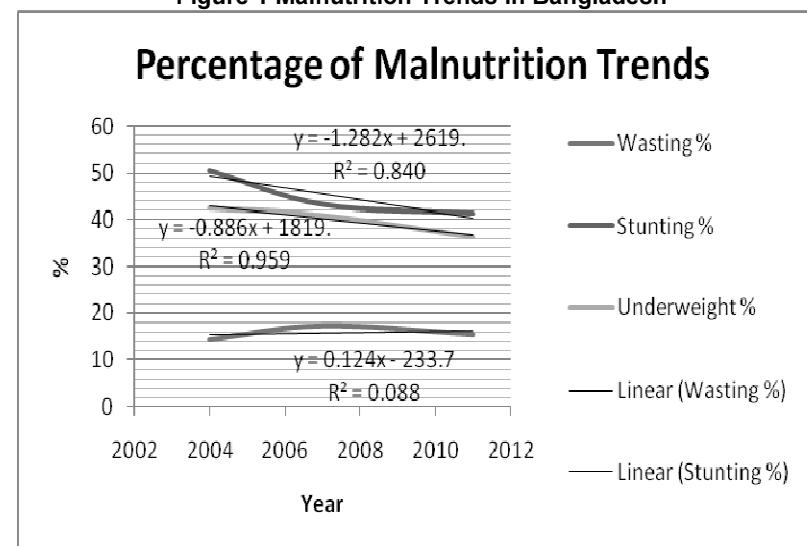
Regionally, the rate of progress in the reduction of undernourishment has been higher in Asia and the Pacific and in Latin America and the Caribbean. Considerable differences among regions and countries remain, however, and some have moved even further away from their MDG trajectory.

Present Food Security Outlook: Bangladesh Context

According to the FAO Bangladesh has severe localized food insecurity, although food grain is more available in good harvest years. Bangladesh as a whole still has a very low level of nutrition that means many households and individuals do not eat enough, balanced, nutritious diet, even in good years.

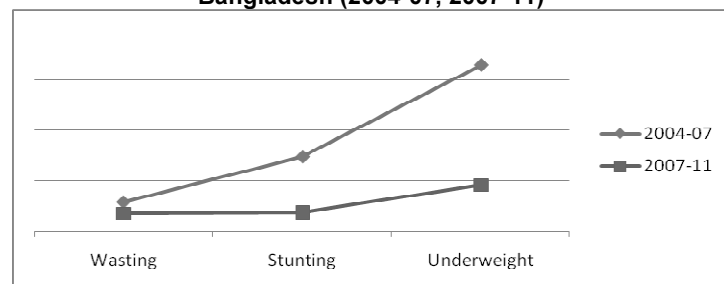
Simultaneously, World Bank report stated that, approximately 33 million of the 160 million people in Bangladesh cannot afford an average daily intake of more than 1800 kilocalories (the minimum standard for nutrition as set by the World Food Program). For people in most developing countries, the daily calorie average is 2,828 but in Bangladesh, that average is only 2,190 (see figure 1 & 2).

Figure 1 Malnutrition Trends in Bangladesh



Source: Author's Calculation, Data Based on BDHS 2011.

Figure 2 Annual Increase or Decrease of Malnutrition trends in Bangladesh (2004-07, 2007-11)



Source: Author's Calculation

Future outlook of Food Security

Statistics indicated that, at present, world grain stock are at a 20-years low and world food aid is in a sharp decline (Harold J. Johnson, 1996). Study found that, food insecurity and food aid problems could increase significantly over the short, medium and long run and a number of factors are responsible for that.

It is predicted that, although, population growth rate have been declining, the world's population is expected to increase by 2.6 billion by 2025. As a consequence, even with modest income growth, world food supplies will have to at least double by that year.³ The World Bank concluded that, due to land and water constraints, future increase in food supplies must come primarily from increasing yields, rather than from area expansion and more irrigation. This would require a doubling of current yields over the next 30 years, which is uncertain.

Case of Bangladesh

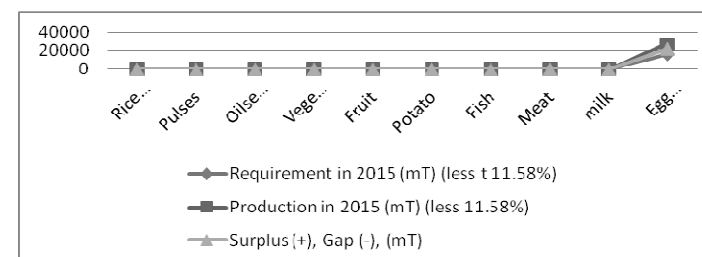
According to the projections of BARC (Bangladesh Agricultural Research Council), in 2015 there will be a surplus of 1.2m MT of food grains but an overall deficit of all others food items. Still according to another estimate, at the present population and agricultural growth rate, the food gap could be up to 5 million MT.⁴

This variation in estimations of present and future Food Gap underscores the need for a more thorough, precise and regular tracking. According to the projected level of requirements and production of important food crops estimated by BARC for the target year 2015 of meeting the millennium development goals (figure 3), there will be a marginal surplus of 1.20 million tons of food grains and 2.03 million tons of potato.

The projected requirement of cereals was estimated on the basis of 156 million people in 2015 by using the current consumption rate of 487

gm/capita/day. If the rate of consumption varies in the future, which is likely with the change of population growth rate, income level, food habit and consumption pattern, the requirement will also vary.

Figure 3 Projected requirements and production of major food items in 2015



Source: BBS, DAE, BARC, DLS, DOF,

* *Estimated @ 3% annual growth

Food Security, Nutrition and Human Development: A Triangular Concept

The concept of human development is closely linked with nutrition based food security. Study found that, countries with lower (higher) food insecurity experience higher (lower) human development and vice versa.

Under-nutrition is related to the three components of human development index (HDI) i.e. life expectancy, income per capita and educational level and this is why, actions which decrease the incidence of under-nourishment will have a positive impact on the HDI, given its composition.

Such scenario is particularly prevalent in low-income countries like Bangladesh, Afghanistan and such others where the percentage of undernourished population is very high (see the table 1). As such, the low-income countries are now putting great emphasis on hunger reduction to promote incensement of their in GDP (and in HDI).

Table 1: Data underlying the Calculation of the 1990, 1996, 2001, and 2012 Global Hunger Index Scores

Country	Proportion of undernourished population (%)				GHI			
	90-92	95-97	00-02	06-08	1990 (with data from 88-92)	1996 (with data from 94-98)	2001 (with data from 99-03)	2012 (with data from 05-10)
Afghanistan	-	-	-	-	-	-	-	-
Bangladesh	38	41	30	26	37.9	36.1	27.8	24.0
Bhutan	-	-	-	-	-	-	-	-
Nepal	21	20	18	17	26.9	24.4	23.0	20.3
Sri-Lanka	28	25	20	20	20.8	18.4	15.2	14.4
India	20	17	20	19	30.3	22.6	24.2	22.9
Pakistan	25	20	24	25	25.5	21.8	21.7	19.7

Source: Author's Calculation

Malnutrition is a major constraint to the economic, social and political development of a country. Observation and analysis of statistical data provides different examples of how an improvement in development can be achieved by improving nutrition. Support- Led Development can be promoted by investing in food security.

Good nutrition is not only a means of development but it is also an end in itself as it is a basic human need: a chronically hungry person will never reach a satisfactory state of well-being. In this context, being both an end and a means of development, food security should be taken into account in the measurement of human development, as well-being can only be achieved when there is not food insecurity.

Food Insecurity & Conflict: Assessment on How It Affect Economic Development and State's Security

At the present juncture of the 21st century, the food security of least developed countries are severely affected by civil conflict is almost exclusively. Study found that, a vast majority of the world's food-insecure people live in seven countries: Bangladesh, India, Indonesia, China, the Democratic Republic of Congo (DRC), Pakistan and Ethiopia, of which all but China have experienced civil conflict in the past decade, with the DRC, Ethiopia, India and Pakistan currently embroiled in civil conflicts. In Bangladesh we found conflict over food security in the CHT between indigenous community and the Bengali people. The correlation between civil conflict and chronic food insecurity are associated with poverty (Collier et al. 2003). In fact, conflict itself is a cause of food insecurity. Nevertheless, a growing body of research makes both direct links and indirect links – as proxied by environmental scarcity or access to water resources – between food insecurity and civil conflict (Brinkman and Hendrix, 2011).

Chronic food insecurity is a persistent lack of "sufficient, safe, nutritious food to maintain a healthy and active life," and is generally caused by extreme poverty (FAO 1996). Acute food insecurity refers to temporary gaps in access to food, and can result from a variety of factors ranging from high prices to disruptions in delivery systems, recessions, natural disasters and extreme weather events, political turmoil, and violent conflict. It is also important to distinguish between food availability and access.

The first refers simply to the amount of food available in a local market or in the country. Obviously, aggregate production shortfalls, perhaps caused by drought or flooding and crop failure, make food scarcer, and can thus increase acute food insecurity.

Access at the individual or household level, however, is a function of the family's ability to pay for or produce food, and the presence or absence of social safety nets that can provide access for those who cannot pay. Markets

play a critical role in ensuring local food availability. They also set prices and provide the incomes so that households have access to food (WFP 2009d).

Thus, chronic food insecurity can coexist with high levels of aggregate food availability and production. Prior to the 2007–2008 food price crisis, which saw global food prices reach their highest point since the mid-1970s, India was home to roughly 25 percent of the world's undernourished while simultaneously being a net food exporter.

Acute food insecurity, such as that resulting from the interaction of drought and crop failure with political and economic marginalization, has countervailing effects on conflict: it can be a source of motivation for rebellion, but it can also significantly diminish an aggrieved population's ability to prosecute their war aims.

Acute food insecurity can increase social grievances, providing a motive for engaging in rebellion. Rebellion is generally more likely in society's characterized by large horizontal inequalities across regions and ethnic groups (Østby 2008, Østby, Nordås and Rød 2009, Cederman, Weidmann and Gleditsch 2011, Stewart 2010).

These grievances may become particularly serious when government responses to food insecurity are politicized and relief funds are diverted to other uses. While commonly cited as an example of resource drought-induced rebellion in the Sahel, the Berber-minority Tuareg uprising in Mali in the early 1990s was fueled also by grievances over embezzlement of international relief funds by ethnically Bambara government officials and military officers (Benjaminsen 2008).

Food insecurity may motivate participation in armed civil conflict at the individual level. Military organizations, both rebel and sovereign, recruit fighters via ideological/political appeals, material incentives, and coercion. The lure of food and shelter (and protection from both rebel and state violence) is often perceived as a cause for joining violent groups (Berman 2009).

Empirical evidence, however, is mixed. In a survey covering seven countries in Latin America, Africa, and the Middle East, unemployment and idleness – sustained lack of livelihood or income-generating opportunities – were the most common motivations for participating in rebel movements and joining street gangs (World Bank 2011, p. 80).

While ex-combatants in Sierra Leone were more likely to participate if offered money and food (Humphreys and Weinstein 2008), ex-combatant surveys in Burundi (Taylor 2010) and Colombia (Arjona and Kalyvas 2012) did not indicate that participation was motivated by promises of food, shelter, or economic benefit. In these studies, revenge and political factors were the primary motivators of participation, and partisans tended to have higher socioeconomic status.

International Food Aid to Ensure Food Security & Nutrition: Its Urgency For Humanitarian Perspective

Since due to economic limitations the least developed countries hardly could ensure sufficient food for their daily livelihood, it is now urgent to accelerate international food aid both to ensure economic development and national security stability. However there exists a lot of controversy about food aid, it is one of the oldest forms of foreign aid. In fact, food security interventions/ food aid can improve the sustainability of livelihood systems and food security outcomes.

Study revealed that, various food security interventions have contributed to social cohesion. This comes about partly as a result of working closely with communities. In Liberia, for example, the evaluation of a protracted relief and recovery operation found that 90 percent of the 1,200 participants interviewed believed that, the short-term jobs, provided through the operation, had helped to promote peace and reconciliation (WFP 2009a).

Moreover, food security interventions can support the development of capacities and public administration systems. In El Salvador, for example, a school-feeding programme was started during the civil war in 1984. WFP supported capacity development, from the institutional framework and oversight to logistics, procurement and the design of the food basket (Bundy et al. 2009).

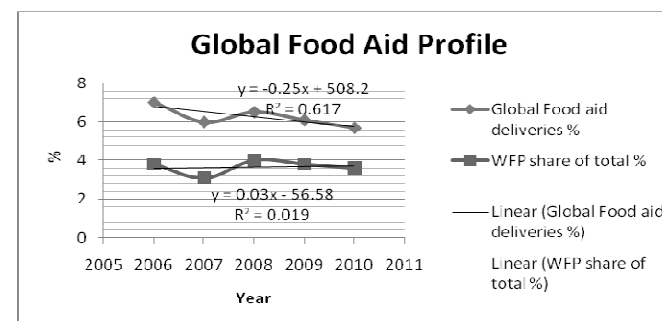
In Nepal, the establishment of a nation-wide food security monitoring system, supported by WFP, has helped the government respond to food insecurity and contributed to the legitimacy of the state and strengthened state-society relations (McCandless 2012). Because horizontal inequalities played a role in the Maoist rebellion in Nepal, an equitable response capacity of the government also addresses a root cause. Similar arguments are prompting the Government of South Sudan, with the support of WFP, to establish a strategic grain reserve system, which will develop government capacity to address food insecurity and contribute to state legitimacy (McCandless 2012).

Food insecurity is now emerged as a greatest challenge for both low and middle income countries. Malnutrition as a related effect of food insecurity caused 35 percent of all death among children under five. Under nutrition could result in a loss of about 2-3 percent of national GDP.

In spite of the rising volume of reputed nutrition official development assistance (ODA), international assistance remains below financial assessment of need. ODA to basic nutrition represent just 0.4 percent of total ODA (in 2011), having increased from 0.2 percent in 2004 (Mariella Di Ciommo, 2013). However, some countries are showing leadership in this ensuring international food aid, resource and political will remain insufficient to eradicate under-nutrition worldwide.

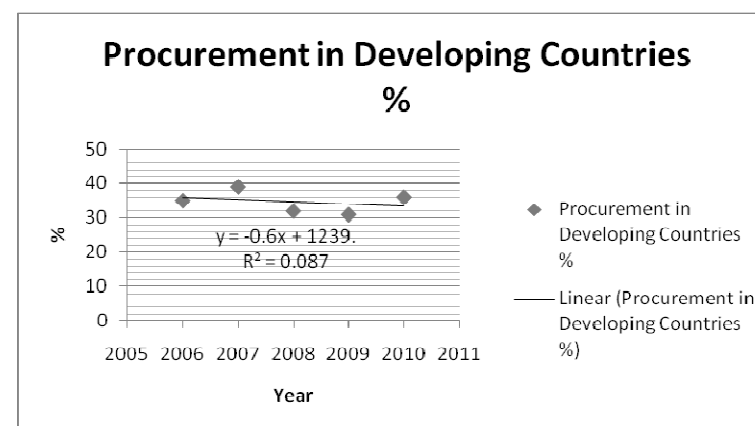
In 2010 it is estimated that, an increase of USD 10.3 billion in annual international and national public financial resources would end under-nutrition (World Bank, 2010). Despite such estimation, basic nutrition ODA has increased by only USD 139 million which is about 1.4 percent of the indentified need (Mariella Di Ciommo, 2013).

Figure 4 Global Food Aid Profile



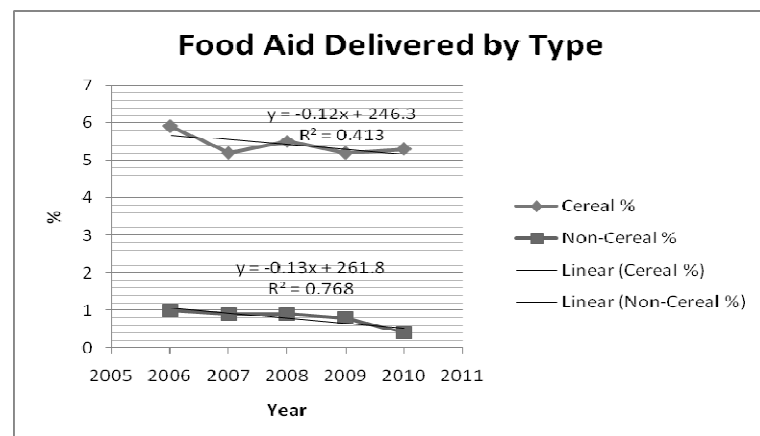
Source: Author's Calculation, Data Based on WFP, 2010

Figure 5 Global Food Aid Deliver %



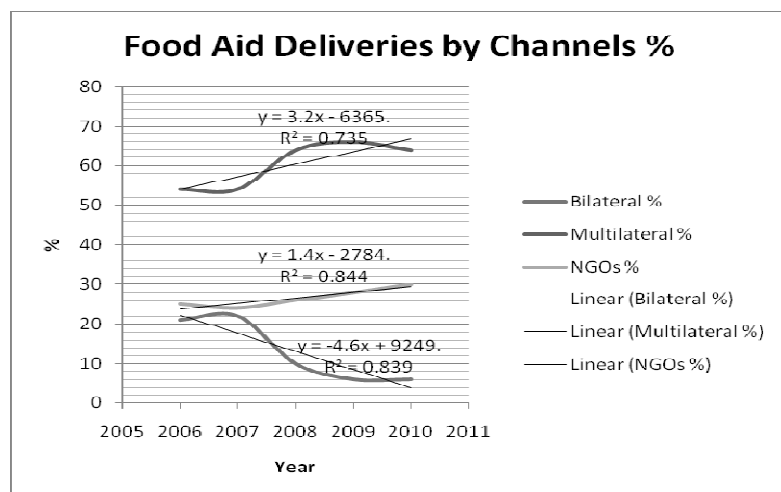
Source: Author's Calculation, Data Based on WFP, 2010

Figure 6 Food aid delivered by type



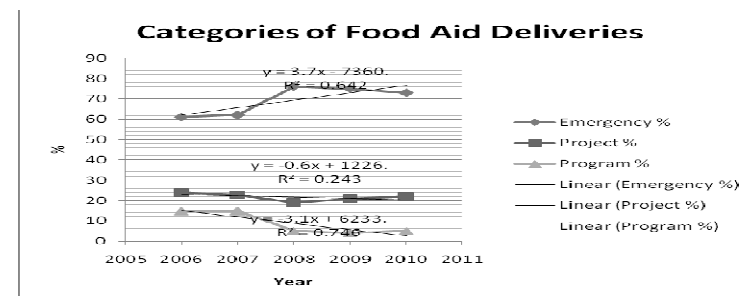
Source: Author's Calculation, Data Based on WFP, 2010

Figure 7 Percentages of Food Aid Deliveries by Channels



Source: Authors Calculation, Data Based on WFP, 2010

Figure 8 Food Aid Deliveries by Categories %



Source: Author's Calculation, Data Based on WFP, 2010

Table 2: Food aid delivery by region

Year	2006	2007	2008	2009	2010
Asia	20	29	23	23	26
Eastern Europe and CIS	6	5	2	2	2
Middle East and North Africa	7	6	6	5	4
Deliveries to					
Developing Countries	99.4	97.7	98.3	97.9	99.6
LDCs	58.3	56.5	68.8	66.9	64.0
FIFDCs	89.1	92.0	91.9	92.0	94.3

Source: WFP, 2010.

Study revealed that, food aid is clearly a valuable tool for ensuring the basic nutritional needs of people affected by humanitarian crises – earthquakes, hurricanes, droughts, wars, etc. – and has been credited with saving millions of lives over the past century. Equally important, the timely delivery of food aid to acutely food-insecure people can relieve the pressure they face to sell scarce productive assets, enabling them to resume their normal livelihoods as soon as the crisis passes.

Nevertheless, emergency response tends to suffer from a number of common problems. Food aid is usually the most readily available resource in crisis situations – donors know how to give it and agencies know how to deliver it – so it becomes the default response. While food aid is often essential, it is not always necessary and it is never sufficient to deal with the myriad needs of people affected by crises.

What is more, emergency food aid is a relatively expensive and slow intervention, especially if it is sourced in a donor country. Experience shows that timely deliveries of appropriate resources can enable people to manage shocks and avoid slipping into severe food insecurity.

Early appeals for assistance are routinely ignored; however, so manageable shocks too often become full scale crises requiring massive intervention.

Studies indicate that, intervention to address food insecurity and under-nutrition is effective in reducing poverty.

The 2012 Copenhagen Consensus, a panel of international development experts, found that such intervention provided a return of USD 30 per child for each dollar spent. A package of interventions to ensure food security as well as under nutrition proposed by The Lancet in 2008 was deemed the most effective among 30 potential measures to tackle poverty.

Availability of Food Aid in Bangladesh

Bangladesh has been one of the world's largest recipients of food aid since the 1974 famine. The food aid donors support a number of targeted food-based programs in Bangladesh, which are implemented by the Government of the People's Republic of Bangladesh (GOB).

Most of these programs are widely credited with providing the poor food aid flows declined in the 1990s as total domestic production of rice and wheat increased. Normal food aid flows during the late 1990s were only about 600,000 tons per year.

Food aid flows declined even further in 2002/03 to 242 thousand tons due mainly to the European Union's decision to phase out food aid to Bangladesh and reduction in US food aid. Moreover, the decline in food aid volumes and the growth in Bangladesh import trade (made possible by increases in textile exports and workers' remittances) and the overall economy reduced the share of food aid in government expenditures and total imports to only 1.7 and 1.3 percent, respectively.

According to the recent flow of external resources since independence up to June 30, 2012, a total amount of about US\$ 56.5 billion of foreign aid was disbursed to Bangladesh, of which US\$ 23.93 billion was grant and US\$ 32.57 billion in loan. Of the total amount, US\$ 6.71 billion came as food aid, US\$ 10.91 billion as commodity aid, US\$ 35.96 billion as project aid and US\$ 2.92 billion as budget support.

The per capita debt obligation of the country has risen from US\$ 6.59 in 1973-74 to US\$ 155.3 in 2011-12. The flow of external resources also showed that of the total disbursed amount of foreign aid up to June 30, 2012, around 12 percent came as food aid, 19 percent as commodity aid, 64 percent as project aid and 5 percent as budget support.

Findings

Food crisis often led to civil conflict. As for example it is evident in the case of sub-Saharan African states. Moreover, in Bangladesh the scenario is also prevalent in the CHT where the indigenous community often led to conflict with the Bengali people to ascertain their control over cultivable land. Study found that, in early 2009, food crises persisted in 32 countries from the 36 affected in 2008.

The world's population is predicted to hit 9Bn by 2050, up from today's total of nearly 6.8Bn, and with it food demand is predicted to increase substantially. The food price spike of 2008 was a warning of what is to come. Staple food prices rocketed – wheat up 130 percent; sorghum rose by 87 percent and rice 74 percent and caused riots in 36 countries. 2008 saw an extra \$1.2Bn (£613M) in food aid pledged to help 75M people in 60 nations. Food aid distributed by the World Food Programme (WFP) reached about 100 million people at some point each year, and bilateral donors probably reached about another 100 million people.

If all of the food aid in the world were distributed evenly among these recipients, it would provide only about 50 kilograms of grain per person per year. If this food aid were divided among the 850 million undernourished people in the world, it would provide less than 12 kilograms per person.

Clearly, food aid is far too small to provide food security for all of the people in need. Food aid is not distributed evenly among all vulnerable people. The relatively small volume of food aid available globally can be of major significance for certain countries in certain years. For example, in 2001–2003, food aid accounted for 22 percent of the total food supply, measured in caloric terms, of the Democratic People's Republic of Korea. For Eritrea, this figure was 46 percent. While these are extreme examples, 19 other countries relied on food aid for at least 5 percent of their total food supply during this period.

A decade earlier, in 1990–1992, the volume of global food aid was larger and more countries received a significant share of their total food supply in the form of food aid: 38 countries received more than 5 percent, and of these 10 countries received at least 20 percent (FAO, 2006a). Food aid is central to the immediate food security of many countries, but it is less clear how food aid in such volumes may influence longer term strategies for food security.

Critical Assessments of Findings: Policy Options

Food security is a multi-sectoral, multi-ministerial issue. There is a need to develop an integrated policy and action plan, bringing together all the diverse players and stakeholders as well as making them accountable to contributing their bit to the overall challenge of improving Food Security.

In regards to humanitarian and national security reason, it is urgent to ensure food security. The developing countries including the national government of Bangladesh has already takes a lot of initiatives to ensure food security but in emergency situation (i.e. natural calamities like-earthquake, flood, climate change etc) the poor people of these states faced acute food crisis. In such

emergency situation such developing states need international food aid. However there exist a lot of controversy about food aid, it is important to consider the following in regards to food aid-

- a. Food aid should be seen as one of many options within a broader range of social protection measures to assure access to food and to help households manage risk. Whether to provide food directly instead of cash or food vouchers depends largely on the availability of food and the functioning nature of markets. Where adequate food is available through markets that remain accessible to crisis-affected people, food aid may not be the most appropriate resource.
- b. The economic effects of food aid are complex and multilayered, and solid empirical evidence is surprisingly limited. The existing empirical evidence does not support the view that food aid creates negative "dependency", because food aid flows are too unpredictable and too small to alter recipients' behavior routinely or substantially. Concerns over dependency should not be used to deprive needy people of required assistance. Indeed, people ought to be able to depend on appropriate social safety nets.

Conclusion

Since the end of the Cold War, the world has seen a steady decline in the number of active armed conflicts. However, 2011 deviated significantly from that trend, seeing the largest year-to-year increase in the both the number of active conflicts and conflict severity.

That this increase has closely followed spikes in international food prices – in late 2010 and early 2011-has once again raised the question of whether food insecurity is a cause of violent conflict or not. In this paper, we surveyed the extant literature to develop a nuanced picture of the role of food insecurity in conflict.

This chapter addresses the feedbacks between food insecurity and conflict. While food insecurity can be a source of grievances that motivate rebellion, severe food insecurity has a dampening effect on conflict behavior.

Communal conflicts tend to occur in chronically food-insecure environments, though the effects of rapid, inter- temporal changes in food access are less clear. Regarding urban unrest, the picture is somewhat more straightforward: higher consumer prices, particularly for food and fuel, are associated with increases in urban protest and rioting, which can have adverse effects for institutions and influence policy decisions that affect the whole country.

However, these relationships must be understood in proper context, as collective action paradigms, political institutions, and market structures can

either mitigate or amplify the effects of food insecurity on conflict. Moreover, conflict itself is a significant source of food insecurity, as it disrupts production and distribution networks. Strategic food withholding can also be used as a tool used in counterinsurgency.

What is clear is that there is a significant role for the international community to play in encouraging peace building and the resolution of protracted crises, and that many of these interventions address conflict-related food insecurity. Food insecurity is a threat multiplier, but improving food security can help to reduce tensions and address some of the fundamental grievances that motivate conflict in the first place.

After decades of progress in eradicating hunger, food insecurity is once again a front-page issue. While the challenges are no doubt great, there is a role for the integration of a peace building approach into food-related interventions in responding to protracted crises. This role goes well beyond emergency relief and can contribute to rebuilding healthy, vibrant, and peaceful societies.

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¹ A dissemination meeting, titled, 'Reenergizing Nutrition Expanding Worldwide' held in Dhaka on January 20, 2013

² These differences were debated in the FAO Food Security and Nutrition Forum Discussion 34; see http://km.fao.org/fileadmin/user_upload/fsn/docs/SUMMARY_FSN_difference_problem.pdf

³ Alex F. McCalla, Agriculture and Food Needs to 2025: Why We Should Be Concerned (Washington, D.C.: The World Bank, October 1994).

⁴ Dorosh, Ninnon and Shahabuddin in 'The 1998 Floods and Beyond', 2004.