



Effectiveness of Social Safety Net Programs on Community Resilience to Hazard Vulnerable Population in Bangladesh

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Abstract: A number of Social Safety Net Programs (SSNPs) are the measures taken by the government of Bangladesh in order to reduce the portion of its population vulnerability to natural disaster. Bangladesh has a comprehensive portfolio of both food, cash and income generating technology based SSNPs. This study assessed the current status of SSNPs and its effectiveness in Bagerhat (cyclone and coastal flood prone) and Gaibandha (river flood prone) districts. Specially, the study depicted SSNPs within the view of natural hazards (climatic change impacts shocks, floods, cyclones and storm surges, flash floods, drought, tornadoes and landslides). This study showed that the organizational performance in the delivery of SSNPs as well as its technical guidance provided to task teams and program managers for identifying indicators of governance and service quality in the targeted SSNPs programs. This study identified that the governance issues along the results chain of service delivery and suggested policy and performance indicators for assessing the program had a significant impact of the outcome of the SSNPs.

Key word: Climate risk reduction, Disaster management, Food security

Introduction

Climate change presents a one of classic earth and natural system challenges. The dynamics of the climate are extremely complex and imperfectly understood. There is growing evidence that climate change is increasing the frequency and intensity of climate-related natural hazards and turned to serve disaster like floods, cyclones and storm surges, flash floods, drought, tornadoes, and landslides, and hence the level and patterns of often inter-related risks, aggravating levels of vulnerability for poor and excluded people (Tanner and Mitchell, 2007; Rahman and Chowdhury, 1998). A number of developing countries (i.e. Bangladesh, Myanmar, Honduras, Kenya, etc.) are especially vulnerable to climate change induced natural hazards because of their geographic exposure, low incomes and greater reliance on climate sensitive sectors, particularly

agriculture (Stern *et al.*, 2006). People exposed to the most severe natural hazards are often those least able to cope with the associated impacts, due to their limited adaptive capacity. This in turn poses multiple threats to economic growth, wider poverty reduction, and the achievement of the Millennium Development Goals (MDGs). Within this context, there is growing recognition of the potential role of social protection as a response to the multiple risks and short and long-term shocks and stresses associated with climate change (Stern *et al.*, 2006). Stern (2008) argues that social protection could become one of the priority sectors for adaptation in developing countries. To date however, little is known about the linkages and value of social protection for adaptation in practice though this has been introduced in those countries a long before (Subbarao and Ninno, 2005).

Table 1. Natural disasters affecting Bangladesh (Ahmad, 2003)

| Type of disaster | Areas affected | Impacts |
|--------------------------|---|---|
| Floods | Floodplains of the Brahmaputra-Jamuna, the Ganges-Padma and the Meghna river systems. | Loss of agricultural and livestock production, disruption of communication and livelihood systems, injury and death, damage and destruction to infrastructure, disruption in essential services, national economic loss, and biodiversity loss. |
| Cyclone and Storm surges | Coastal areas and offshore islands. | Loss of agricultural and livestock production, disruption of communication and livelihood systems, injury and death, damage and destruction to infrastructure, disruption in essential services, national economic loss, and biodiversity loss. |
| Drought | Almost all areas, especially the northwest region of the country. | Loss of agricultural and livestock production, stress on national economy and disruption in livelihoods. |
| Erosion | Banks of the Brahmaputra-Jamuna, the Ganges-Padma and the Meghna river systems. | Loss of land, displacement of human populations and livestock, production and livestock losses. |

Bangladesh is extremely prone to natural disasters and these disasters are linked with the lives and livelihoods of people of the country. The typical set of natural disasters includes inter alia floods, cyclones and storm surges, flash floods, drought, tornado, and landslides. A typology of key disasters that afflict Bangladesh is depicted in the paper (Table 1). For example, in the 1990s alone, four major cyclonic events happened in Bangladesh in 1991, 1994, 1995, 1997 and especially more severe Sidr and Ayla (Tropical cyclone) leading to large agricultural and livestock, human losses which led to a great economic damage in every sector of the country. Similarly, the 1998 floods led to over a two million ton shortfall in rice production 10% of the projected output for 1998/99 (Dorosh *et al.*, 2004). These changes are threatening the significant achievements Bangladesh has made over the last 20 years in increasing incomes and reducing poverty and will make it more difficult to achieve the MDGs. To cope with the extreme climatic events, over the last 35 years, the Government of Bangladesh has invested over \$10 billion to make the country less vulnerable to such destructive phenomena. These investments, in many cases supported by development partners, include flood management schemes, coastal polders, cyclone and flood shelters, and the rising of roads and highways above flood level and various other SSNPs.

In addition, the Government of Bangladesh has developed state-of-the-art warning systems for floods, cyclones and storm surges, and is expanding community based disaster preparedness (Dorosh *et al.*, 2004). Bangladesh bears serious consequences from natural calamities, the poorest segment being the worst victim. In 2007, the country faced two floods and a devastating cyclone. During the disaster affected years, the expenditure on safety nets regarding such shocks usually exceeds the initial allocation. Safety net for the Fiscal Year 2008 keeps BDT. 1505 corer for disaster related activities, which is about 18% of the total. Major programs include Vulnerable Group Development (VGD), Vulnerable Group Feeding (VGF), Test Relief (TR), Immediate Disaster Fund (IDF) and Gratuitous Relief (GR) programs that are targeted to provide direct and immediate support to disaster victims (Hossain and Osman, 2007). In case of Bangladesh, in monetary terms, extent of SSNPs is gradually increasing over the years. However, in terms of share of public expenditure, investment on safety nets has been falling since 1998/99, against the increasing number of people below the poverty line. On the average, during 1996/97 to 2004/05, Bangladesh has been spending on SSNPs to the tune of 0.8% of the Gross Domestic Product (GDP) and 5.7% of the total public expenditure. These days, total SSNPs grossly

amounts to 12.08% of the total public expenditure of the year, which is 1.8% of the national GDP.

All these attempts as well as expenditure would be wastes if the SSNPs would not carry in an effective way. It is essential to assess the level of effectiveness of those attempts taken for disaster risk reduction for safeguarding the future well-being of our country. The paper focuses on the effectiveness of the existing SSNPs of Mongla *upazila* (sub-district) including two *unions* (small administrative unit of public service) Chadpi and Chila in the Bagerhat district and Gobindagonj *upazila* (including two unions Rakhlaburuz and Harirampur) of the Gaibandha district. The social protection, disaster risk reduction and climate change adaptation have much in common in terms of measures and broad objectives. They all seek to take integrated, multi-sectoral approaches to mitigate risks faced by poor people. They tackle the impact of, and seek to make individuals, communities and societies more resilient and less vulnerable to shocks and stresses (Alam and Rahman, 2008). The SSNPs in Bangladesh, like elsewhere in the world, have two basic objectives: protecting individuals from falling into poverty beyond a certain level through redistribution and coping with natural calamities.

However the country will have to find better means of targeting, measuring governance and service delivery (Bartlett, 2008). Such realization will lead to the improvement of the total approach, emergence of new and sophisticated programs and abandonment of programs. The objective of the study was to assess the effectiveness of the SSNPs taken by the public service departments in those selected study areas in terms of target population, selection of programs, physical coverage of the approaches, administering bodies and gross and net benefits of the taken initiatives.

Materials and Methods

Study area

The study was carried out in two cyclone prone unions (Chadpi and Chila) of Mongla *upazila* in the Bagerhat district and in the two flood prone unions (Rakhlaburuz and Harirampur) of Gobindagonj *upazila* in the Gaibandha district of Bangladesh (Figs. 1 and 2). In Bagerhat district, the study was conducted at Chadpai and Chila union council. The Chadpai union council has a boundary of Mongla river, Mongla port and Municipality in the north, Chila union in the south, Mitha Khali union in the east and Poshur river in the west. The total area of the union is about 20.55 Km² with 4 mouzas. The Chila union council has a boundary of Mongla river, Mongla port and Sonatola union in the south, Chadpai union in the north and Poshur river in the east. Both

the unions are generally subjected to severe coastal cyclone every year. On the other hand, in Gaibandha, the study was conducted at Rakhhalburuz and Harirampur union council. The Rakhhalburuz union council has a boundary of Karatoa river, Nalua river and Taluk Kanupur union in the north, Shibpur and Mohimagonj union in the south, Harirampur union in the east and Gumanigonj in the west. The total area of the union is about 22 Km² with 8 wards and 15 mouzas. The Harirampur union council has a boundary of Rakhhalburuz union in the south, Nakai union in the north and Nalua river and Taluk Kanupur in the east. Both the unions are generally subjected to severe river flood every year.

Study materials

Both primary and secondary data were required to fulfill the objectives of the study. All the required data were collected from different sources. The maps of the areas were collected from the Survey of Bangladesh (SoB); Department of Environment (DoE); Bangladesh Meteorological Department (BMD); Mongla and Gobindagonj city council; Chila, Chadpai, Rakhhalburuz and Harirampur union council. All the pictures were collected from field visits, different local NGOs own collections and from internet.

Questionnaire survey and informal interview

The questionnaire survey, informal interview and open discussion in the study area were conducted randomly with the authorities of different concerned organizations, experts and inhabitants living in different parts of the study areas to ascertain the effectiveness of the SSNPs approaches. The questionnaire was designed in such a way that it would identify the challenges from the every angle. The sample size of each study was 70, among them, 5 respondents were the officials of different development organizations, 5 respondents were the experts in different fields and 60 respondents were selected in different disaster prone area of the locations with different professions. It also covered the people’s perception on the approaches and sustainable development of current system. Informal interview of official experts of different development agencies was done in order to know their views of the SSNPs approaches in the study areas and the sustainable solutions of the approaches.

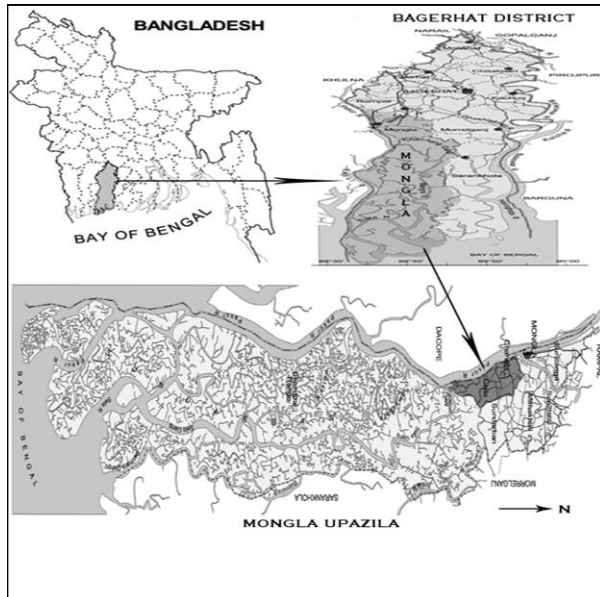


Fig. 1. Map showing the study area of Bagerhat district in Bangladesh

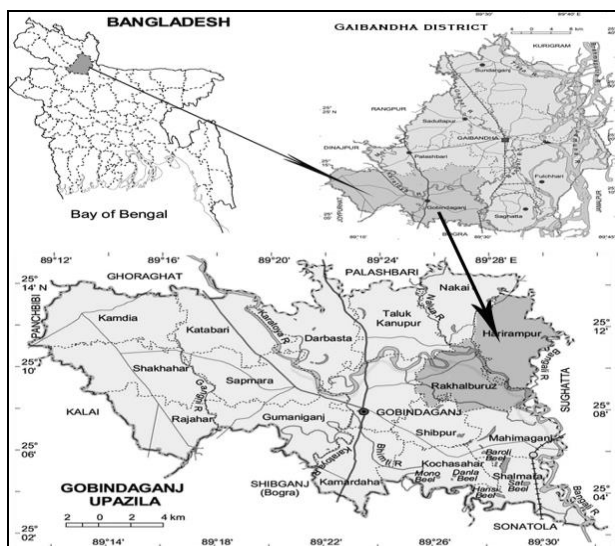


Fig. 2. Map showing the study area of Gaibandha district in Bangladesh

Statistical analysis

The collected data were analyzed separately, where the aspatial data were analyzed by using statistical software SPSS and Microsoft Excel. Finally, the analyzed data were integrated and incorporated in this article.

Results and Discussions

Operational performances of SSNPs-physical coverage

The SSNP coverage has, by and large, increased in study areas. Coverage of the two study areas including Chila and Chadpai union council of Mongla upazila of Bagerhat district are much satisfied than of another two study areas including Rakhhalburuz and Harirampur union council of Gobindagonj upazila in the Gaibandha district (Fig. 3).

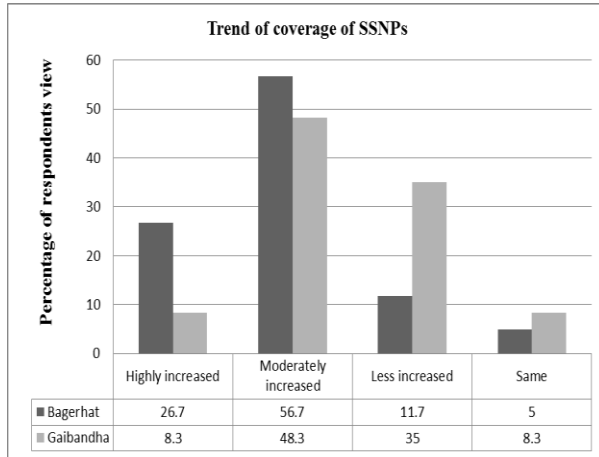


Fig. 3. Trend of coverage of SSNPs in the study areas

Government budget on SSNPs

The government of Bangladesh has increased the allocation on the approaches over time period. While the Government of Bangladesh has been increasing spending in SSNPs over time in the study areas as the national budget gradually increased simultaneously (Fig. 4). However, these initiatives need to target the poorest regions and individuals better.

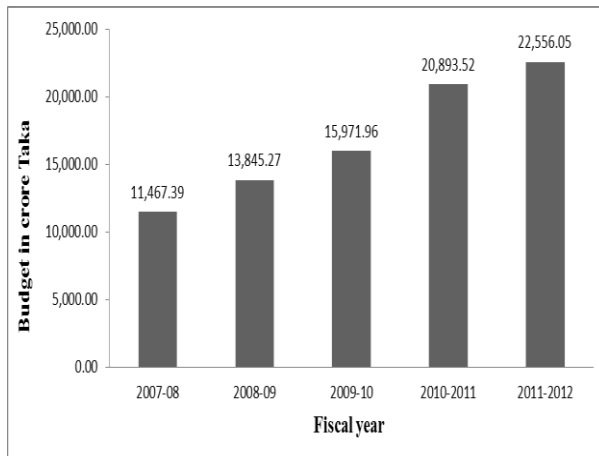


Fig. 4. Budget allocation of Government of Bangladesh for the SSNPs

Types of SSNPs

Bagerhat and Gaibandha districts have a comprehensive portfolio of both food and cash based SSNPs in response to climate change and disaster management. The study shows different categories of SSNPs which are mostly observed to reduce the disaster and climate risk in the study areas in accordance with the specific objective that each program is designed to achieve. However, six types of SSNPs are mostly observed in the two districts which are shown in Fig. 5. Firstly, relief programs including both cash and food transfer are much satisfactory to 70% than that of Gaibandha at 48%. Secondly, early warning system which is the pre-requisite strategy of mitigating disaster stands for about

83% in Bagerhat and about 68% in Gaibandha. However, in case of other essential programs including infrastructure building programs, education and training programs, programs for disadvantaged groups and others stand for Bagerhat is about 15, 42, 12 and 8%, respectively and on the other hand for Gaibandha it pictured about 11, 27, 7 and 8%, respectively. The study shows the different types of relief programs also in Fig. 6.

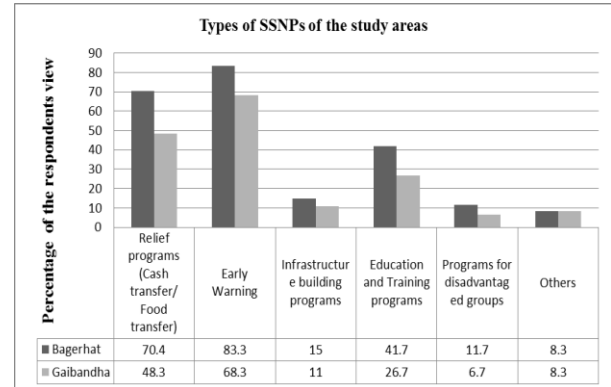


Fig. 5. Investigated SSNPs in the study areas

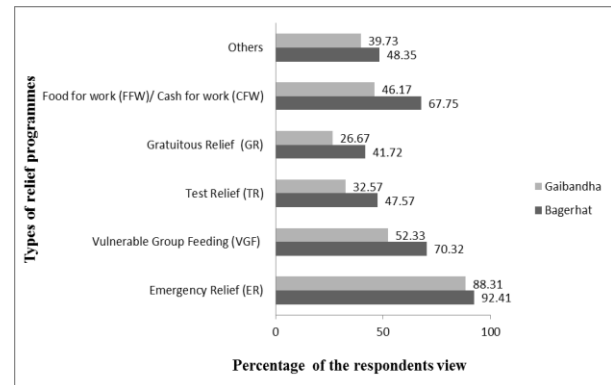


Fig. 6. Types of relief programs of the study areas

Modes of administering the SSNPs

Social Safety net programs are administered in the study areas through a wide variety of line ministries. These include, among others, the Ministry of Social Welfare, the Ministry of Food and Disaster Management, and the Ministry of Women and Children’s Affairs. Many of the programs are implemented in collaboration with NGOs and are often co-financed by donors. These SSNPs are further distributed by the local government as well as military or defense personnel, and by most innovative administering authority named disaster management committee which is formed by the local union council. The research finds out the personnel and administration that are involved in the relief delivering approaches (Fig. 7).

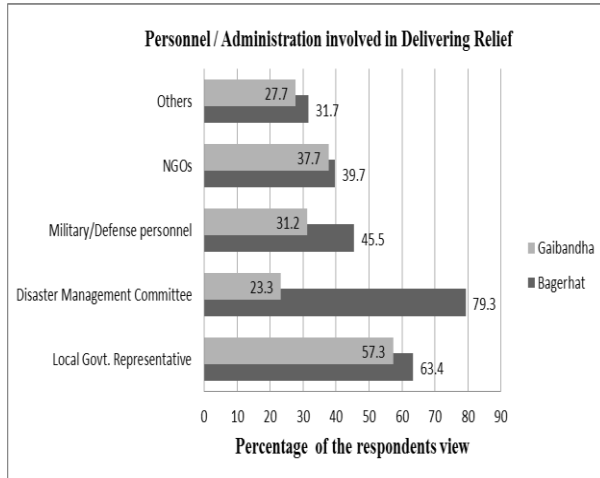


Fig. 7. Personnel/ administration involved in delivering relief

Gross and net benefits of SSNPs

The SSNP benefits are being delivered in form of cash, kind/food, cash/ kind, and training. Asked for most preferred modes of delivery, around 71 and 53% of the SSNPs beneficiaries in Bagerhat and Gaibandha respectively opted for food delivery; implying provision for feeding of benefits presently being delivered in kind. About 38% of the total sample beneficiaries currently receive their benefits through banks, 34% from union council offices and 19% directly from the respective program offices. The most of the respondents receive SSNPs from union council premises in both the study areas including 36% in Bagerhat and 41% in Gaibandha (Fig. 8).

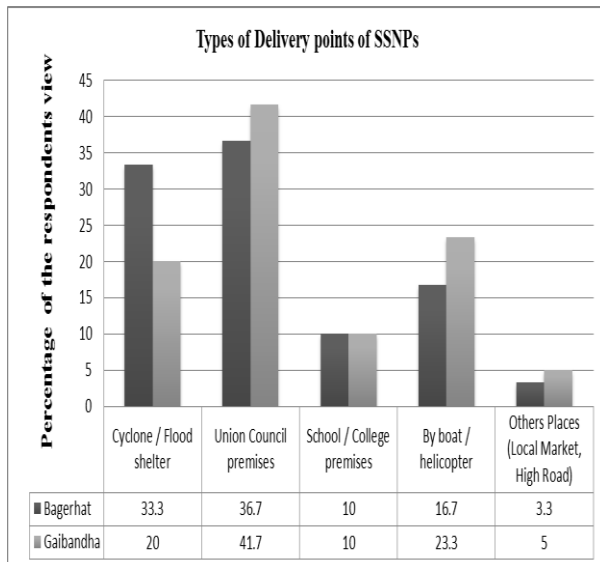


Fig. 8. Types of delivery points of SSNPs

Time and cost for receiving benefits from delivery points

While 63% of the total beneficiaries required to travel less than one hour to reach SSNP benefit delivery venues, 52% of them reported wastage of one hour or less in waiting at the delivery points and for another 47% of them such waiting time is 2-3 hours. According to the study 40 and 33% respondents in Bagerhat and Gaibandha, respectively said that they had to cross up to 3 km to reach the delivery points (Fig. 9).

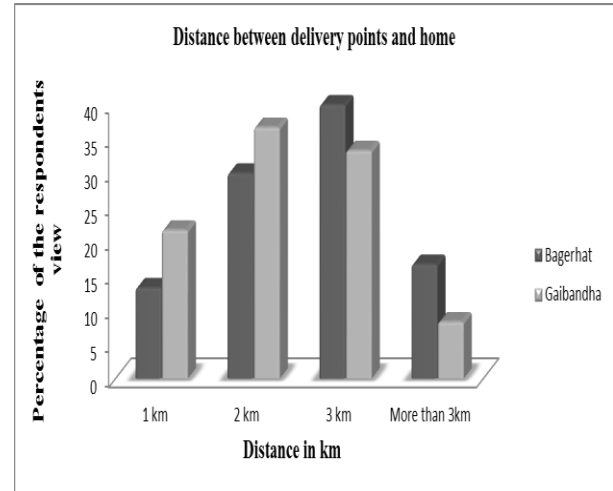


Fig. 9. Distance between delivery points and home

Challenges associated with SSNPs approaches

Although an absolute majority (63%) of the sample beneficiaries opined that their selection for SSNP was fair and based on pre-defined criteria; a good number of them (35%) stated that they had to approach the union council or NGOs in charge for being selected. Instances of bribery (reported by 43 and 68% of the total beneficiaries) and lobbying through friends and relatives (reported by 43 and 53%) indicate some degrees of irregularities in the selection processes. In case of receiving SSNPs the respondents showed some other main and specific obstacles which including distance from delivery point, destroyed communication system, lobbying/favoritism, waiting for long time and crowded environment. Besides the above mentioned reasons the study shows the main obstacles in associated with the SSNPs implementation in the study areas (Fig.10). The challenges includes mainly population growth and density, narrow program coverage, weak delivery system, lack of social protection in cyclone/ flood shelter, corruption by local Government people, lack of effective post-flood/cyclone assessment, assessing target population, scaling effective programs, weak policy interventions

and others. The opinion of the respondents varies between study areas from different point of view.

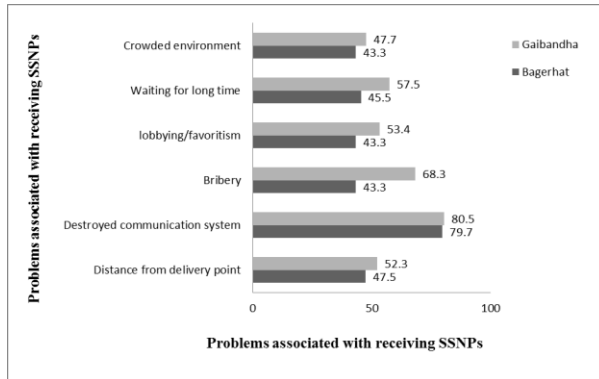


Fig. 10 : Problems of affected people associated with receiving SSNPs

Although there existence of extensive portfolio of the SSNPs approaches in the study areas, there remain some challenging factors which are the main obstacles of achieving the complete success of the approaches. This research finds the organizational performance in the delivery of SSNPs. Specifically, it provides guidance to task teams and program managers for identifying indicators of governance and service quality in targeted cash/food transfer programs. The paper identifies governance issues along the results chain of service delivery and suggests policy and performance indicators for assessing program. The use of safety nets is advocated both *ex ante*, to prevent and mitigate the impact of natural disaster and expose to cope with the impacts of natural shocks. Firstly, the research explores the implications of contextual factors to be taken into account in the design of an effective safety net system to respond to the needs generated by natural disasters. Secondly, the research considers some guidelines for improving the design and implementation of safety nets either to prevent and/or to recover from natural disasters. Findings of the research give a mixed impression of success and operational troubles of SSNPs. Considered the present SSNPs coverage inadequate in the context of high prevalence of poverty and proneness to natural calamities, people argued for lateral expansion to cover more of poor throughout the country. Also incremental amounts of benefits and qualitative improvements in the delivery process were demanded to ensure impartial selection and regular disbursement. Relatively higher travel cost and wastage of time on the part of recipients need to be thought about to reduce the actual transaction cost. The regional context and seasonal considerations need to be embedded into the design of SSNPs operation plans.

The Social Safety Net Programs in the studied two districts of Bangladesh have been quiet effective in smoothing the consumption and the income of poor households and helping them cope with stresses and shocks. On the basis of the existence of numerous programs and their implementation strategy and operation during different stages of natural disaster in comparison with the total population it can be opined that the SSNPs are partially effective in the study areas. These programs, however, cover only a fraction of the poor, and they must be strengthened if they are to adequately address poverty or mitigate the vulnerability to disaster risk in a sustainable way. Safety nets will become even more important in the respected areas as the country faces economic downturn, food price fluctuations, climate change, and other developments that increase the vulnerability of the poor.

Different studies depict mixed pictures on the impact of programs. The manner in which some programs have been implemented makes it difficult to evaluate rigorously their impact against their stated objectives. Some limitations were encountered during the study period to complete research work according to the selected objectives. Very few studies were conducted related to the SSNPs approach and its effectiveness. As a result, there was no sufficient literature to enrich the analysis of this study by reviewing their findings. There was no sufficient secondary data related to past evaluation of the approach and their layout. Therefore, it was not possible to compare the capacity of present approach with the past, which was needed to enrich the recommendations to reduce the challenge. The defensive attitude of responsible authorities related to the challenge and their reluctance to provide relevant data has limited the information. Therefore, in some case it has to depend on photograph rather than numeric data to illustrate the causes and effects of the situation. During the questionnaire survey, some interviewee did not want to make any comments against the responsible development authorities even they know the lack of efficiency of those authorities, because they think that any negative comments can be harmful for them in near future.

However, the evidence tells a mixed story, some studies are concluding that safety net programs have had a positive role for coping with the disaster; others are questioning whether the programs really do provide a strategy for disaster mitigation or only for consumption and income smoothing. It is also difficult to say whether program participation has increased household consumption and income levels or has had a beneficial impact on human capital accumulation and longer-term income generation.

This study assesses the current system and effectiveness of the SSNPs approach in Bagerhat and Gaibandha districts. It focuses strength as well as weakness of the approach, attention on the poor, recommends revisions to existing programs and institutional arrangements, proposes new strategies to minimize the poverty and vulnerability, and stresses the need to improve the allocation of limited fiscal resources and the efficiency with which these resources are used.

The study will help the policy makers to identify the effectiveness of the SSNPs. However, it will be able to provide the idea of establishing a sustainable comprehensive multi-donor, multi-year safety net enhancement programs. Finally, the study will focus on the entire approach in the priority investment areas for strengthening the safety net system in the selected study areas which would include- the targeting performance; program coverage; scaling up effective programs; ensuring sustainability of program benefits; integrating investments in human capital creation into safety nets through targeted education, health, and training interventions; consolidating and simplifying programs and phasing out high-cost, inefficient programs; exploring promising new programs and the use of suitable technology; improving the monitoring and evaluation system; and moving beyond coping approaches (Social Safety Net) to risk-reduction approaches (Social Protection).

Acknowledgement

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References

- Ahmad, Q. K. 2003. Regional cooperation in flood management in the Ganges-Brahmaputra-Meghna region: Bangladesh perspective. *Natural Hazards*, 28(1): 191-198.
- Alam, M. and Rahman, A. 2008. Development and climate change policy- making process in Bangladesh, *Climate Change in Asia: Perspectives on the Future Climate Regime*, United Nations University Press, Tokyo, pp. 51-65.
- Bartlett, S. 2008. Climate change and urban children: impacts and implications in low and middle income countries. *Human Settlements Discussion Paper Series: Climate Change and Cities 2*, International Institute of Environment and Development, London.
- Dorosh, P. A.; Ninno, C. D. and Shahabuddin, Q. 2004. The 1998 floods and beyond: towards comprehensive food security in Bangladesh. The University Press Limited, Dhaka.
- Hossain, N. and Osman, F. 2007. Politics and governance in the social sectors in Bangladesh, 1991-2006. *Research Monograph series 34*, BRAC, Dhaka.
- Rahman, M. R. and Chowdhury, J. U. 1998. Impacts of flood control projects in Bangladesh. *Bangladesh floods- views from home and abroad*. United Press Limited, Dhaka, pp.55-66.
- Stern, N. 2008. Key elements of a global deal on climate change. *London School of Economics and Political Science*, London.
- Stern, N.; P. Seigal and Rahman, M. 2006. Review on the economics of climate change. HM Treasury, London and Cambridge University Press, Vol. 6, No. 4.
- Subbarao, K. and Ninno, C. 2005. Disasters: role of social protection. In: *Protecting the vulnerable: the design and implementation of effective safety nets*, November 28-December 9, 2005, Washington, D.C.
- Tanner, T. M. and Mitchell, T. 2007. Entrenchment or enhancement: could climate change adaptation help reduce chronic poverty? *Chronic Poverty Research Centre (CPRC), Working Paper*, CPRC, University of Manchester.