Climate Change and Social Protection in Bangladesh: Are Existing Programmes Able to Address the Impacts of Climate Change?

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Bangladesh is generally considered to be one of the most disaster-prone countries in the world, with flooding, droughts and cyclones being the most common annual disaster events. This article provides an overview of existing social-protection programmes and government policies in the context of long-term adaptation to climate change related to sudden onset disasters, and evaluates their effectiveness in addressing related vulnerabilities and promoting food security in climate-vulnerable regions in the country.

Key words: Cash transfers, climate adaptation, vulnerability, targeting, Bangladesh

1 Climate-change-induced vulnerabilities in Bangladesh

According to the latest estimates of the Intergovernmental Panel on Climate Change (IPCC), while climate change will pose significant threats to human well-being on a global scale, poor countries like Bangladesh face a disproportionate risk. The World Development Report estimates that developing countries ‘would bear some 75 to 80% of the costs of damages caused by the changing climate … [and] [e]ven 2°C warming above preindustrial temperatures – the minimum the world is likely to experience – could result in permanent reductions in GDP of 4 to 5% for Africa and South Asia’ (World Bank, 2010a: XX). South Asia in particular will be heavily affected due to the impact of climate change on water resources, for instance during the monsoon season, in which ‘70% of annual precipitation [occurs] in a four-month period’, as well as the medium- and long-term effects of the melting of Himalayan glaciers. Low-lying coastlines will also be affected; under severe climate-change conditions, ‘rising seas would submerge much of the Maldives and inundate 18% of Bangladesh’s land’ (ibid.: 6).

It is projected that climate change will result in significant and perhaps rapid increases in temperature in Bangladesh. Winter temperatures are expected to rise more than summer average temperatures, and winter rainfall is projected to decrease, while summer rainfall will probably increase. Flooding may become more intense in some years. Overall, it is projected that extreme weather events such as heatwaves and very heavy rainfall are likely

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to become more frequent, and cyclone intensity would rise by up to 20%. In addition, sea level is expected to rise (Practical Action).

Flooding, droughts and cyclones are the most common disaster events Bangladesh struggles with on an annual basis; cyclones are the biggest killers and floods create the most widespread effects. Climate change has and will continue to have an impact on the scope and frequency of such disasters in Bangladesh (BDI, 2010; Rahman and Mallick, 2007). To address this looming threat, the government has established programmes geared towards expanding its risk-reduction measures, rather than focusing exclusively on post-disaster response. Vulnerability in the context of this article entails ‘the diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard. The concept is relative and dynamic’ (IFRC, 2013). Vulnerability to the impacts associated with projected climate change is underpinned by biophysical exposure, particular sensitivity to effects, and adaptive capacity. People are therefore differentially vulnerable to a given shock event.

Climate change exacerbates impacts from weather and climate extremes to which Bangladesh is already susceptible. Because flooding, droughts and cyclones occur regularly, residents in vulnerable areas have for a long time made attempts to mitigate the effects of these weather-related events. For example, residents in flood-prone zones have raised their homes to protect against flooding. However, while communities have long adopted these kinds of measures, they have not been undertaken in a planned and widespread manner. The government of Bangladesh has made attempts to adopt some mitigation techniques on a wider basis but has met with limited success owing to lack of sufficient co-ordination across agencies (BDI, 2009).

A number of studies have explored the short-term impacts of and responses to disasters, but significantly less is known about the medium- and long-term impacts of floods, cyclones and other sudden onset disasters (ibid.), or the role of safety-net programmes in reducing negative impacts. It has been proposed that in order to ameliorate the effect of climate change on vulnerable populations, particularly when the nature of the impacts is uncertain, safety-nets need to be strengthened within the country to protect vulnerable populations who are inherently at a higher risk from disasters.

Brouwer and his colleagues found that ‘households [in Bangladesh] which had both lower income and less access to productive assets faced higher exposure to risk both to flooding and to capacity to recover after a flood event’ (Brouwer et al.: 3). In addition, the seasonal nature of disasters in Bangladesh means that vulnerability levels among at-risk populations shift throughout the year. Finally, the impacts of disaster events have varying effects on populations depending on whether they are rural or urban.

They also found that the degree of intra-community inequality of income was as important as income level in determining both sources and overall level of vulnerability. In general, community-level disparities in income and asset distribution tended to be higher at higher levels of exposure to risk, implying that vulnerable households were also collectively more vulnerable. The study also came to the conclusion that households facing the greatest risk of flooding were the least able to cope, both in terms of household-level *ex-ante* preparedness and community-level *ex-post* flood relief.

Another element of vulnerability in Bangladesh involves the relationship between the cycle of agricultural livelihoods and disasters. The seasonality of flooding and cyclones means that households are more vulnerable at certain times of the year. Coping with
seasonality requires an understanding of the relationships between agricultural cycles, labour demands on men, women and children, and the impacts of disasters on livelihoods and well-being. Thus, the nature of vulnerability in rural areas varies depending on specific economic, ecological and disaster-risk factors.

Some studies report that climate extremes have already increased in frequency and severity over recent years (SMRC, 2008; Habib, 2011; see also Cruz et al., 2007). For example, analysis of tropical cyclone intensity shows that from 1876 to 1988 cyclones more than 200 km/hour occurred only three times in the Bay of Bengal. However, from 1988 onwards seven cyclones of similar or higher intensity occurred. Recent cyclones in Bangladesh (for example, Sidr in 2007 and Aila in 2009) created significant damage to crops and livestock, in turn imposing long-term effects on food security and livelihoods. For example, more than 1.2 million metric tonnes of rice crops were damaged by cyclone Sidr (Raihan et al., 2007), and embankments were breached by cyclone Aila, leading to damage from saline-water inundation of paddy fields and shrimp gheri/fish ponds. A United Nations joint multi-sector assessment of cyclone Aila (UN, 2010) reports that it was only possible to cultivate a minor portion of the total cropland in four sub-districts affected by Aila because of high salinity after the cyclone, and approximately 70-80% of crop production was lost and the production of shrimp reduced from the normal 2,350 kg/hectare to 470 kg/hectare. It can be argued that Bangladesh has already started to experience impacts from climate change.

In the aftermath of a disaster, the livelihoods of those impacted are often disrupted. One survey of post-disaster experiences found that, of the 1185 households surveyed, 80% had experienced livelihood loss, defined as loss of income or a negative change in occupation (BDI, 2010). This loss takes several forms, for example inability to work because of injury, the destruction of the means of production, or the destruction of markets. Others may be forced to move into less remunerative and/or less secure livelihoods. The BDI study found that although there is movement between livelihoods to both better and worse circumstances after a disaster, the overwhelming direction of movement is from more desirable to less desirable livelihoods. This finding is evidence of the widespread lack of resilience characterising the livelihoods of poor people in the wake of a disaster.

Because of accelerated rates of economic growth Bangladesh was able to reduce poverty at a faster rate in the past decade than previously. Nevertheless, conditions for communities living in geographically vulnerable areas have deteriorated due to hazards related to climate change (World Bank, 2010b). Increasingly frequent disasters in these regions mean that it is unlikely that communities living there will benefit from the achievements in reducing poverty and vulnerability occurring in other parts of the country; rather, poverty reduction may reverse or poverty may increase as a result of the impacts of disasters in these regions. Even if poverty rates remain unchanged or improve, more frequent disasters will pose a great threat to the livelihoods of communities in vulnerable regions. If Bangladesh fails to successfully address vulnerability to impacts from the present climate-related disasters, it is highly unlikely that it will be able to protect its citizens from the impacts of projected future climate change. One imperative is to improve the existing social-protection framework and design new programmes to cope with expected vulnerability to climate change.

The 2010 World Development Report highlighted the creation and reinforcement of social safety-nets as critical to ameliorating the impact of climate change (World Bank,
2010a), citing Bangladesh as an example of how social safety-nets can be successfully strengthened in a poor country. A key feature discussed in the Report is the possibility of the government strengthening existing safety-net programmes that can then be ramped up when disasters strike, as opposed to creating new programmes specifically for disasters. Bangladesh’s vulnerable-group development programme, food-for-work programme, and the new employment guarantee programme were cited as specific examples. The vulnerable-group development programme operates throughout the year, covering more than 2 million vulnerable households, and can be expanded following a crisis. For instance, in 2008, after cyclone Sidr, the government extended it to reach almost 10 million households.

This article seeks to provide an overview of the potential contribution of existing social-protection programmes and government safety-net policies to the adaptation to long-term climate change in Bangladesh and discusses their effectiveness. This involves understanding options for adjusting social-protection programmes in relation to climate-change impacts. Depending on the nature of the disaster and the timing and type of programme, these programmes can contribute to reducing the impacts of disasters by reducing the likelihood of income loss or by the provision of insurance. After a disaster, they can contribute to coping by immediate cash and food support, as well as supporting livelihoods and reconstruction.

The design and provision of effective safety-nets should be closely related to the concept of disaster risk reduction (DRR): this aligns social protection with the goal of addressing long-term chronic poverty rather than short-term emergency needs. DRR approaches focus on reducing vulnerability and increasing resilience, so instead of a ‘fixing potholes’ approach after the disaster has happened, this approach forces programmes to anticipate the disaster and take ex-ante actions to limit its effects. Hence, there should be pre-disaster mitigation and prevention strategies in place, as well as post-disaster measures to promote resilience through sustainable economic growth and to protect income and consumption.

Climate change affects poverty and vulnerability in Bangladesh by exacerbating the impacts from weather and climate extremes the country has historically faced, such as flooding. The government has made attempts to adopt some mitigation techniques on a wider basis, but this has met with uneven success. The robust functioning of these programmes – including their ability to adjust dynamically the form of assistance to vulnerable populations – will prove even more important as disasters become more frequent, intense and unpredictable in the future.

This article points to the way the design and implementation of effective safety-nets can be linked to the approaches within emerging DRR programmes. The analysis, based in part on several studies to which the authors contributed (BDI, 2009; 2010; Kahn et al., 2011), provides an evaluation of the government’s and NGOs’ effectiveness in targeting social-protection programmes and in promoting food security in Bangladesh’s vulnerable regions. Using descriptive statistics, the article also analyses the temporal and regional dimensions of implementing social-protection programmes, and concludes by drawing implications for how social protection might support adaptation to future climate change.
2 Safety-net/social-protection programmes in Bangladesh

Food for Work (FFW). FFW is a rural development programme in which labourers are paid in food rather than cash in exchange for physical labour. Major objectives are to generate employment for the poor in the lean season and to develop and maintain the rural infrastructure. The programme is jointly financed by the Government of Bangladesh, the Asian Development Bank and the World Food Programme. FFW targets households that are functionally landless, are headed by destitute women or day labourers, or are earning less than Tk 300 per month.

Vulnerable-Group Development (VGD). Destitute, widowed or divorced women with undernourished children and women with handicapped husbands are the target groups of the VGD programme. The objective of this programme is to enhance the income-generating capabilities of beneficiaries by providing them with training. Most VGD beneficiaries receive inputs in the form of skills training, health and nutrition training, and social-awareness building through membership of women’s groups. NGOs complement government and donor inputs, particularly through the provision of training and extension services and by organising groups. The Ministry of Women and Children’s Affairs and the Directorate of Relief and Rehabilitation are responsible for running this programme. Beneficiaries receive 30kg of wheat per month and 150 hours of training. Beneficiaries can access BRAC’s microfinance programme after 24 months.

Rural Maintenance Programme (RMP). Empowerment of women and maintenance of rural infrastructure are the core objectives of the RMP project. CARE ran this project from 1983 to September 2006; in 2008, the government took over official responsibility for RMP as a national government-funded programme operated by the Department of Local Government and Engineering. This cash-for-work programme for destitute rural women provides employment on a daily basis maintaining rural earthen roads throughout the year. Beneficiaries are employed for four years; a woman works for three years and three months, and for the remaining nine months receives skill training.

Test Relief (TR). TR is a nationwide programme aimed at generating employment for the poor during the rainy season and developing and maintaining the rural infrastructure. The Ministry of Food and Disaster Management runs the programme.

100 Days Employment Generation Programme. The government allocated Tk 2000 crore in 2008-9 to finance the ‘100 Days Employment Generation Programme’. However, after the first implementation phase the programme was suspended.

Social-protection (SP) policies aim to protect and promote the economic and social security of poor people. SP encompasses a range of interventions, from safety-net programmes to social-insurance programmes. It includes all initiatives that transfer income or assets to the poor, protect the vulnerable against threats to their livelihoods, and enhance the social status and rights of the marginalised. The end-goals of SP include security (through helping households sustain their livelihoods in the face of uncertainties or shocks), equality (through promoting universal levels of livelihood that are sufficient to ensure enhanced
access to basic education, health and nutrition necessary for human development), and growth (through ensuring that all households have the ability to provide for basic human development thus ensuring a skilled, productive workforce) (Renos, 2006). Service providers frequently frame SP interventions as ‘social safety-nets’ – implying a more limited range of interventions conceived as short-term, compensatory measures during disasters or other national crises.

The definitions of SP programmes in Bangladesh have expanded in recent years to address significant vulnerabilities that affect a large number of households. Despite the country’s relatively steady economic growth, some households are disproportionately vulnerable to the impact of disasters. SP programmes address some elements of disaster vulnerability, but they do not adequately cover either the breadth of the impacts nor their duration. In the short term, after a disaster, poor people are faced mainly with issues such as deaths, economic loss and food shortages. In the long term, other issues become more pressing, the biggest problem being landlessness because of asset loss and the sale of productive assets. Another issue is the loss of livelihood, which erodes income, savings and capital and brings about negative coping. People are forced to use their savings to restore the pre-disaster situation, thereby giving up their reserves for the future. Moreover, following disasters, the number of social shocks such as dislocations, illnesses, diseases and school-dropouts increases dramatically. The health shocks are predominantly caused by a lack of pure drinking water and bad sanitation, while the school-dropouts relate to a drop in the overall quality of education as there are fewer teachers and teaching facilities available (many are used as flood shelters). Children may also be forced to work in order to support their families. In addition to long-term social issues, there are more immediate issues such as the availability of firewood and food in general as well as the limited relief opportunities for the sick, elderly, disabled and the poorest of the poor.

While the government maintains a widespread portfolio of SP initiatives aimed at many social categories such as widows, the disabled, orphans and the aged, these initiatives offer little flexibility in addressing contextual needs such as those described above. The rigidity of existing programmes is particularly troubling, given that flexibility in assistance will be paramount under increasingly uncertain climatic conditions.

As listed above, a number of SP interventions are currently provided by the government, donors, and NGOs, targeted at the poorest households through two dominant approaches: long-term safety-net assistance to poor households/members of households who cannot work (such as the elderly receiving pensions), and shorter-term interventions which aim to provide a ‘step’ for poor households to overcome the initial barriers to engaging in productive activities. There remains little solid evidence of the effectiveness of these programmes, and few have been rigorously evaluated in the context of disasters.

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1. Different manifestations of capital can be eroded, not just economic through loss of work/productive assets like land, but also social capital through breakdown of unofficial community safety-nets in the case where households or whole sections of communities have to relocate. Children are often affected through the erosion of human capital when they are taken out of school; this has long-lasting impacts, not just short-term after a disaster strikes.
2.1 Safety-nets and disasters

According to a recent World Bank study, social safety-net programmes in Bangladesh have been effective in providing food security and a limited measure of emergency relief (Ahmed, 2007). Access to Social Safety-Net Programmes (SSNPs) significantly increased the likelihood of being food-secure. Consequently, at least in the area of food provision, SSNP beneficiaries are better protected than non-beneficiaries, regardless of shock type. Some safeguards have also been installed to ensure that targeted households are included in aid programmes. Current beneficiary households are also excluded from the next round of distribution to ensure more equal coverage. However, Table 1 shows that critical issues remain in both the design and the implementation of SP programmes. Primarily, targeting mechanisms need to be improved because coverage of benefits remains strikingly low. Apart from poor targeting, several barriers exist that prevent local populations from accessing SSNPs. Assistance is rarely available in the case of low-severity shocks, such as minor floods, tornadoes or tidal surge. Miscommunication presents another major hurdle to achieving full coverage: hearing about the scarcity of resources available, some disaster victims may simply not show up at shelter centres because they believe there is no chance for them to receive help. One study reported on communities located on the land between the embankment and the river in Gaibandha District (many poor and landless people live in such areas) where respondents reported that those distributing aid often stopped at the embankment, so it was necessary to travel there to receive help. Furthermore, many older/weaker respondents (such as those in poor health) reported not even attempting to get to the embankment because they could not physically push their way through the crowd to reach the distributors (Coirolo, 2013).

Table 1: Reasons why disaster victims did not receive assistance

<table>
<thead>
<tr>
<th>Reason</th>
<th>Government</th>
<th></th>
<th>Non-Government</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Obs</td>
<td>%</td>
<td>Obs</td>
<td>%</td>
</tr>
<tr>
<td>Non-eligibility</td>
<td>88</td>
<td>12</td>
<td>83</td>
<td>10</td>
</tr>
<tr>
<td>Lack of able-bodied person to collect</td>
<td>7</td>
<td>1</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Did not try</td>
<td>26</td>
<td>4</td>
<td>38</td>
<td>5</td>
</tr>
<tr>
<td>Insufficient amount</td>
<td>12</td>
<td>2</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td>Corruption</td>
<td>139</td>
<td>19</td>
<td>171</td>
<td>21</td>
</tr>
<tr>
<td>Distance from Union Parishad office</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>No assistance was available</td>
<td>407</td>
<td>56</td>
<td>424</td>
<td>51</td>
</tr>
<tr>
<td>Did not know</td>
<td>49</td>
<td>7</td>
<td>72</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>730</td>
<td>100</td>
<td>824</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: BDI (2009).

Also, not every region has a shelter centre close by and some families do not have an able-bodied person with the strength to collect the programme benefits. Women, the
disabled, and elderly individuals in particular face difficulties in accessing aid measures and benefits for both geographical and cultural reasons. In addition, transfers and benefits provide low value to the population since they are not tailored to fit local needs and fail to compensate individuals entirely for the losses incurred due to the disasters. Mostly, the benefits are insufficient to mitigate losses from shocks and increase resilience.

Table 2: Losses incurred through disasters compared to benefits from SSNPs

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Non-Safety nets Loss (Taka)</th>
<th>Promotive</th>
<th>Protective</th>
<th>Total</th>
<th>Non-Safety nets Assistance (Taka)</th>
<th>Promotive</th>
<th>Protective</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood</td>
<td>31,680</td>
<td>23,700</td>
<td>31,216</td>
<td>86,596</td>
<td>455</td>
<td>3,726</td>
<td>5,005</td>
<td>9,187</td>
</tr>
<tr>
<td>Cyclone</td>
<td>44,541</td>
<td>13,131</td>
<td>12,538</td>
<td>70,210</td>
<td>24,771</td>
<td>8,389</td>
<td>9,125</td>
<td>42,285</td>
</tr>
<tr>
<td>Surge</td>
<td>84,112</td>
<td>84,024</td>
<td>90,352</td>
<td>258,488</td>
<td>1,198</td>
<td>4,725</td>
<td>3,404</td>
<td>9,326</td>
</tr>
<tr>
<td>Erosion</td>
<td>138,604</td>
<td>50,316</td>
<td>73,296</td>
<td>262,216</td>
<td>5,800</td>
<td>13,590</td>
<td>11,981</td>
<td>31,371</td>
</tr>
<tr>
<td>Others</td>
<td>18,071</td>
<td>18,177</td>
<td>15,070</td>
<td>51,318</td>
<td>0</td>
<td>2,167</td>
<td>5,499</td>
<td>7,666</td>
</tr>
<tr>
<td>Total</td>
<td>317,007</td>
<td>189,348</td>
<td>222,472</td>
<td>728,827</td>
<td>32,224</td>
<td>32,596</td>
<td>35,014</td>
<td>99,834</td>
</tr>
</tbody>
</table>

Note: Survey of 1,200 households.
Source: ibid.

3 Inadequacy and inefficiency of SP programmes

Test Relief (TR), Vulnerable-Group Development (VGD) and Food for Work (FFW) are the three main programmes run by the Government of Bangladesh to respond to the impacts of disasters. Based on the eligibility criteria set by the government, Table 3 shows the severe inadequacy of the scale of the programmes, and Figure 1 their targeting efficiency.

Table 3: Inadequate allocation of SP programmes

<table>
<thead>
<tr>
<th>Programme</th>
<th>No. of eligible householdsa</th>
<th>No. of enrolled households (Coverage %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Relief (TR)</td>
<td>3,194</td>
<td>4 (0.12%)</td>
</tr>
<tr>
<td>Vulnerable-Group Development (VGD)</td>
<td>470</td>
<td>16 (3.40%)</td>
</tr>
<tr>
<td>Food for Work</td>
<td>3,194</td>
<td>32 (1%)</td>
</tr>
</tbody>
</table>

Note a): Sample size=12,240 households.

Figure 1 shows that only around 30% of households participating in Food for Work programmes and only 50% of beneficiaries of the Test Relief programme were eligible to
receive this benefit, and that none of the beneficiaries of the Vulnerable-Group Development programme were eligible.

The data presented in Table 3 and Figure 1 clearly indicate that the above-mentioned three programmes are neither adequately nor well targeted at the individual/household level. These targeting inefficiencies may arise from poor administration and corruption in the distribution system. The political affiliation of the household, the relationship with local government officials and bribery are the most common forms of corruption in the system (Rahman, 2012; TIB, 2007).

**Figure 1: Distribution of beneficiaries according to eligibility**

Source: ibid.

**Figure 2: Month-wise distribution of food grain through FFW programme (‘000 M.ton)**

Source: Food Planning and Monitoring Unit, Government of Bangladesh.
SP programmes in Bangladesh are often criticised for poorly timed distribution. Food for Work is one of the major SP programmes aimed at reducing vulnerability by ensuring food security during the distress period. Poor households in Bangladesh face seasonal deprivation (monga) because of agro-climatic factors twice a year, in March-April and September-November. However, Figure 2, which shows the monthly distribution of the Food for Work programme from 2006-7 to 2009-10 fiscal years, indicates that this programme was almost inactive during the monga season (September to November).

4 Spatial pattern of food insecurity and Public Food Distribution System (PFDS)

The Planning Commission of Bangladesh, the Bangladesh Bureau of Statistics and the UN World Food Programme undertook a programme titled ‘Mapping and Characterizing Food Insecurity and Vulnerability in Bangladesh’ to contribute to a better understanding of the spatial patterns of food insecurity, poverty and malnutrition in the country. This initiative identified six clustered areas as having high or very high levels of food insecurity; namely, the North-west, the Northern Chars, the drought zone, the haor basin, the Coastal belt and the Chittagong Hill Tracts (GoB and WFP, 2004). The distribution of food-assisted programmes and seasonal variations across regions indicates that challenges exist in aligning programmes with needs/vulnerabilities.

The North-west. The North-west food-insecure zone consists of the following six Districts: Dinaajpur, Thakurgaon, Panchagarh, Rangpur, Lalmanirhat and Nilphamari. Interestingly, this region is a food-production surplus area where agriculture is the primary source of employment. However, because of the unequal distribution of land, the low agricultural wages, the absence of major industries and the natural disasters, a large proportion of the population of this area remains food-insecure. A pronounced monga occurs in this area from October to November each year. Many poor people survive in the lean season by taking loans from money-lenders and by selling future labour at a lower rate. As a result, they bear the burden of the lean season throughout the year.

The Northern Districts with Chars. Kurigram, Gaibandha, Sirajganj, Jamalpur and a portion of Bogra are included in this region. The Northern Chars are unstable lands concentrated around the Brahmaputra and Jamuna rivers. The population of this region, especially in the chars, is highly food-insecure. The sandy soil of the area makes it unsuitable for cultivation, and thus crop yields are very low. During the winter months a few crops like rice, wheat, chillies and peanuts are grown in the area. Most charland inhabitants are functionally landless and sharecrop the land owned by absentee landlords, to whom they pay almost half their income as rent. Most people living in the area barely manage two meals per day in a good time. During the lean season, many people only manage one meal a day (GoB and WFP, 2004).

The drought zone. The westernmost parts of Rajshahi, Nawabganj and Naogaon comprise the drought zone – an area characterised by extremely hot summers and a relatively long dry season. Agricultural production is devastated in the hot season by high temperatures,
low annual rainfall and soil moisture deficiencies (ibid.). Land distribution is severely unequal in the region, and wage rates for agricultural labour are very low.

The haor basin. Kishoreganj, Netrokona, Sunamganj, Habiganj and a portion of Sylhet constitute the haor basin. Cropping patterns vary throughout this area. Although some crops are grown in the winter season, most cultivable land remains under water between May and October. Moreover, flash flooding occurs frequently at the end of the dry season, severely affecting the boro crop, which is the main source of income for a majority of the area’s poor population. As boro is the only crop grown in the region, there is a long non-agricultural lean season following its harvest. Most of the males of the region migrate to areas where aman cultivation is possible, while others work as labourers in fishing industries.

The coastal belt. The coastal belt includes Bhola, Patuakhali, Barguna and Noakhali Districts. This area includes islands of varying sizes and many charlands. River erosion, salinity through salt-water intrusion, and repeated natural disasters make the area highly food-insecure. The main occupation is agricultural production; however, half of the population is functionally landless. Because of the absence of manufacturing factories and cottage industries in this area, scope for non-agricultural employment is very limited. As a result, rates of migration during the non-agricultural season are high.

Chittagong Hill Tracts. The Chittagong Hill Tracts (CHT) Districts – Rangamati, Khagrachhari and Bandarban – face severe and chronic food insecurity. Lack of access to cultivable land means that the CHT region suffers from low food production, ultimately leading to high rates of food insecurity. Because of communication problems, poor infrastructure and security issues, private investment in the CHT is low, narrowing the scope of employment in this region.

Figure 3: Per capita allocation of food grains through PFDS for people under poverty line 2006/7 and 2007/8

Source: Authors’ calculation from Bangladesh Bureau of Statistics, World Food Programme and Directorate General of Food.
The PDFF includes all types of food-distribution programmes of the government, for example, Food for Work, Test Relief and other initiatives. There are significant spatial differences that affect food security, including areas with poor production in certain seasons. Per capita allocation of food grains for extremely poor people (allocated food grains divided by the number of people under the poverty line) was calculated for the above vulnerable districts and compared with the same indicator for all other districts. Figure 3 indicates that per capita distributions of food in vulnerable districts are much lower than in other districts. Only food distribution in the coastal belt in 2007-8 was higher than the average in non-vulnerable districts; this was the result of the government’s one-off relief response to cyclone Sidr.

5 Key lessons: improved targeting mechanisms

Currently, targeting criteria and guidelines are homogeneous across the country and hence partly fail to reach the true targets. The most common selection criteria for households are land owned, wages, number of women of reproductive age and lack of productive assets. Classic targeting approaches use measures of social categorical targeting such as age or gender. Targeting based on socio-economic criteria is also widespread in Bangladesh. Furthermore, by identifying the needy and asking questions about who will be hit hardest by disasters, the findings of this study reveal that the existing safety-nets mostly reach poor households in rural areas; there is a need to expand into urban areas.

The general problem with targeting mechanisms is that pre-disaster approaches are based on administrative data and therefore cannot take account of differentiation in social circumstances and livelihood resilience. In addition, targeting weaknesses, large standard deviations in survey results and the lack of objective data on the poor in Bangladesh make it difficult to capture all the poor and vulnerable in the country. Recently, the statistical method of Proxy Means, widely in use since 2007, has shown greater accuracy in identifying the poor. One of the main challenges emerging from the present study is the need to improve current targeting mechanisms. Targeting must also be adjusted as climate change continues to affect the geography and intensity of disasters.

Based on the findings of this study, targeting processes could incorporate the following: nominations of candidates (pre-screening); proxy means testing (PMT) rankings and selection; and local community approval of the resulting target list. In addition, the World Bank has implemented a Poverty Scorecard Model to bring more objectivity into the process of population targeting. According to the aforementioned study, a household in Bangladesh should be considered at risk if its score is below the 40th percentile of income.

Within the model, one can identify four sorts of households. In the case of inclusion, a household is below the cut-off point and targeted. If undercovered, a household is below the cut-off point but not targeted. Leakage exists when a household is above cut-off point but is mistakenly targeted, and exclusion rightfully does not include households that are above the cut-off point.

5.1 Aid distribution and local responsiveness

The second challenge to social safety-nets is to match aid measures to the true needs of the victims of natural disasters. Surveys conducted by BDI among the Bangladeshi population
revealed that cash transfers are largely preferable to food aid (BRAC, 2009). Cash eliminates transaction costs and gives households more flexibility in spending. Moreover, aid mechanisms and distribution can be outsourced to local-level agents to increase responsiveness to local needs and specificities. Objections to this decentralised approach include the amount of resources to be distributed to local agents and the lack of control by the government that might further increase the amount of corruption, leakage and nepotism. (Implementing short message service technologies in cash-transfer programmes may be able to bypass at least some of these concerns.)

On the positive side, putting local authorities in charge of aid distribution will facilitate programme co-ordination and alleviate the huge administrative burden in place at present. About 20 different ministries and agencies currently deal with distribution co-ordination, which makes it virtually impossible to respond to disasters in a timely manner. Other barriers to immediate disaster relief are distance and poor communication. Most problems resulting from natural disasters occur within the first three days after the disaster. Yet in Bangladesh, no help will be available to the affected population in this timeframe.

SP instruments can be used to support adaptation goals when undertaken with an understanding of how climate change is likely to affect the vulnerabilities, risks and shocks that poor people face and that SP mechanisms are currently aimed at addressing. Examples drawn from the findings of this study may include adjusting targeting mechanisms in line with projections of how climate change is likely to affect the geography and intensity of disasters in the medium and long term. Taking account of differentiation in livelihood resilience with respect to the changing nature of how beneficiaries are targeted may make SP instruments more adaptive. Additional aims would include building in greater flexibility through the use of cash transfers, and increasing local responsiveness through decentralisation, since local authorities may be better placed to respond to local needs as they emerge, especially given the uncertainty around how the impacts of climate change are likely to play out at the local level in countries like Bangladesh.

6 Conclusion

6.1 General findings

Poor people are not only most affected by the combination of greater exposure to hazards and a lack of supporting infrastructure, but also have less capacity to adapt after disasters – with fewer reserves to dedicate to coping with the effects of disasters.

Within poorer groups, some segments have more acute problems. When households are displaced, gender inequalities that exist prior to a disaster can manifest themselves in many ways afterwards – not only in differential impacts but also in the resources and services available to support recovery and reconstruction. The needs of women, the elderly and disabled, and their priorities, are rarely addressed in resettlement accommodation, with particular problems faced by female-headed households and widows including issues such as privacy for bathing and latrines. This requires an understanding of the differential impact of disasters both across and within groups of people.

Building on the experiences of existing disaster response and the wide use of safety-nets in Bangladesh, there is potential for adapting safety-nets to fill the gaps in the current
safety-net framework, including around targeting and administration, towards the end of addressing the medium-term impacts of disasters. This constitutes the core of the proposed work on adapting safety-nets so that they are tailor-made for certain types of disasters (flood, cyclone, drought). Taking account of the increased frequency of disasters will entail enhancing not only the functioning of programmes, but also funding levels. Safety-nets must also be adapted according to the extent of the built environment.

The potential for the use of safety-nets as instruments for reducing the impacts of disasters is evident in the studies cited in this article, despite the acknowledgement that serious knowledge gaps remain. The re-design of safety-nets can address in particular current issues with the administration and targeting of safety-net programmes. It can combine geographic targeting with a proxy means test to select and target the most vulnerable households. It can also improve the government’s institutional capacity to manage, target, monitor and evaluate safety-net programmes in relation to disasters. These are important issues for further research and policy development, as the long-term effects of disasters in Bangladesh undermine efforts at promoting human development outcomes.

Special consideration should be given to the new vulnerabilities created by climate change. As a response to natural disasters, more and more Bangladeshis move from self-employment to day-to-day labour. This negative coping mechanism is a reaction to disasters that, in turn, exacerbate vulnerabilities. Accordingly, safety-net programmes must be co-ordinated not only with DRR, but also with skills training programmes that promote employment in disaster-resistant industries.

A SP approach to climate-change adaptation can provide a framework for poverty and vulnerability that emphasises both equity issues and the growing connections between poor people and the ecosystems that frame and shape their lives and livelihoods. Because the impacts of climate change are and will be significant, albeit their timing and nature at the local level remain uncertain, SP instruments should be adapted, with a ‘no-regrets’, i.e. good development, approach, for both rural and urban settings. The no-regrets approach means that good SP programmes will be able to address both current and emerging manifestations of vulnerability.

Operational issues for government agencies include the following. (i) SP must be provided in a gradual manner. Programmes must support households upon exit from one programme at least at subsistence levels, as programme graduates may find other forms of support to ensure that they do not fall back into poverty when they are no longer eligible for cash transfers. (ii) Expanding programme eligibility with adequate financing. Some poor people live outside narrowly defined family households and age groups. Poverty impact would be greater if households without children and elderly were included, as well as single persons. (iii) Avoiding the dichotomy of ‘targeting vs. universalism’. Targeting SP is a strategy for preparing the integration of poor and excluded people into full citizenship; in highly unequal societies it is necessary to combine targeted and universal programmes.

6.2 Recommendations

After reviewing the implementation and design of social safety-nets in Bangladesh, certain necessary improvements emerge. Studies of countries such as Ethiopia, Pakistan and Indonesia provide guidance for effective long-term measures of relief and social protection (Holmes, 2010).
SP and climate-change adaptation can be designed both for overall disaster trends and for specific shocks. The policy trade-offs in terms of different investments revolve around assessing the benefits and viability of different SP instruments that may promote resilience to climate-change impacts, including those likely to reflect the future geography of disasters.

Actual losses incurred by a household should be given more consideration in the aid-distribution process, ultimately aiming for 50% compensation. This will allow for flexible allocation of resources as disasters become more unpredictable, and implies an increase in resources as disasters become more frequent and destructive.

Beneficiaries should be allowed to choose the form of their benefits rather than receiving place-based subsidies only. Local responsiveness and flexibility are essential in providing assistance that actually reduces disaster victims’ economic and social burden, including necessary transfers of jobs and residential locations.

More emphasis should be given to promotive measures of SP since these measures will have the greatest impact on people’s future adaptability to natural disasters and the local impacts of climate change.

It should be ensured that assistance will be sustainable. In order to achieve long-term SP, social safety-nets must be designed as a net-and-ladder approach, providing a step out of poverty and likewise making sure that former beneficiaries do not fall back into vulnerable status. There needs to be some shift to local authorities, combining governmental capabilities in terms of targeting, sustainability and programme coverage with NGOs’ local responsiveness and timeliness.

Safety-net programmes play an important role in disaster management by helping to co-ordinate recovery efforts, but they have many shortcomings. These include the fact that resource allocation for disaster management is not based on vulnerability, that safety-net allocation does not correlate with the size of the population, its vulnerability or level of poverty, that safety-net allocation is not flexible to local needs, and that the logistical means to access relief victims in remote areas are lacking. To minimise these weaknesses, the following steps could be taken.

The Ministry of Food and Disaster Management should maintain a database of the vulnerable. The government should prepare a database cataloguing the socio-economic status of households, the nature of their vulnerability, the type of benefits they receive, and the organisation from which they originally received these benefits. The authorities should properly track the status of programme beneficiaries. Regular updates will remove households that are financially solvent, and will also prevent the overlapping of benefits and erroneous exclusions.

To the extent that communities are able, committees consisting of an inclusive representation of villagers should be formed for beneficiary selection at the district level and below in order to limit the influence of nepotism and cronyism in beneficiary selection. These committees are not neutral, and so inclusion of excluded households and extremely poor people requires proactive efforts on the part of government and NGO staff.

A regular monitoring mechanism should be introduced to improve the effectiveness of safety-net programmes and NGO emergency-response efforts. In particular, guiding criteria and tools for registering disabled individuals by name, sex, age, residence, and degree of
disability should be established and made available for local NGOs and health facilities for planning and monitoring purposes.

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