

**DAP Emergency Program (Cyclone Sidr Response)
Save the Children-USA and Partners**

An Assessment of Livelihood Recovery

**Report presented to:
Save the Children Bangladesh**

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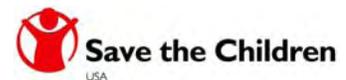


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List of Acronyms

BADC	Bangladesh Agricultural Development Corporation
BFRI	Bangladesh Forestry Research Institute
CBO	Community-based Organization
CFW	Cash for Work
CPP	Cyclone Preparedness Program
CRS	Catholic Relief Services
DTW	Deep Tube Well
FFP	Food for Peace
FGD	Focus Group Discussion
HKI	Helen Keller International
JoJ	Jibon-o-Jibika
NFI	Non-food Item
NGOF	NGO Forum
SC-Bd	Save the Children Bangladesh
SC-US	Save the Children US
SIC	Scheme Implementation Committee
SMC	School Management Committee
UDMC	Union Disaster Management Committee
UP	Union Parishad
WASH	Water, Sanitation, and Hygiene
WFP	World Food Program

Executive Summary

During late afternoon and evening on November 15, 2007, Cyclone Sidr struck the southern and southwestern regions of Bangladesh forcing hundreds of thousands of residents to flee for safety during the night. The next morning, Sidr had passed, leaving death and destruction in its wake. Most families returned to their homes to find their belongings, their houses, their water sources, their productive assets swept away or destroyed. In Barisal division, the core target of Sidr's wrath, the immediate challenge was to save lives, provide food and water, and prevent the spread of water-borne disease. Save the Children-Bangladesh (SC-Bd) was in the third year of a Title II project, Jibon-o-Jibika (JoJ), which meant had a disaster risk reduction component. The widespread presence throughout Barisal of SC-Bd and their implementing partner staff enabled a quick and timely response to the crisis. On January 3rd, SC-Bd presented a concept note to the USAID office proposing a response strategy that was subsequently approved and funded. This program, called DAP Emergency Program (DAP-EP). The strategic objectives of the DAP-EP included:

Strategic Objective 1: Provide immediate lifesaving relief and protection to support the survival, and development of children and families who have been injured, displaced, or otherwise made vulnerable as a result of the super cyclone Sidr.

Strategic Objective 2: Support early recovery of livelihoods in severely affected households and minimize harmful coping strategies and enhance resiliency to future risks.

The response strategy was designed in two phases—Phase I addressed the immediate and urgent imperative of saving lives, while Phase II focused on early livelihood recovery efforts. Phase II was planned for nine months. The start-up of early recovery activities was delayed due to the magnitude of the emergency, and a subsequent amendment extended the timeframe of the DAP EP (Phase II) to August 2009. This evaluation, while acknowledging the urgent importance of the Phase I activities, focuses on the economic recovery component of DAP-EP, or Phase II interventions, and asks the fundamental question of the program contribution to progress toward a pre-Sidr household livelihood recovery.

The Phase II interventions of DAP-EP were assessed in eight clusters, each of which followed a slightly different implementation and targeting strategy. Each of the eight was evaluated in terms of effectiveness of targeting, implementation, impact, and sustainability, among other criteria.

Supplementary Feeding: This intervention was designed to prevent a deterioration of the nutritional status of particularly vulnerable children during a period of economic stress (reduced job opportunities, poor paddy yields). A total of 39,000 families were assisted with a fortified supplementary ration in unions where WFP had discontinued food distribution (in Galachipa upazila). The distribution began in September 2008 and continued until January 2009. The households were identified mostly through a monitoring surveillance activity and a food gap analysis carried out by SC-Bd staff. Under the program, additional SC-Bd staff were hired to implement and monitor this intervention. The impacts of the intervention were several. Indeed,

it prevented a rise in wasting of young children in vulnerable households, and allowed households to divert some resources toward asset-building rather than food purchase. The evaluation team felt that this intervention helped these vulnerable families to bridge a critical period of food insecurity on the pathway to livelihood recovery. It was an effective use of the available food aid resources.

WASH (*Water, Sanitation and Hygiene*): This intervention was implemented under a partnership with the NGO Forum, an implementing NGO partner specialized in water and sanitation activities. Sidr had contaminated community water systems (mostly deep tube wells), polluted ponds, and destroyed household and community latrines (including school latrines). There was an eminent danger of the spread of water-borne disease. During Phase I, SC-Bd immediately engaged a major effort to provide drinking water to communities with compromised systems (as well as general food distribution). In Phase II, the focus turned to restoring contaminated systems and repairing latrines. In all, 1820 families received household latrines; 200 deep tube wells (DTWs) were repaired and 40 new ones installed. In addition, 30 school latrines were either constructed or repaired. The major impact of this effort is that cholera and major outbreaks of diarrhea were not reported in the months following Sidr. More locally, local sanitation systems were restored and in the case of DTWs, several communities gained expanded water systems that had been inadequate prior to Sidr and others had DTW well platforms improved and better able to resist the next cyclone.

Reforestation: Sidr had destroyed 4 million trees, many of them critical to the protection of homestead sites. As part of the recovery program, then, 5000 families in critically affected unions received two bamboo saplings each. The rationale was that quick-growing bamboo would help reduce the risk of flood and wind damage around the homestead and meet the increased demands for building materials. Vulnerable households interested in the intervention were carefully selected. Since there are no commercial bamboo nurseries in Bangladesh, SC-Bd established a partnership with the Bangladesh Forest Research Institute (BFRI) in Chittagong to provide the sapling production technology and to train local nursery owners, Village Model Farm landowners, and local staff. This core of trained vendors then produced bamboo saplings as per BFRI specifications. This process took a longer time than expected, and the bamboo saplings not ready for distribution until late October 2008. Because the beneficiaries were unfamiliar with the grafting technique of the bamboo plantation and due to the off-season distribution, only about half the saplings survived. Thus, the intended impact of the reforestation intervention was limited, although the introduction of a new production technique could produce more positive future impacts. This intervention was carried out by SC-Bd field staff.

Shelter Rehabilitation: Cyclone Sidr demonstrated the critical role that secure shelter plays in the event of a cyclone and, unfortunately, how inadequate the shelter system was in Barisal. After Sidr, SC-Bd carried out a cyclone shelter assessment and reviewed 369 shelters. Based on this information, the program rehabilitated 15 shelters used as local schools. Each shelter cum school had a capacity for 180-600 people and was managed by a school management committee. In addition, an animal shelter (*killa*) was rehabilitated in one union, and it had a capacity for 300 animals. The shelter rehabilitation intervention is a risk reduction strategy, and its value was shown in the 2009 Aila cyclone, during which both people and livestock in the surrounding areas were able to take shelter in these rehabilitated structures.

Seed Replacement: With Sidr came extensive flooding of agricultural paddy fields. Not only was the standing crop (near harvest) decimated, but seed stock for the following campaign was lost, as were seeds for the winter cycle pulses and vegetables. The seed replacement intervention assisted 10,000 families by providing BR-11 aman seed, but also quality winter vegetable and pulse seeds. This intervention was implemented by the implementing partner Helen Keller International (HKI) and its two local partner NGOs, Speed Trust and SAP-BD. The high-yielding paddy seed was procured from the Bangladesh Agricultural Development Corporation, and HKI prepared and disseminated a technical bulletin with the seeds. The paddy seed (5000 families) was distributed in June 2008 for the aman season, and in September 2008 pulses and vegetable seeds were provided to 10,000 families. This intervention was considered by the evaluation team to be particularly effective for several reasons. It first helped to replenish scarce seed stock. As importantly, however, the use of the improved variety paddy seed resulted in positive technological change, as farmers quickly began to adopt the BR-11 variety because of its superior production results. An ancillary benefit came from the use of a voucher system which was provided to households and redeemed with local seed merchants. The vouchers helped to support the local market and to increase the awareness of local vendors with regards to farmer preferences.

Cash for Work: The major rationale behind CFW was that it addressed the needs of a vulnerable group dependent upon day labor livelihoods disrupted by Sidr. At the same time, the intervention provided the cash resource for multiple levels of investment. Poor households tended to invest the cash in specific livelihoods assets or even to shift livelihoods, and at the same time CFW was a community investment in public goods. Thus, CFW, implemented through HKI and its local partnership, was a centerpiece of the livelihoods recovery effort. This program component was initiated in November of 2008 and reached 5000 beneficiary families in Kalapara and Galachipa. During the implementation period, there were 225 village projects (“schemes”) carried out in 61 villages. Each scheme employed 20 people who were carefully targeted as the most vulnerable. A total payment of 12,500 Tk was made for 100 days of service. The types of schemes were deemed important for broader community welfare, such as local feed roads, pond rehabilitation, platform rising, etc. In such a cash-starved context, the CFW program had an immediate impact on the asset recuperation of the poorest households. The evaluation team met with many of the beneficiaries and documented how the revenues from CFW had been invested. On average about half the funds were used to cover household costs including food, and another half was used for a range of investment purposes. Some purchased nets, rented land for paddy, bought a van or rickshaw, or purchased livestock. There was little doubt that this intervention carried a strong positive impact for the household economy. At the same time, the improvement of community infrastructure, such as raised roads, functioned to reduce future cyclone risk. People pointed to the fact that the roads helped get people to shelter during Cyclone Aila. The evaluation team did question the sustainability of this intervention because little attention had been given to the maintenance of the roads and other community structures.

Asset Transfer: The asset transfer program was managed by SC-Bd staff and was one of the ambitious livelihood recovery components in that it integrated household asset-building into a program of support for local market development. The asset transfer, at one level, sought to

restore assets that had a direct impact on building a sustainable livelihood. A comprehensive survey of Sidr-affected unions and conversations with local communities identified a beneficiary list of 2686 families that were eligible for one of the asset categories. The asset options were also carefully reviewed with an eye toward appropriateness and sustainability. The main assets included cattle, fishing nets and boats, vans and rickshaw, small motor/pump units, and sewing machines. A voucher system was used to facilitate the transfer and a detailed analysis of the market was conducted. Vendors were recruited and oriented to the purpose of the program. The evaluation team documented many cases in which the asset transfer had allowed poor households to “jump-start” their livelihoods and, for some, to diversify previous livelihoods. In addition to the receipt of an asset, beneficiaries also received technical orientation and training, spare parts (vans, rickshaws), and raw materials (sewing machines). The vendor system injected a discernible energy into local markets and succeeded in creating stronger market ties in the more remote communities.

Saplings/Fingerlings: The widespread destruction of homestead trees and the contamination of household ponds provided the rationale for this intervention. In rural Barisal, trees and ponds are important components of the household economy providing both income and critical sources of nutrition. One thousand households were targeted for sapling distribution in Kalapara and Galachipa, and a similar number of households received fingerlings and had their ponds rehabilitated. In the case of saplings, the beneficiaries received around 20 species of tree that included fruit trees, trees for lumber, and trees with medicinal value. In the case of fingerlings, each beneficiary received 40 fingerlings for per decimal of pond area and 2000 Tk for pond renovation activities. Initial feed supplies for the fingerlings were also provided up to 1000 Tk. The participants received training on pond maintenance and fish pond cultivation. This intervention was implemented through HKI and its local partner NGOs. The evaluation team saw different benefit streams from these two activities. The livelihood impacts of the sapling distribution was long-term and should be seen as more of a risk reduction strategy; while the fingerling distribution was capable of registering more immediate impacts on the road to livelihood recovery. There was concern, however, about how easily households would be able to maintain the flow of fingerlings in some of the more remote communities.

The Road to Livelihood Recovery

In the dozen or so FGDs that were held with DAP-EP beneficiaries in Kalapara and Galachipa, both men and women were asked to indicate how far the livelihoods recovery process had advanced. Visually a pre-Sidr livelihood status was established, the day-after-Sidr situation, and then the current situation. Each participant was asked to indicate the recovery progress and to explain the decision. In general, depending on contextual factors (such as underlying level of vulnerability), the beneficiaries tended to locate the rate of recovery as somewhere between 50 percent and 80 percent. Most people had been able to restore more or less adequate housing, although many of the ultra-poor still seem to occupy substandard housing. The water and sanitation situation had stabilized for most, and people appeared engaged in their livelihood pursuits in agriculture, fishing, day labor, and so forth.

For the majority of households that reported having recovered about half their pre-Sidr livelihood situation, the explanations fell into two categories. For the poor and vulnerable families, as they explained, the few assets that Sidr had claimed had taken years to accumulate. In normal “peacetime”, most families do not generate much above subsistence, and little surplus or flexibility is available for investment. Families point to the slow, patient process of saving and asset building and recognize that it will take a long time to accumulate the same level of assets they had on the 15th of November in 2007. Furthermore, for many families in Galachipa upazila, especially in the delta chars, Cyclone Aila reset the asset count back to zero. Since Aila occurred during the day and people responded in a timely fashion to the warnings, the mortality was limited; however, the destruction of home and loss of belongings were considerable on the unprotected char islands.

The second reason to explain the moderate rate of recovery is debt, a factor that was not adequately considered in the DAP-EP design and planning. The day after Sidr cut its swath through southern Barisal, households returned to a situation of desperate loss—housing, clothing, food stocks, animals, savings, etc. Most people found themselves forced to access the informal credit markets (*mohajans*) to address immediate needs. Although difficult to interpret, findings from an impact assessment commissioned by HKI,¹ suggest that average household debt levels rose significantly during recovery. On the other hand, the qualitative results from the FGDs are unequivocal in emphasizing that major loans were contracted from mohajan moneylenders and relatives immediately after the event. Beneficiaries regularly cited loan amounts as high as 30,000 Tk, and many stated that part of their CFW income had gone to settle debt. It is well-documented that debt in rural Bangladeshi society is associated with shame and family status, and repayment levels are very high. But repayment often comes at substantial sacrifice to family well-being, even food security, and without doubt the debt burden is a significant brake on the livelihoods recovery process. While there is evidence that the CFW and asset-building interventions did limit *additional* dependence on the mohajan lenders, these interventions did not begin early enough in the recovery process to avoid the high frequency of loan-taking soon after Sidr.

It is common to speak of the response phase, recovery phase, and preparedness/prevention phase (also referred to as resilience-building or disaster risk reduction). While these phases are often analyzed separately for heuristic purposes; in fact, the household decision-making in the wake of a disaster suggests that these phases are not so distinct in time. In other words, households and communities begin livelihood recovery almost immediately after disaster strikes. Affected families do not distinguish between response and recovery objectives, but immediately take steps in pursuit of livelihood recovery. The beneficiaries did not wait until drinking water had been restored and food rations were delivered to look for work, to restore shelter, to move in search of income opportunities, and, unfortunately, to re-capitalize the shreds of the domestic economy with loans.

From the perspective of the team, the supplementary feeding intervention was more a response-focused activity than a livelihood recovery activity. Similarly, the WASH activities did not directly promote livelihood recovery, but contained elements both of response (latrine

¹ Impact Study: “Cyclone Sidr Livelihood Recovery Projects under DAP-EP”, Center for Resource Development Studies, July 2009, Dhaka

construction) and preparedness (by installing enhanced water systems at the community level). The interventions that had the most direct impact on storing a livelihood capacity by enabling households to engage in livelihood activities and explore livelihood options were the CFW, asset transfer, seed replacement, and fingerlings distribution. These interventions went the furthest in re-establishing stable livelihoods, and without them, DAP-EP would not have achieved its important Phase II goals. The saplings, reforestation, and shelter rehabilitation were primarily interventions whose impacts are realized over the longer term, and are more appropriately seen as disaster risk reduction or, more broadly, as development activities.

The project also supported long-term livelihood recovery and transformation in two very important ways. These “collateral impacts” refer to program benefits that make a clear development contribution and demonstrate how “emergency” programs can be designed to meet larger development goals. The first type of benefit that impressed the evaluation team was the use of recovery measures to introduce the adoption of improved technologies. This impact was identified in the seed replacement activity, where farmers have started to integrate a higher-yielding variety of paddy seed (and improved vegetables seeds also) into the livelihood system; in the fingerling and sapling interventions that provided technological orientation and follow-up; and in the asset transfer activity in which beneficiaries received appropriate training in the use and maintenance of the asset (e.g. sewing machines, rickshaws). These benefits are of key interest because, while they target vulnerable households in the process of recovery, in effect they extend out to the community and region at large. This, from the perspective of the evaluation team, is an important and lasting outcome of the program and a significant lesson learned.

The second collateral impact, one built into the design of the DAP-EP, was the integration of the private sector into the recovery process through the voucher system. This insightful innovation reflects a more sophisticated understanding of livelihood recovery as a broad community economic process. It is necessary not only to build household assets but also to reinforce the contextual mechanisms that support livelihoods, such as functioning input and output markets. The voucher system did energize local markets and increase entry opportunities, and a market more responsive and accessible to the poor is a positive development step.

The evaluation team found the DAP-EP to be a very effective program with positive and innovative elements that will guide such efforts in the future. The program impact on the victim families of Sidr was highly significant and succeeded in moving the beneficiary population well onto the livelihood recovery path. In a spirit of improving the livelihood recovery programming in the future, the following recommendations are based on two major conclusions. One is the strong negative impact of increased indebtedness on livelihood recovery and the other, related to the first, is the timing of a livelihood recovery program.

Recommendation 1: Timing: introduce recovery interventions concurrently with relief operations. The evidence from the field visits inspired the conclusion that livelihood recovery must begin hand-in-hand with relief operations. The major drag on the recovery process two years after Sidr is the level of indebtedness incurred by many families immediately after the disaster. The evaluation team feels that the dependence on loan-taking (especially exploitative lending) could be anticipated and interventions could be quickly implemented that would reduce

it. Immediate cash transfers or disaster insurance schemes could be developed to quickly recapitalize families that need immediate assistance beyond food and water. It is possible to anticipate an institutional objection that the saving of lives must precede the saving of livelihoods and that all staff resources are fully committed to relief operations in the beginning. Nonetheless, the team documented the long-term damage that excessive debt burden places on the household and proposes that response and recovery can be addressed in tandem. To accomplish this, the next recommendation is offered.

Recommendation 2: Planning: Develop at the level of the national office a Strategic Livelihoods Recovery Plan. SC-Bd, as other international NGOs, have elaborately detailed emergency relief plans with well-defined roles and functions, resources stockpiled, and step-by-step procedures appropriately sequenced. No such planning exists for a recovery strategy. SC-Bd has significant accumulated experience and expertise in Barisal and in disaster management (worldwide), and it is well-positioned to create a set of recovery activities (such as quick loans or cash transfer) that would be part of an “off-the-shelf” recovery strategy. The Sidr experience has demonstrated the immediate (not a year later) need for seeds, cash, basic asset recovery, and in this context, a Strategic Livelihoods Recovery Plan would be comprised of concrete actions implemented in the wake of a disaster that would mitigate the “non-nature” damage to livelihoods that the evaluation team has documented in case of Sidr. Such a Plan would serve as a roadmap for implementing livelihood recovery in a more timely fashion during the next cyclone. Moreover, the Plan would be disseminated in the vulnerable districts of Barisal during “peacetime” just as disaster management plans are promoted at the community level. In this way, future disaster victims would know ahead of time that such support mechanisms were available.

Recommendation 3: Programming around disaster risk reduction. SC-Bd has the major international NGO presence in Barisal and appears committed to the development of this region. The overriding reality of Barisal is its vulnerability to major climatic events, and all food and nutritional security efforts as well as income support interventions are ultimately tied to impending hazard and this vulnerability. Currently in SC-Bd, disaster risk reduction is treated as an isolated and separable component of broader project initiatives (e.g. MYOPs), when in effect disaster risk reduction could be the integrating programming principle. In the context of climate change, the vulnerability of Barisal communities will only intensify unless development efforts are designed and programmed to reduce this vulnerability and increase the resilience of local communities to adapt to such events. To bring disaster risk reduction center-stage as the focus of future programming in the region seems a logical and well-informed institutional strategy.

Finally, the evaluation team reiterates that the DAP-EP program met its important objectives in an effective and efficient manner, despite management challenges at the start. For the team perspective, this program deserves to be replicated and should form the basis of a livelihoods recovery strategy that enhances the preparedness of SC-Bd and partners and reduces the longer term crippling impacts of the inevitable cyclone around the corner.

1.0 Introduction and Background

During the evening and night of November 15, 2007, Cyclone Sidr ripped across the communities of coastal Bangladesh with surging floods and savage winds affecting 8 million people in 31 districts of the south and southwest. An estimated 3,500 people were killed, millions of homes were destroyed, assets and livestock lost, crops flooded, trees uprooted, and wells and ponds contaminated. Within a matter of hours, the coastal populations were faced with the immediate emergency of no food or clean drinking water; they were shelterless and their livelihoods had been utterly disrupted.

The events of November 15 unveiled rapidly. As community members reported, cyclone warnings were widely disseminated during the time leading up to the disaster, but there was little movement to shelters as people adopted a wait-and-see strategy. The 15th began with rains that increased in intensity in the afternoon; however the cyclone-force winds arrived during the evening. The accompanying tidal surge of saline water breached embankments and widespread flooding occurred under darkness. Affected residents sought to move their families to local points of higher ground, at times a cyclone shelter, a market center, or simply a nearby house with an adequately mounded foundation. The cyclone assailed the region throughout the night, and the winds subsided in the morning. People then began to move back to assess the damage to their households and to locate missing family members.

The relatively brief duration of Sidr belies the magnitude of its damage. In all the focus group discussions, families reported that their immediate response was to save lives, which meant the nighttime fleeing to safer grounds on flooded roads and across flooded fields. Personal and household assets, including livestock, were left behind. As the waters receded the next day, residents returned to find their homes damaged or destroyed by the wind, falling trees, or water; fields were flooded and the aman paddy crop—near harvest—was heavily damaged by the saline intrusion; most food stocks were gone or ruined; household tree stands were swept down; and wells and ponds were polluted with saltwater and unusable.

At the time of Sidr, Save the Children-Bangladesh (SC-Bd) was in the third year of its Jibon-o-Jibika (JoJ) DAP in Barisal, one of national divisions particularly exposed to cyclone activity. The program was implemented in close partnership with Helen Keller International (HKI), NGO Forum for Drinking Water and Sanitation (NGOF) and the Cyclone Preparedness Program (CPP) of the Bangladesh Red Crescent Society. The program strategy of the five-year JoJ DAP included interventions to increase access and the availability of food, to improve child and maternal health and nutrition, and to increase the disaster preparedness of communities. Due to its presence in the region, SC-Bd was the first international NGO to respond in large scale to the impacts of Sidr. It deployed a major response force from the JOJ staff and in coordination with USAID, the UN, and the government agencies, SC-Bd was able to assist 180,000 affected families in its three targeted DAP districts and also in three adjacent districts. During the first weeks of the disaster, SC-Bd distributed critical food supplies, non-food items NFI), and clean water while providing transitional shelter to the homeless victims of the cyclone.

In early January of 2008, SC-Bd sent Food for Peace office a concept note that laid out a strategy for the Sidr response. This note proposed the DAP Emergency Program (EP) as an amendment to the original JoJ DAP, and it requested \$6 million in resources to “implement relief and early recovery interventions in the most severely cyclone affected areas of Barisal Division.” FFP approved this amendment in January through Transfer Authorization #13. According to the amendment proposal, the DAP EP had the program goal “to provide immediate lifesaving relief and protection to support the survival, and development of children and families who have been injured, displaced, or otherwise made vulnerable as a result of the super cyclone Sidr, and to help families recover their livelihoods, rebuild destroyed and damaged infrastructure, and assist communities to maintain and strengthen the social systems that protect and nurture their children.” Two strategic objectives were articulated as the core focus of the EP. As stated in the proposal, these objectives are:

Strategic Objective 1: Provide immediate lifesaving relief and protection to support the survival, and development of children and families who have been injured, displaced, or otherwise made vulnerable as a result of the super cyclone Sidr.

Strategic Objective 2: Support early recovery of livelihoods in severely affected households and minimize harmful coping strategies and enhance resiliency to future risks.

The response strategy was designed in two phases—Phase I addressed the immediate and urgent imperative of saving lives, while Phase II focused on early livelihood recovery efforts. Phase II was planned for nine months. The start-up of early recovery activities was delayed due to the magnitude of the emergency, and a subsequent amendment extended the timeframe of the DAP EP (Phase II) to August 2009.

While this evaluation addresses the effectiveness of the DAP EP efforts with regards to both Strategic Objectives, it focuses primarily on the Phase II of the DAP EP, the early recovery interventions. Early recovery was carried out in Patuakhali District, one of the most directly affected by Sidr, in six unions each of two upazilas, Kalapara and Galachipa. These twelve unions were targeted because of their high levels of vulnerability and exposure to the cyclone. In many cases, the unions were either located more proximate to the direct impact of the storm surge or were on island chars. Also, many extensive damage assessments that were carried out by SC-Bd teams.

2.0 Objectives of the Evaluation

As outlined in the Terms of Reference (TOR), the objectives of the evaluation are:

1. To verify the program outputs of the DAP EP program and how those were achieved.
2. To determine effectiveness of food rations and their timeliness.
3. To determine if the interventions and strategies employed (e.g. voucher coupons as the mechanism for asset transfer) were appropriate, efficient and cost-effective ways to provide assistance.

4. To analyze links between these relief/recovery interventions and other programming of Save the Children and its partners.
5. To compile challenges, lessons learned, best practices and recommendations regarding design and implementation of emergency/recovery programs of this nature.

In effect, the life-saving impact of Phase I activities is already established. The loss of life due to Sidr occurred mostly in the immediate violence of the wind and flooding. Post-cyclone mortality, usually associated with water-borne disease due to polluted water sources and hygiene facilities, was insignificant in great part due to the timely and effective response with food, NFIs, and clean water. The effectiveness of the early recovery strategic objective remains less clear and is a particular focus of this evaluation.

The methodology applied in this evaluation is based on a systematic review of project documents and related secondary sources and a two-week fieldwork visit by a two-consultant team. During the fieldwork, the consultants interviewed DAP-EP staff at headquarters, regional offices, district offices, and field levels. Site visits were conducted in the Barisal area, and a series of 12 focus-group discussions was conducted with stakeholder beneficiaries (in 10 villages), NGO partners, and GOB representatives. The preliminary analytical results derived from the fieldwork and document review were presented to USAID FFP staff, NGO partners, and SC-Bd staff at a Dhaka workshop, and the resulting comments have been incorporated into this report.

3.0 Profiles of Local Livelihoods in Southern Barisal

The DAP Emergency Program should be considered in the context of existing livelihoods pre-Sidr, since objective of any recovery effort is to return to a level of well-being prior to the event. The livelihoods of the vulnerable populations of Kalapara and Galachipa upazilas are highly uncertain even in “quiet” times, and chronic food insecurity and malnutrition are endemic throughout much of Barisal division. The primary livelihood occupations are found in agriculture, mainly rice and vegetable production, fishing, labor-selling and micro-entrepreneurial activity.

In the southern districts of Barisal, the river systems have a high salinity content, so large embankments are necessary to keep river water out of paddy fields. Due to generally saline soils, aman paddy crop is possible only during the monsoon rains when soil salts are flushed with rain water. Aman is planted in the monsoon season, then harvested in November and December. While the paddy crop is still in the field, it is common to sow different legume crops amidst the rice plants, and these lentil-like pulses (*dhal*) take advantage of the remaining moisture in the soil. In some places, farmers grow winter (dry season) vegetables, such as cucurbits, where soils permit. There is very limited irrigation and consequently little double-cropping other than the rice/pulses sequence. It is important to note that the major constraints to agriculture are not only environmental and technological, but also socio-economic. Many farmers are landless and obtain land through sharecropping and rental mechanisms. There is limited input use in farming due to low incomes and high costs of fertilizer, thus yields tend to be relatively low.

Cattle-raising is a major component of the agricultural livelihood, and cows are a source of household income and wealth. Cattle are raised on whatever natural vegetation is available during the dry winter months and on rice straw. They are important for their draft power in rice cultivation and are often rented out; cows are also prized for their milk production which can be consumed domestically or sold in local markets. And the animals are often regarded as a savings asset that can be sold in times of economic stress (e.g. for illness or dowry payments). Goats and sheep are also found in the region, and most households also raise chickens.

The second major livelihood is fishing. The rivers (and bay) in Barisal are part of the migration pattern of the highly valued *hilsa* fish (*Tenualosa ilisha*), and local residents either work as laborers on larger motorized fishing vessels in the bay or set nets from smaller boats in the rivers. The basic factors of production for the independent fisherman are the fishing net (a special gill net is needed for hilsa) and the small boat. At certain times of the year, many families engage in the collection of fry to supply shrimp and prawn cultivators. The fishing livelihoods are seasonal and uncertain, and many of the fisher families also engage in agriculture or livestock production.

The most vulnerable families engage in labor-selling either in agriculture, fish-related activities, or unskilled non-agricultural tasks. Unskilled labor tends to vary by season and task, and many of the families dependent on labor-selling are forced to live on public lands or in areas highly exposed to climate events (e.g. on the edge of the embankments). A somewhat more stable livelihood is provided by small-scale entrepreneurial activity, such as sewing, rickshaw-pulling, and petty commerce. These activities provide a more regular income, albeit modest, but they also require an investment in productive assets such as sewing machines, vans, rickshaws, merchandise, raw materials, etc.

Most households, including the more vulnerable ones, seek to diversify their livelihoods. If a family owns its own homestead land, it can plant economically valuable trees (e.g. mango), maintain small fish ponds, raise a cow, make dung fuel, and engage in handicraft production. These are common risk management strategies for households that face high uncertainty and have little coping capacity in the case of a disaster. In this regard, a livelihoods recovery program is challenged to restore or even enhance these coping strategies and reduce the risk associated with extreme hazards.

4.0 The DAP Emergency Program

Consistent with SO1, the Phase I emergency response consisted of a set of life-protecting interventions.² In the immediate aftermath of Sidr, SC-Bd immediately distributed WFP-supplied fortified biscuits to 216,000 affected families, followed by a systematic distribution of complete food rations³ to 176,987 families in 3 districts over a period of nearly one year. These food rations were distributed at 185 food distribution points, and sixty percent of the food was delivered by boat. Tens of thousands of households received a variety of non-food items, including sanitary kits, cooking utensils, house repair material, jerry cans, etc. To address the urgent need for water and to reduce the risk of disease, SC-Bd began to distribute drinking water processed from three water treatment units, again using river transport to reach the more remote

² See Rebuilding Lives after Cyclone Sidr: Six Months on. Save the Children, Dhaka, June 15, 2008

³ The ration consisted of 30 kgs of rice, 6 kgs of pulses, 1 kg of salt, 0.45 kg of HEB, and 4 liters of vegetable oil.

areas. In addition, the program began to repair existing tubewells and to install new ones where necessary, to provide for community latrines, repair school facilities, and repair polluted ponds.

Table 1. Unions Covered under Phase II of DAP-EP

Name of Upazila	Name of Union
Galachipa	Char Biswash
	Char Mantaj
	Chalitabunia
	Rangabali
	Baro Baishdia
	Golkhali
Kalapara	Amkhola
	Nilgang
	Dhulashar
	Lalua
	Latachapli
	Khaprabhanga



The transition into livelihood recovery activities under Phase II of the DAP-EP occurred after April of 2008 when a series of livelihood interventions were introduced. The early recovery program targeted 12 of the most affected unions in the two upazilas of Kalapara and Galachipa as indicated in Table 1 and in the red part of the accompanying map. Based on systematic assessments,⁴ these unions were considered to have sustained great levels of damage and were outside the operational working area of the JoJ.

4.1 The Intervention Package of DAP Emergency Program

The DAP-EP (Phase II) consisted of eight related components that were either directly implemented by SC-Bd livelihoods team or were implemented by the partner NGO staff. These included a supplemental feeding program for families with pregnant or lactating women or with children who had been identified as underweight in the JoJ monitoring activity; a WASH (water and sanitation) intervention that restored deep tubewells and latrines; a reforestation activity for households that had lost homestead tree plantings; a shelter rehabilitation activity for the repair of cyclone shelters cum schools and for animal points of refuge (called *killas*); a seed

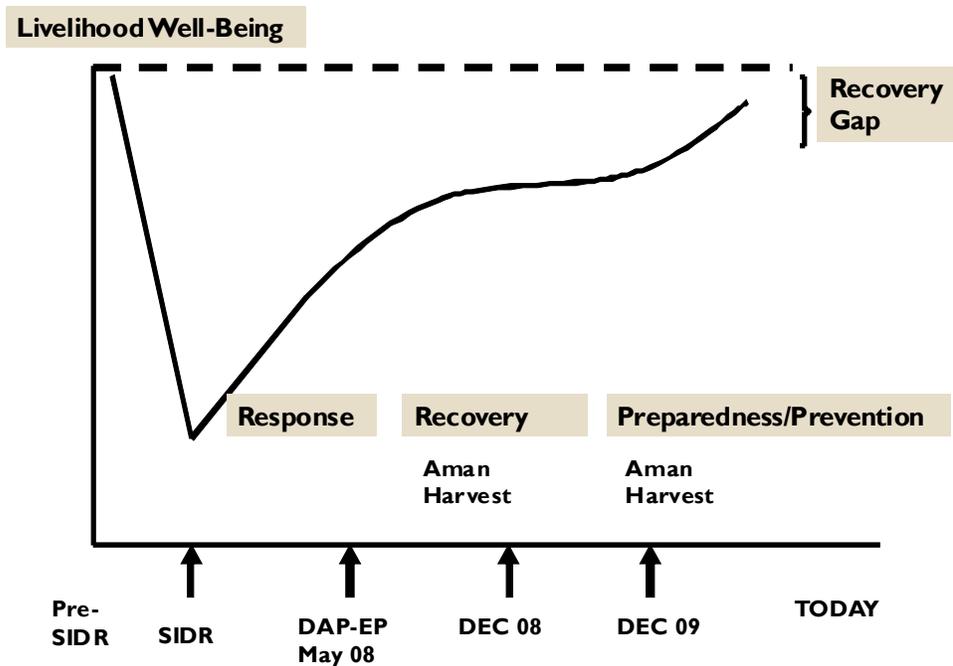
⁴ For example, Livelihoods Recovery Assessment in Barisal Division, Bangladesh, TANGO International for Save the Children Bangladesh, April 2008

replacement intervention (for rice and winter vegetables); an asset transfer intervention to compensate the loss of critical productive assets; a cash-for-work scheme; and a saplings/fingerlings distribution activity. Each of these components is discussed below. First, however, it is important to parameters of evaluation used here.

4.2 A Framework for Intervention Evaluation

The evaluation of the DAP-EP is based on several criteria that ultimately affected households on the path to recovery. Figure 1 presents the timeline of recovery within the commonly accepted framework of the disaster cycle (i.e. response, recovery, preparedness/prevention). The immediate impact of the cyclone was a sharp drop in livelihood well-being associated with the loss of lives and assets. The DAP-EP immediately engaged response interventions (Phase I) designed to save lives. Beginning in May 2008, the effort shifted to a recovery phase. With the aman harvest in December 2008, livelihoods moved closer to pre-Sidr livelihood conditions; and with the harvest of December 2009, the intervention set has shifted to greater preparedness and prevention. The empirical question driving this evaluation is the current recovery gap, that is, the level to which households have been able to reconstitute their assets and “normalize” their livelihoods.

Figure 1. Timeline of recovery: a conceptual framework



The intervention set that comprised the DAP-EP was distributed along different points of this framework. Some of the interventions sought a more short-term recovery impact, while others

were designed to build the preparedness capacity of households for future cyclones (i.e. reduce risk). In some cases, the intervention displayed integrated impacts, affecting more than one part of the cycle. This evaluation of the DAP-EP interventions applies a set of criteria that refer back to this conceptual framework based on the following criteria:

- **Rationale:** each intervention initiated after April/May had a specific justification with regard to a recovery process. Discussions with SC-Bd staff suggest that the dominant rationale was a problem-solving one—to repair the livelihood damage caused by Sidr or to prevent similar damage in future events. The evaluation seeks to assess if the intervention rationale was appropriate for the problem it sought to correct.
- **Targeting:** each intervention was also directed at specific households that were identified through a specific process. The evaluation focuses on whether the targeting criteria in the program design were met.
- **Timing and implementation:** the timing and implementation of the interventions addresses several areas of effectiveness. One is the timing of the intervention with regard to need; the second is the fit of the intervention within local livelihood calendars, such as seasonal conditions; and the third is the timing of the intervention impacts within the overall sequence of recovery and prevention.
- **Impacts:** the evaluation focuses on the direct and indirect, intended and unintended impacts of the intervention.
- **Sustainability:** it is important to identify how a given intervention fits within an overall livelihood and to assess if this intervention was a short-term protection or if it built a basis for livelihood enhancement, even livelihood shift.

In the following sections, each intervention will be discussed in the light of these criteria and the conceptual framework presented in Figure 1.

4.3 *Supplementary Feeding*

Rationale: In many ways, the supplementary feeding intervention represents a transition from response to recovery, or from Phase I to Phase II activities in the recovery process. During Sidr, the agricultural, livestock and fisheries sectors were heavily affected, thus reducing both agricultural production and incomes. While reports vary greatly, a large portion of the standing rice crops was damaged before harvesting, large numbers of livestock were lost during the storm, and fishermen have been heavily affected by the loss of boats and nets and shrimp farms. The aman rice crop was nearing maturity in the fields at the time of the cyclone, and losses were estimated at 65% or more. Moreover, the floods deposited high concentrations of salinity unto already saline soils. Most food stores were destroyed by flooding, both at the household-level and local market-level.

Affected families had received food from either the expanded government safety net programs or WFP emergency food up, but in September 2008 due to the global food crisis, WFP reduced its beneficiary rolls. SC-Bd was already providing supplementary feeding through JoJ, and it used the DAP-EP food (2130 metric tons under the DAP amendment) to fill the gap left by WFP and extend supplementary feeding to 39,500 families (of which 785 families were not JoJ

beneficiaries) over a period of five months. The ration size (per family/month) was comprised of 10 kgs; 1 kg of yellow split peas; and 1.25 kgs of fortified vegetable oil, and it provided approximately 800 Kcal daily. This program component was managed by SC-Bd field staff, and five rounds of monthly distribution were conducted.

The rationale of this component was that food insecurity was lingering in some pockets in the region, as manifested in the monthly weight measurements of under-two children by community health volunteers. Moreover, in the more affected areas, saltwater intrusion into the fields threatened to limit the paddy harvest of 2008. Particularly during September and October, there are few labor opportunities available, and many households faced severe food shortages. While the ration sizes were small, it was felt that the additional food would help protect livelihood assets and reduce dependence on the informal credit market.

Targeting: The targeting of households was based on a food gap analysis and nutritional assessment carried out in all unions of Galachipa (17 unions), the pocket unions under Bauphal (4 unions) and Patuakhali Sadar (3 unions), Bhola Sadar (3 unions), Daulatkhan (2 unions), and Borhanuddin (2 unions). Within these unions the intervention targeted pregnant women and children at nutritional risk, from the pockets identified as requiring assistance. Priority was given to children who were less than two standard deviations ($-2SD$) under the weight-for-age average. For those families not being monitored under JoJ, the targeting criteria reflected high levels of household vulnerability: Sidr-affected, landless, female-headed, disabled members, widowed or divorces, elderly, ethnic community members, households outside the embankments, and families not receiving any other form of food assistance. During field visits, the evaluation team concluded that the targeting strategy had in fact been appropriate and effective, and that the more vulnerable areas and households had been included.

Timing and Implementation: Supplementary ration distribution began in September 2008, and the last distribution was completed in January 2009. The timing was meant to fill an urgent food security need at precisely the time when income activities were constrained and households were seeking to re-build assets. The impacts were realized immediately by solving household food security problems.

SC-Bd managed the implementation of this intervention by employing short-term staff. To ensure the appropriate targeting and transparency of distributions, SC-Bd formed union-level distribution committees with the participation of local authorities and community representatives including women whenever possible. Throughout the distribution period, SC-Bd staff worked with local communities and WFP to ensure effective times and locations for the distribution of food items, the monitoring of distributions, proper receipt of food, acceptability of food items, and appropriate distribution of food within households (with a special focus on gender issues). The intervention was carried out under the guidance of the Commodity Deputy Program Manager, and implementation involved the participation of upazila-level food teams and monitoring officers for SC-Bd. Union Parishad (chairmen and members) provided their offices as food distribution points and also participated in the beneficiary selection, card distribution, food storage security, and food distribution.

Impacts: SC-Bd initiated a post-distribution monitoring activity based on monthly visits to the households to document food use and change in nutritional status. This monitoring process identified several direct benefits from the supplementary rations. The daily intake of food both in terms of quantity and frequency increased with access to the rations, and the quality of the diet was improved with the addition of peas and fortified (Vitamin A) vegetable oil. It is possible to conclude that the intervention was effective in promoting nutritional deterioration, particularly wasting. The longer term benefits of the program derived from the ability of households to divert scarce resources toward livelihood improvement rather than the purchase of food. Households also stated that the presence of the ration reduced the need for out-migration of household members in search of an income-earning activity.

In Baro Baishida union (Galachipa), a focus group discussed the benefits of the supplementary ration. Two teachers were present and confirmed that in the months following Sidr children attended primary school more irregularly and were listless and unattentive during school hours. Parents had readjusted household diets because food was scarce. When supplementary rations were introduced, children came to school better fed and more alert.

Sustainability: It was clear to the evaluation team that the supplementary rations had a short-term impact of preventing Sidr-related malnutrition, particularly wasting. To a limited extent the rations also allowed households to invest more in asset recovery, according to the beneficiaries. The overall conclusion reached by the evaluation team is that the sustainability of any food distribution activity is determined by the extent to which permanent wasting is avoided and household funds are channeled into livelihood assets. In this case, there is reasonable evidence to assert that there were sustained impacts from the rations intervention.

4.4 WASH (Water, Sanitation and Hygiene)

Rationale: One of the major consequences of massive flooding is the destruction of local drinking water sources and sanitation infrastructure, which can lead to outbreaks of water-borne disease. In Phase I, the DAP-EP response was concentrated on the provisioning of drinking water to the affected population. In Phase II, the focus was on the local level recovery of water and sanitation systems destroyed in the cyclone. The short-term rationale was thus to restore stable drinking water to communities in need, to replace household and school latrines, and to promote both a community management system and disseminate hygiene messages as a means of reducing the incidence of diarrhea and other water-borne vectors. The WASH intervention was carried out by NGO Forum, a network organization of NGOs and CBOs that specializes in water and sanitation programs.

Targeting: This intervention targeted four unions—two in Kalapara and two in Galachipa. The intervention repaired 200 community deep tube wells (DTWs) and installed 40 new ones where access to drinking water was limited. The targeted



communities had had their water systems compromised by Sidr and were particularly vulnerable (e.g. situated on the outside edge of embankments). To meet the sanitation challenge, 1820 household latrines were constructed along with 20 school latrines. There were also 10 damaged school latrines that were repaired under this activity.

Timing and Implementation: The DTW repair and construction and the latrine building occurred between May and December 2008. Soon after Sidr, many communities were able to recuperate their water supplies by pumping out the saline water from existing tube wells; however, water quality remained poor and in some areas the pump platforms were damaged. The WASH activities, while not urgent, helped to stabilize both drinking water systems and the community sanitation infrastructure. NGO Forum managed this activity in collaboration with local communities and contractors, and all materials were purchased from local markets. The specifications of the DTWs and latrines as well as the quality of the materials were rigorously monitored by NGO Forum and SC-Bd staff. In the case of the community-based DTWs, NGO Forum staff identified and trained local caretakers and provided each with a toolkit for basic maintenance. In addition to the construction and maintenance component of this intervention, NGO Forum took the opportunity to promote sanitation and hygiene awareness within the schools and communities that received DTWs and latrines. NGO-F staff conducted 108 WASH sessions to female groups, and 60 sessions in the beneficiary schools.

Impacts: The impacts from the WASH intervention were both immediate and long-term. The evaluation team visited several communities that had received both DTWs and latrines, and they appeared to be used and well-maintained. In Galachipa upazila, the team encountered vulnerable villages where pre-Sidr water systems had been inadequate and the project actually upgraded community water resources by adding a new DTW. The DTW platform repair and construction of new latrines (e.g. in schools) also upgraded the previous infrastructure and should provide enhanced protection against future events. One of the most telling impact indicators is that communities did not report outbreaks of diarrhea or other water-borne disease after Sidr.

Sustainability: The sustainability of the WASH component lies in the maintenance of the new infrastructure (DTWs and latrines) and in the effectiveness of the sanitation and hygiene messaging (which was not possible to measure). The stabilization of water supplies is a critical feature of disaster risk reduction, and it appears to the team that water and sanitation systems were enhanced...perhaps even beyond a pre-Sidr situation.

4.5 Reforestation

Rationale: The Government of Bangladesh (GoB) reported that more than 4 million trees were destroyed by Sidr. Trees are major components of local livelihoods and have multiple uses. As part of a risk reduction strategy, trees serve to protect the homestead from wind damage and erosion; they also provide building materials, income, important foods for the household diet, and remedies for illness. There is a strong tree-planting tradition in Bangladesh practiced by both households and development programs. The aftermath of Sidr created a severe shortage of building materials, of which bamboo is a primary source, and the demand for bamboo for rebuilding and repairing houses drove prices high. Although bamboo is not normally grown in these upazilas, the fast growth cycle and the risk reduction benefits made it an attractive plant for

the reforestation component. Thus the rationale of this activity focused on potential income to the household, the availability of building materials, and the homestead protection value of the plant. A total of 10,000 bamboo plants were distributed to 5000 households.

Targeting: Under this component, SC-Bd targeted the distribution of bamboo saplings to six severely affected unions in Galachipa and Kalapara upazilas (Char Biswas, Char Mantaz, Chalitabunia, Nilganj, Latachapli, and Khaprabhanga). SC-Bd staff conducted meetings with Union Parishad chairmen, UDMC members and CPP volunteers in order to establish beneficiary selection criteria, prepare lists, and elaborate distribution procedures. The beneficiaries were identified through door to door visits with the assistance of CPP volunteers.⁵ The criteria of selection included those families affected by Sidr who had space for the plantation but did not currently have bamboo planted. It was also based on beneficiary interest in the activity, and priority was given to female-headed households and to households with disabled members.



Timing and Implementation: This intervention was initiated in May 2008, and was fully implemented by SC-Bd. Since there are no commercial bamboo nurseries in Bangladesh, SC-Bd established a partnership with the Bangladesh Forest Research Institute (BFRI) in Chittagong to provide the sapling production technology and to train local nursery owners, Village Model Farm landowners, and local staff. This core of trained vendors then produced bamboo saplings as per BFRI specifications. This process took a longer time than expected, and the bamboo saplings not ready for distribution until late October 2008. The sapling production was based on a grafting technique with which few people were familiar.

The distribution of the saplings was done at ward level within the unions and involved the active participation of the Union Disaster Management Committee and the CPP volunteers. Saplings were transported to predetermined distribution points (within wards) and technical orientation was provided through leaflets and consultation. These efforts were made to assure that proper technical practices were followed.

Impact: Despite the strong rationale for this intervention, it in fact produced little impact. First of all, the timing of the planting was not appropriate, and the grafting technology was not well-understood. The rate of loss of the bamboo saplings was estimated at around 55 percent. Also the benefits from the bamboo plantings would only accrue after three years, thus the immediate impact on the recovery process was minimal.

Sustainability: A less-than-half survival rate does not meet most standards for sustainable impact. There is, however, a positive aspect to this intervention. At least some of the

⁵ The Cyclone Preparedness Program (CPP) was founded in 1970 and is part of the Bangladesh Red Crescent Society. It organizes local communities to prepare for cyclones and provides systematic warnings of cyclone danger.

households adopted a new, grafting technology and if there is follow-up technical assistance, the intervention may contribute to a wider use of bamboo in a region that has traditionally not cultivated this plant. The long-run technical impact of this intervention is yet to be assessed.

4.6 Shelter Rehabilitation

Rationale: Sidr demonstrated the critical role of accessible shelters in a fast on-set disaster. The cyclone also emphasized how inadequate the number and quality of existing shelters were relative to the size and distribution of the population. The large loss of animals during Sidr also indicated the need for animal shelters to protect this key livelihood asset. After Sidr, SC-Bd conducted an assessment of 369 shelters, and based on this information, the DAP-EP engaged in the rehabilitation of 15 multi-use schools cum cyclone shelters. During “peacetime”, these structures function as school, but during a cyclone, they provide shelter to the surrounding population. In addition, one animal shelter (*killa*) was recuperated and improved in Kalapara upazila.



Rehabilitated school/cyclone shelter in Char Bangla

Targeting: It was not possible to meet the total demand for shelter—either for people or for animals. The targeting decisions were thus based on the shelter assessment that identified the most vulnerable unions, a cooperating school management committee, and environmental feasibility to carry out the works. The one *killa* was rehabilitated in Latachapli union (Kalapara).

Timing and Implementation: The shelter component was initiated in September 2008 and completed in September 2009. This activity was managed by SC-Bd staff, using local materials and labor. The time of repair work ranged from around one month to three months, and the capacity of each structure varied from 180 to 600 people. The *killa* project began in April of 2009 and was finished in August. At each site, SC-Bd organized local maintenance committees, which in the case of the schools, was the school management committee (SMC). Appropriate response orientation was provided to the committee members, including such details as assuring that keys were available to open the structure during off-hours. The *killa* was also managed by a committee comprised of the UP member, the landowner who donated the land, and other cattle-owning households.

Impacts: The impact of shelters is of course measured by the results of the next event. At the end of May 2009, Cyclone Aila tore through Barisal during the day. The residents of the affected unions, very much sensitized by the experience of Sidr (which arrived at night), quickly sought refuge in the shelters, even the ones under repair. The response system worked effectively and few lives were lost. Committee members report that over 300 cattle, sheep and goats were protected in the *killa* during Aila, as well as the people from surrounding households

who gathered on the killa banks. The evaluation team visited the killa and several other school/shelters. They were consistently in good shape and apparently well-maintained. It was clear that the shelters provided an important mechanism for disaster risk reduction and were valued as such by local residents.

Sustainability: The measure of sustainability is the use and maintenance of the structures. In the case of the killa, the local committee has engaged in income-earning activities such as coconut production and fish cultivation in ponds, to cover the costs of maintenance. The committee also has a plan to promote a picnic area for local visitors and residents. With the school structures, the headmaster and SMC seemed committed to maintaining the quality of the building.

4.7 Seed Replacement

Rationale: Not only did Sidr flood paddy fields almost ready for harvest, but for many households, seed stocks were also destroyed. The decimation of the 2007 harvest not only brought food insecurity but the possibility that there would be a shortage of seeds for the 2008 agricultural campaign. In addition, the winter season seed stocks of pulses and vegetables had also been destroyed. In order to avert a seed crisis and price speculation, the DAP-EP initiated a seed replacement program that would provide seeds for the critical aman season of 2008 as well as seeds for the following winter cycle. This was designed as an urgent problem-solving strategy to advance livelihood recovery.

Targeting: This intervention targeted 10,000 families who had lost their seed stocks during Sidr. Based on the SC-Bd livelihoods recovery assessment, the beneficiary criteria were defined to those households dependent on agriculture and not owning more than one acre of farmland who had not received seed support from any other source. Sharecroppers were also included and priority was given to the most vulnerable households (female-headed, minority group, disabled member, families who lost an income earner to Sidr). After house-to-house visits, the final beneficiary registration was prepared in 14 severely-affected unions.

Timing and Implementation: This intervention component was implemented by Helen Keller International (HKI), a major partner of SC-Bd in Barisal. For its part, HKI collaborated with two local NGO partners, Speed Trust and SAP-BD. In June 2008 before the start of the aman planting season, 5000 households received paddy seeds or seedlings of the improved rice variety (BR 11) obtained from the Bangladesh Agricultural Development Corporation (BADC), a seed multiplication agency of the Ministry of Agriculture. These seeds were directly distributed through the local partner NGOs, and technical orientations were provided by NGO staff and agricultural extension staff. The HKI technical staff produced a technical bulletin that was distributed to all 5000 beneficiaries. The amount of rice seed to each household was 3 kilos, less than a third that a farmer would plant on average. The rest of the seed for the 2008 planting was purchased from local vendors. A second round of seed distribution was started in September of 2008 and provided pulse seed (1750 farmers), commercial vegetables (2050 farmers), and homestead garden seeds (7000 households). With the seed replacement program, a voucher system was introduced that allowed households to use a voucher (with cash value) to obtain vegetable and pulse seeds from local vendors. The voucher system could only work in those

unions where vendors were established and willing to participate (4 unions), and the vouchers were not used for the rice seed because of the timing. For vegetable and pulses, however, 3000 farmers received and then redeemed vouchers to obtain their seeds.

Impacts: The evaluation team visited a beneficiary community in Nilgonj union. The fields of this village remained flooded for three days, and seed stock and animals were lost. Farmers received the BR-11 variety aman seed. According to the focus group, the harvest in 2008 was around a third higher than pre-Sidr levels. Many farmers retained the BR-11 crop as seed for replanting in 2009, and yields again increased significantly. Productivity rates for pulses were also said to have increased. The evaluation team concluded that three major impacts were associated with the seed replacement intervention. First, it is clear that with the shortage of rice, pulses, and vegetable seeds that distribution program contributed significantly to livelihood recovery and to reduced food insecurity. Second, the introduction of the improved seed variety resulted in an increase in productivity within the system; that is, this livelihoods recovery strategy provided the opportunity for a transformation of the pre-Sidr livelihood. Third, the use of the voucher system improved linkages between farmers and seed vendors and convinced vendors of the significant demand for improved varieties. It is expected that the farmers will now see a more responsive supply market for more highly valued seeds.

Sustainability: The sustainability of this intervention lies in the technical change that it has introduced to the local farming system. Based on interviews with local seed vendors in Nilgonj, it appears the seed distribution activity has enhanced market linkages between farmers and input supplies.

4.8 Cash for Work (CFW)

Rationale: In terms of livelihoods recovery, cash-for-work (CFW) is a highly flexible and effective intervention in times of crisis. It can target precisely, is implemented relatively rapidly, and provides urgently needed cash to protect and rebuild household assets. The devastation of Sidr left the more vulnerable people not only without food and productive assets, but also without money. Once the life-saving response was implemented, the Phase II livelihoods recovery sought to put money rapidly in the hands of the cash-poor and asset-less and to mobilize their one remaining asset—labor—reduce future disaster risk and enhance the resilience of the communities. The major rationale behind CFW was that it addressed the needs of a vulnerable group dependent upon day labor livelihoods disrupted by Sidr. At the same time, the intervention provided the cash resource for multiple levels of investment. Poor households tended to invest the cash in specific livelihoods assets or even to shift livelihoods, and at the same time CFW was a community investment in public goods. Thus, CFW, implemented through the HKI partnership, was a central piece of the livelihoods recovery effort.

Targeting: The CFW targeted the extreme poor, landless, and highly vulnerable peoples in 5 unions of Kalapara and 7 unions of Galachipa. In Kalapara, 2000 households were reached, and in Galachipa, 3000 households benefited from the CFW program. In all 51 villages were involved, and 225 projects (“schemes”) were carried out in teams of 20 beneficiaries each. There were house-to-house visits in the villages to identify the most vulnerable individuals for

participation on the teams. In the end, approximately 60% of the beneficiaries were women. The evaluation team visited several CFW sites, and it was clear that the majority of the beneficiaries participating in the schemes indeed were drawn from the most vulnerable households. The CFW beneficiaries were not eligible for the other program component interventions (e.g. asset transfer).

Timing and Implementation: This intervention occurred between November 2008 and April 2009, beginning a year after Sidr had struck. HKI was the partner NGO that implemented this program, working with Speed Trust as a local partner in Kalapara and SAP-BD in Galachipa. The 225 schemes were selected after discussions with local leaders and community members, and almost all involved earthworks, such as road-building and repair, communal playground and school platform protection, homestead platform protection, and re-excavated ponds. The schemes also had to meet certain requirements such as value to the community, availability of soil to carry out the project, and technical feasibility. During the life of the project, over 72 km of roads were constructed or repaired, 36 playgrounds were raised, 20 school ground platforms were raised, 39 homestead platforms were raised, 8 ponds were excavated, and one killa was raised. A village “scheme implementation committee” (SIC) was constituted with the participation of local political and religious leaders as well as representatives of the beneficiary group, and the SIC generally oversaw the implementation of the scheme activity. The 20 beneficiaries of each scheme worked 100 days and received 125 Tk per day or 500 Tk per week. The progress on the work was regularly monitored by HKI technical staff and the partner NGO field staff.

Impact: The evaluation team visited several of the CFW schemes and conducted FGDs with beneficiaries, NGO staff, and community representatives. The livelihood impact of the CFW activity for the individual beneficiaries was immediately apparent. Generally, men and women alike allocated about one half of the CFW income to food and other domestic expenses, including health care. This indicates a clear food security benefit. The other half of the income was invested in livelihood assets of one form or another. For example, in Chalitabunia union, one female beneficiary purchased a she-goat and kid, and now she has five goats. Another woman obtained six decimals of homestead land and poultry. Two women reported that these used part of the income to lend money to neighbors for interest. In the same FGD, one man leased 75 decimals of land for aman paddy; another invested in a cow; another man, a fisherman, replaced his nets and returned to fishing; and one farmer used the money to change his livelihood to fishing.

In Nilgonj union, one woman purchased a van for her son and now lives off the income he generates. Another beneficiary purchased 5000 Tk in gold. There were also examples of particularly entrepreneurial beneficiaries that were able to transform their livelihoods. One day laborer acquired a rickshaw with the CFW benefit and now has a more stable income. Another bought two vans, then later sold them for a boat and now collects and sells firewood in the local market. It is important to acknowledge that not all CFW participants invested in productive assets. Some used the income to finance a funeral; another for the dowry to marry off a daughter. Several respondents also reported that they had used the CFW income to reduce their debt burdens.

In most cases, the schemes themselves generated a positive impact on the community. In Nilgonj union, one of the schemes constructed a stretch of road that connected a settlement nucleus with the main market road. In Galachipa, another scheme connected two sides of a char island, providing access to boat launching sites. The value of these earthworks lay not only in improved communication and enhanced rickshaw activity, but also provided a more convenient and reliable path to safety in the event of another cyclone. In Nilgonj, the risk reduction value of the road was in fact demonstrated during Cyclone Aila, when the road facilitated the rapid evacuation of the families to points of safety. In addition, some of the CFW roads function as water harvesting structures allowing better management of rainwater for agriculture.

Sustainability: While the cash value of CFW employment (Tk 12,500) was a one-time benefit, it did allow households to make longer term investments. Those who invested in livestock, land, fishing gear, rickshaws, etc. have experienced concrete improvements in livelihood well-being. The sustainable impacts of the CFW intervention at the individual level are illustrated by the case study of Nazma presented below.

Nazma: Livelihood Enhancement through CFW

Nazma (28) lives in Khajura village of Latachapli union under Kalapara upazila. With barely any source of livelihood, a small home of two rooms in Khajura Abason is the only family asset of her family. Her husband Hanif Howlader (45) is a fishing labor and what he earned was not enough to provide their three daughters Tania (9), Sonia (6) and Purnima (2). In the midst of their misery, Sidr emerged as to insert the last pin into the coffin. Nazma remembers, "We did not heed the warnings because they had been announced several times before and nothing happened. But this time, when the embankment broke and water rapidly entered into the village, we were trying to go safe place with our daughters. We were pushed by water."



Nazma at Cash for Work site



Nazma with her husband and daughters Tania, Sonia and Purnima

In the morning, soon after the disaster over, when they come back they found nothing but the vacant plinth. After Sidr, the family received a relief ration but it was not enough. As Nazma says, "At that time my children used to cry for food, and as parent it was very difficult to bear. But what could we do? We didn't have any income." Nazma desperately sought a better source of income, but there was little work. For few days, she worked in a fish processing plant but the job was not stable. When Nazma heard of the Cash for Work opportunity, she joined a team. Nazma worked 100 days and earned Tk.12500 at the rate of Tk.125 per day. This not only allowed her to provide food for her family in those emergency times but also helped her to make some savings, with which she bought some poultry. Nazma is also skilled in making handicraft

mats, so she bought some 'hogla pata' (locally grown raw material for mat-making). Now Nazma's life standard has increased considerably. They have access to a better diet, wear decent clothes. The days of starvation seems now a nightmare from the past. Nazma is sending her two school-aged daughters to school and dreams of a better future for her children. While her family was once almost a non-entity in the society, now they have gained social respect and a

voice that counts. Nazma says, "Although my husband considered me important earlier, now my importance in the family has increased much further. I make many decisions in the family."

At the community level, many (not all) of the schemes generated widespread benefits that are sustainable. The area of concern identified by the evaluation team involves the maintenance of the CFW schemes. Although the Union Parishad approved all schemes, it did not assume responsibility for its maintenance. In one Galachipa union, the local elite did invest in roadside tree plantings to protect the road from erosion, but this example was the exception. The SICs as village committees, did not survive the end of the project, and they play no role in maintenance. It is not clear to the evaluation team how these value roads and communal platforms will stand the test of time and nature.

4.9 Asset Transfer

Rationale: The asset transfer component of DAP-EP was designed to redress the widespread loss of livelihood assets occasioned by Sidr in such a way that minimized the sense of aid dependency among affected families. Thus, the intervention sought to restore the livelihood viability of those households who had lost productive members or critical productive assets, but to do so by reinforcing the role of private sector. The role of local markets in rural livelihoods has always been prominent, and these markets also experienced the severe effects of Sidr. The asset transfer, by introducing a voucher system, integrated the private sector into the recovery process rather than bypassing local markets through a general asset distribution. It was felt that a more sustained recovery process would be achieved by promoting the local economy and strengthening linkages between affected families and vendors. It should be noted that this strategy is well established within USAID and is a major component of the Office of Foreign Disaster Assistance economic recovery program.

Targeting: The asset transfer intervention sought to reach a large number of beneficiaries and was carefully targeted. As noted above, 12 unions in Kalapara and Galachipa had been identified as the most severely affected, and within these unions 44 villages were identified as the most affected based on a SC-Bd assessment. Within these villages, a selection process was carried out by on a combination of Sidr impacts (loss of life and assets) and on underlying food insecurity and vulnerability, poverty, and landlessness. A household survey was conducted among over 6000 households, and it generated a final beneficiary list of 2,686 households distributed across the 12 unions. As in the CFW component, the evaluation team concluded that this targeting strategy was effective and did achieve the objective of identifying the most vulnerable victim households.

Timing and Implementation: This component was fully managed and implemented by SC-Bd staff, and it required perhaps the greatest amount of administrative preparation and groundwork. The first step was to identify a set of productive assets that would have the greatest impact on livelihood recovery and produce income streams. These decisions were made based on consultations with beneficiary groups. Seven different assets were finally identified as those consistent with current livelihood options: fishing nets, boats, cattle, shallow machines (motor-pumps), rickshaws, vans, and sewing machines.

Once the asset options were defined, it was necessary to identify a network of vendors who could provide these assets, assure their quality, and deliver them to distribution points in often remote areas. A market assessment was carried out by SC-Bd, vendors were registered, and a highly transparent voucher system was instituted. Under this system, beneficiaries were provided some choice within their livelihood system (fishing, agriculture, microenterprise), and vouchers were distributed at the village level. Vouchers were then redeemed within specified dates at pre-determined sites in the presence of the SC-Bd staff. The vouchers were then collected from the vendors and cash payments were made. The process was carefully monitored to assure the smooth transfer of the assets in an accountable manner.

The pattern of distribution was as follows: cattle (1,267), hilsa nets (1006), rickshaw vans (133), sewing machines (123), fishing boats (64), shallow machines (60), and rickshaws (33). In the case of cattle, the asset transfer process enabled an effective partnership with government as well as with private sector vendors. District and upazila livestock officers often participated in the grading and inspection of the animals, and each animal was inspected to assure that technical specifications were met. After delivery the animal was vaccinated. For their part, the private vendors were often small-scale cattle agents who were able to assure that quality animals reached even the remotest areas. For sewing machines, the vendors agreed to provide a comprehensive training course in maintenance and sewing, and the program provided an initial stock of raw materials (e.g. cloth, thread). For the nets, vans, rickshaws, and shallow machines, spare parts, accessories, and technical orientation were provided. A post-distribution monitoring activity was carried out to document the efficiency of the process and the value of the asset to the livelihood.

Impacts: The evaluation team met with several beneficiaries of the asset transfer intervention in both upazilas. As with the CFW intervention, the impacts of the asset distribution were concrete, timely, and significant. The nature of the impact varied across the type of asset. Many of the beneficiaries who opted for vans, rickshaws, and sewing machines actually changed their livelihoods. In the case of sewing machines, many recipients were not tailors, and the asset represented a career change. In the case of nets and boats, the asset transfer represented the replacement of the critical asset lost in Sidr, and in several documented cases, provided day-laborers the “start-up” capital to adopt a fishing livelihood. Fishermen traditionally incur high levels of debt in the acquisition of boats and equipment and are often highly dependent upon fish-buyers and money-lenders (*dadans*). The acquisition of the net/boat from this intervention reduced that dependence and allowed the beneficiaries to participate in the hilsa season. Many stated that, while hilsa nets have to be replaced every two years or so, the income from fishing will allow them to make that investment.

There are multiple advantages derived from cattle, the most popular asset in the program. The intervention allowed a beneficiary to choose among a bull, a local breed milk cow (typically with calf), or two heifers. The principal immediate benefit to cattle recipients was the production of milk (assuming the choice of the pregnant cow). Milk has significant value in rural area where 2-3 liters of milk can represent an important income flow. Cattle are also value to rent out as draft animals during the paddy season. Some women had already obtained a calf and the cow was with its second calf, so cattle are seen also as an investment that increases household assets.

The direct and indirect impacts from this intervention can be seen as “jump-starting” the livelihood recovery process. From the FGDs, it appeared that in the latter part of 2008, nearly a year after Sidr, little progress had been made in rebuilding livelihood assets. It is true that some homes had been rebuilt with support from the UP program and from the Saudi Arabian assistance, but livelihoods themselves were still in shock. Fishermen had not replaced their boats or nets, income-generating activities were limited, and household assets had not been reconstituted. At least for those households targeted under this activity, the asset transfer injected a shot of economic energy in these 44 communities. From the case studies presented below, it is possible to conclude that the asset transfer not only restored assets to damaged livelihoods but also helped create an environment for active entrepreneurial initiative. It is perhaps possible to say that the asset transfer through the voucher system had restored a sense of hope to families and provided a new range of livelihood possibilities.

The post-monitoring interviews offer ample evidence that the asset transfer activity bolstered the local markets and vendors affected by Sidr. Vendors frequently stated that the voucher program had two major advantages in injecting capital into a damaged economy and in creating access to a wider network of clients. Many felt that the business ties not only with customers but with other markets were strengthened with the voucher system and that these ties would continue.

Sustainability: The sustainability of the asset transfer can be analyzed in terms of the particular asset itself and in terms of how the asset was integrated into a larger household and market economy. As stated, it is evident that the asset transfer did contribute significant to the economic recovery process and promoted closer market integration. Selected case studies help illustrate this dynamic.

The first case, a sewing machine asset transfer, is significant in that it shows a livelihood transformation effect, the livelihood diversification effect, and a readjustment in families roles improving the status of the woman.

Razzak: “Sewing” Prosperity

Razzak, about 30 years old, lives in Nizampur village of Khapravanga union in Kalapara upazila. With his wife and three children, he had a stable livelihood in farming and fishing. Sidr changed all that. During that terrible night on the way to find safe shelter, Razzak’s younger son was dropped into the water and was found only after 3 hours. Razzak remembers, “We did not pay attention about the warning of Sidr, as in several previous occasions, the signals were hoisted but nothing happened. But this time, when the embankment broke, water entered into the village with high velocity, we were pushed by water and pressed by uprooted trees.” In the morning, he found all his possessions were totally destroyed. He lost a cow, four goats, his poultry and fishing net. Razzak fell in a great crisis. As everyone was affected, there was no work and no food. He went from village to village looking for work. In September 2008, Save the Children conducted



Razzak and Maksuda showing the pond dug with the earnings from sewing

an assessment and Razzak's family qualified as a household that lost productive asset and facing livelihood insecurity. The family was provided a voucher to obtain a sewing machine from a local vendor. Razzak and his wife took delivery of the sewing machine, fabrics, and other accessories as described on the voucher. Maksuda, his wife, knew little about sewing but received the training provided by the vendor. Now Maksuda now sews garments, mostly ladies and children. She feels proud that the local primary school recommended to the parents that she prepare the school dress for the students. Since Sidr, Razzak has worked as a day laborer making 3000 Tk per month. Maksuda also makes a profit of 3000 Tk from her sewing. With the income generated from the sewing machine, Razzak has dug a small shrimp pond and has raised his homestead platform, decreasing his risk from future storms. He also repaid a loan of 6000 Tk and has planted fruit trees and vegetables. The family now dwells on a land of 12 decimals, in a one room house with tin roof and walls made of bamboo and straw. They have a goat and some poultry. The sewing machine has not only brought financial stability but has improved Maksuda's status in the household. They have joined hands to bring prosperity for their family and can dream: "My dream is to open a tailoring shop in a place where there is a lot of traffic, to sell my products. I just need a bit more training to take this newly acquired trade to the next level. This way I will be able to produce better quality garments, which will allow me to sell in bigger markets such as Mohipur; I desire all the things as I want to see my sons graduated and employed."



Razzak and his family along with the Sewing Machine

In the second case (below), the asset transfer of a fishing net to a former day-laborer provided a marked improvement in livelihood well-being over her pre-Sidr situation, allowing her to expand and diversify her livelihood choices.

Aklima: Her "Safety" Net

Aklima lives with her young son at Char Gangamoti village, very close to the Bay of Bengal in Dhularsar union of Kalapara. Being a member of a poor family, Aklima experienced poverty from her earliest childhood. Her father was a small farmer who maintained a family of eight with great difficulty. He arranged Aklima's marriage without her consent when she was only sixteen thinking that it would lessen his financial burden. The marriage was unfortunate and the husband was idle and abusive. In Aklima's words: "He tortured me for dowry; my in-laws did not provide for me or for my disabled daughter who died for lack of treatment at the age of five." Six years ago, her husband left for another woman, and Aklima had to collect fish fry and sometimes worked for others as day labor. Sidr appeared as a new challenge in her life, and her home and belongings were



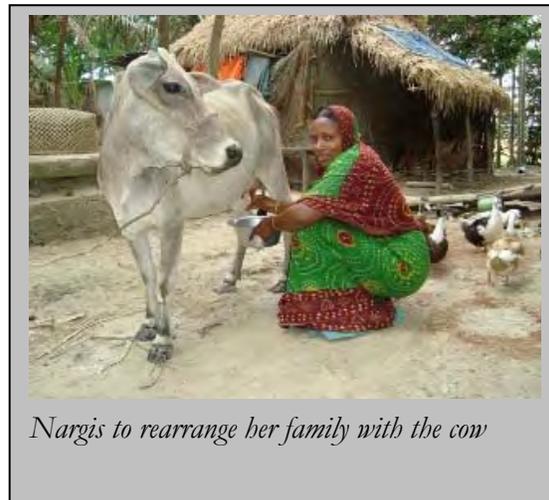
Aklima is refurbishing her net

destroyed. She received some emergency relief food, but soon had to return to fry collecting, taking her soon from school to join her. It was almost one year after Sidr struck when her life changed. According to Aklima: “An ‘apa’ (sister) from Save the Children came to our village and talked to us. She explained the objectives of Sidr recovery program and its beneficiary selection and registration process... We found it very encouraging to participate.” Aklima received a fish net and her brother Billal, who lost his net during Sidr, uses it and shares the profit from his fishing, providing Aklima a regular income. She built a small extension of her house for accommodating the goat and hens. She also built a new kitchen with bamboo and straw. She repaid a loan of 5000 Tk, and her son has returned to school. Her monthly income has increased from one thousand taka to 4500 Tk and now she can spend more on health care, education, and for other household activities. She also leased a small amount of land for vegetables cultivation. She even keeps some savings for future investment in some business and for the better future of her son. This upturn in her life and livelihood has increased her social awareness and participation. “Now I know the good from the bad. Now I know that there is no difference between men and women. We are all human beings,” says a more enlightened and determined Aklima.

In the case of cattle asset distribution, the cow provides an effective opportunity to diversify the gender contribution to household livelihood. The team documented that many cattle were distributed to women, who with this asset are able to contribute significantly to household income.

Nargis: Milk Income

Nargis, age 35, lives with her husband and two sons in the village of Chalitabunia in Galachipa upazila. Her husband used to drive a motorized boat carrying passengers and goods to earn for the family. When Nargis heard the news of the impending cyclone, her husband was just returning home in his boat. She was anxious for her husband and took shelter in the nearest cyclone centre with her two sons. “So many people were in one place in the centre. It felt like the wind would break the building into pieces,” Nargis recalls. “When we came back to the house in the morning, there was nothing. Not even a single piece of cloth left.” Although her husband escaped with his life, his boat was wrecked and its engine lost. So the income of the family was brought to a halt. For few days, after Sidr, the family lived on relief. Later, the husband took a loan of 30,000 Tk from a local mohajan to repair his boat to resume his earnings. In the midst of this devastation, Nargis was inspired when she learned of the recovery program of Save the Children. Her husband suggested that they request a shallow machine (to motorize a boat), but Nargis decided to apply for a milk cow. This idea opened an opportunity for alternative income sources to support her family. She received a milk cow in March 2009 and it gives her one and a half liters of milk daily. In a week, she sells the milk for



Nargis to rearrange her family with the cow

three days at the rate of 25 Tk per liter and earns 450 Tk monthly. During the other four days of the week, she uses the milk for her family consumption. Nargis says proudly, “My cow is helping us two ways by saving money and improving nutrition.” I bought these five ducks with the money I saved by selling milk, ...my elder son suffered so long from malnutrition and could not continue his studies due to illness. I don’t want to see the same condition for my younger son who is studying in class seven, I want to insure his nutrition, I want to educate him.” With the contribution of the cow, the husband is also very happy. He made a cow shed and helps Nargis in taking care of the cow. The cow is now pregnant and few days after it will give birth to a second calf and will give more milk. Nargis and her husband plan to fatten the present calf so they sell it during Eid ul Azha. Now, the cow is helping them to re-build their livelihood.

There were also unintended consequences of the asset transfer program. In the case presented below, a van beneficiary was able to improve community resilience to Cyclone Aila by using his van to rescue isolated neighbors from imminent flooding.

From Van to Rescue Vehicle

When Sidr struck, Khadija, her husband Anwar, and their young son and daughter were in their house in the village of Holdibaria in Nilganj union in Kalapara upazila. The embankment caved in releasing a surge of water. As there was no shelter in the area, Khadija and her husband tried to climb nearby trees with children under arm. With a sudden burst of water washing over them, she was swept away along with her son but they survived by catching a date tree. In the morning, Khadija found all her possessions were destroyed. They lost a cow, goats, and some poultry. The husband had worked as a day labor before Sidr. But after Sidr there was no work and no food. Relief was not adequate, so the husband went from village to village looking for any kind of work. In December 2008, Khadija received a rickshaw-van (a three wheeler local transport) as a beneficiary of the Sidr recovery program of Save the Children. Her husband who pulled the van says, “I was very happy to get van...I couldn’t have bought it myself even in ten years.” With the stable income earned from the van, they bought two goats for 2500 Tk. After few days one gave birth to three kid goats. They also planted papaya trees around their house and started a homestead garden on their 22 decimals of land. Their daughter is studying in class three while the son is in class one. They can provide their children books, tuition fees, improved food and dress as well. Besides, income for his own family, Anwar also used the van to rescue people during Cyclone Aila. He describes, “For three days, it was announced that another Sidr-like tropical storm was about to hit the coastal belt of Bangladesh. On the morning of 25th May, torrential rain started with heavy wind. Water was coming up, and suddenly I heard a noise...the embankment was about to breach and people were running to save their lives, and to take away household contents or domestic animals.” Anwar rescued the women and children of five families and brought them to the safe place using the van. He adds with tears, “I was very happy to help the affected people; I knew how



Now there are five, they bought two with money they earned using the rickshaw-van



Anwar is carrying passenger by his van

hostile the situation was. I'm very much grateful to Save the Children, as I could save lives and livelihoods of many people with the help of the van."

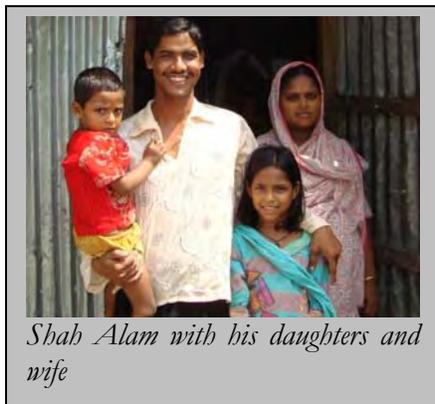
There are case studies of vendors who were able to create a more sustainable livelihood due to the market support provided by the voucher system. Many vendors were already established in the market prior to Sidr, but in some cases, the voucher system provided an opportunity for market entry.

Shah Alam: Getting Down to Business

Shah Alam lives in Kuakata in Latachaplī union in Kalapara upazila. He heads a family of six and came to live in Kuakata where his father had come earlier in search of work. He had some agricultural land in Barguna, but the lands were in low-lying areas and flooded with saline water during every high tide. He endured much hardship, so he sold his land and bought few decimals of land in Kuakata. Alam was intent to do something for the sake of a better living, to establish him in the society. Just before Sidr, he started his business as a hawker... "the local agent of an aratdar, who distributes loans to fishermen and collects their fish." After a few days of hawking and after selling a small piece of land, Alam



Shah Alam is taking signature of a beneficiary to deliver net



Shah Alam with his daughters and wife

started a small net where he sold all kinds of accessories required to catch hilsa fish. But Sidr washed away his entire venture. "My shop was on the embankment of the Bay of Bengal, and I could not find even a scrap of tin. I lost my shop and stocks worth one lakh Taka." He received no help from anyone. Then he heard that Save the Children was looking for local vendors to supply hilsa nets. "Accordingly, I went to the office and contacted a staff member. He gave me a schedule of a meeting of all vendors. In the meeting we were given an orientation on the voucher program." Although the voucher system was very new to him, it was also interesting. The first time he got an order of ten set of fishing nets as a sub-vendor from Khukumoni Enterprise, but then he got the order for the direct supply of 35 nets. He said that the business with Save the Children was not only help him generate needed income, but also revitalizes his business and restored his mental energy. "Participating in the program, I got back my business and I got very good advertisement... as a result, I now have more clients." He said that the business also motivated him to prepare a better future for his daughters. He hopefully says, "I want my daughters to have a good life. My parents were so poor that I could only stay in school until class five. I want something better for Dulia and Suraya. I want them to have an education so they can find good work."

These case studies effectively demonstrate the sustained impacts of the asset transfer program. It is not possible to estimate how many of the beneficiary households experienced this kind of jump-start into the process of livelihood recovery, but it is clear that assets in the hands of

enterprising individuals could help build livelihood resilience through diversification and investment mechanisms. The team did question how poor women, with little prior experience in cattle-raising, could maintain their cattle assets; however the SC-Bd reassured that cattle-raising is a well-rooted activity in these rural areas and feed for the cattle is available even to the poor. In general, the team concluded that these assets were successful precisely because they fit into existing livelihood options, and where people transformed their livelihoods (e.g. into tailoring), the appropriate training was provided.

4.10 Fingerlings and Saplings

Rationale: During the devastating Sidr, many household trees were lost or damaged. Trees are an important component of local livelihoods for they provide nutritious food (e.g. fruits, nuts), wood for household use and sale, herbal remedies (e.g. neem), and, of course, protection against wind and flood. The sapling tree plantation component was introduced to restore this critical resource and to reduce risk by protecting the homestead against future crisis events. Also, most household ponds were contaminated by saline water, making them unusable for fish cultivation, irrigation, and washing. The poorer households did not have the resources to recover these losses, and the DAP-EP designed this intervention to re-establish homestead fish production by restoring the ponds and providing fingerlings. As an integral part of the household livelihood, the pond produces income and protein—both critically needed for overall livelihood recovery. Thus, the major objectives were to increase tree plantation through sapling distribution and to restore small-scale fish production through fingerling distribution.

Targeting: This intervention targeted households that had been affected by Sidr and which were considered poor or ultra-poor. Overall 1000 households benefited from the fingerling distribution and 1000 households from the sapling distribution. Most beneficiaries were women. In the case of the pond fish culture, the criteria for participation was: (1) land less than 150 decimals; (2) livelihoods based on sharecropper/fishing/small trade; (3) owned a fish pond of between 2-10 decimals prior to Sidr; (4) did not participate in CFW or asset transfer; and (5) priority given to female-managed households. In the case of the sapling distribution, the targeting criteria included: (1) poor or ultra-poor family dependent upon sharecropping or day labor; (2) trees lost during Sidr; (3) land available for planting; (4) no other financial source for tree restoration; (5) preference for female-headed households. In both cases, 400 households were selected from Kalapara upazila, and 600 households from Galachipa. As with the other DAP-EP components, the 12 most affected unions in Patuakhali District were targeted.

Timing and Implementation: This intervention was managed by Helen Keller International (HKI) in partnership with its two local partners—SAP-BD in Galachipa and Speed Trust in Kalapara. The pond reform and fingerling release activities occurred between April and June 2009; while the sapling distribution was carried out between May and June 2009. In both cases, it was critical to complete the distributions prior to the beginning of the monsoon season of 2009.

Sapling Distribution

Sapling distribution activity was undertaken for 400 households in Kalapara and 600 households in Galachipa. Quick door-to-door surveys of 600-800 HHs were made by local NGO staff based on the criteria set by HKI. The activities were carried out in 9 villages of two unions in Kalapara, and 11 villages of three unions in Galachipa. Each participant received 18 saplings in Kalapara and 22 saplings in Galachipa. The sapling varieties included fruit trees (e.g. mango, papaya, guava, lemon), medicinal trees (e.g. neem, aurjun), and timber trees (e.g. mahogany), and the trees were all procured through the BADC nursery or the Department of Agricultural Extension. A technical orientation on pit preparation and tree care and maintenance was provided by NGO staff.

Fingerlings Distribution

Fish pond restoration activity was undertaken in 400 households in Kalapara and 600 households in Galachipa. Based on quick door-to-door surveys of 600-800 households, the activity was initiated in 11 villages of two unions in Kalapara and 11 villages in 3 unions of Galachipa. Each beneficiary received 40 fingerlings for per decimal of pond area and 2000 Tk for pond renovation activities. Initial feed supplies for the fingerlings were also provided up to 1000 Tk. The participants received training on pond maintenance and fish pond cultivation. Private sector hatcheries were enlisted to provide the fingerlings—three varieties for Galachipa and four varieties for Kalapara. The total budget per household was 3000 Tk and any further investment was the responsibility of the household itself.

Impacts: These two activities were designed to promote sustainable food security and income-generation as well as livelihood diversification. The income outcome from the ponds was very positive, according to the local NGO staff. The beneficiaries got some basic training on pond fish cultivation, and within 4-6 months they were able to harvest marketable fish. Most of the beneficiaries had cultivated the fresh water shrimp (*golda*), different carp species, and, in some cases, an improved tilapia species. The team calculated that a fish pond of 5 decimals had generated approximately 5000 – 6000 Tk after the first season of fish cultivation, assuming average production conditions. Before the end of the project, while a monitoring and evaluation activity was carried out, and most pond owners intended to invest their own resources in fish cultivation in the following monsoon season. Thus benefits from pond fishery activities included an increased supply of fish to the market, a diversified livelihood, increase of household income, improved family nutrition, and new tree plantations on pond embankments.

On the other hand, the impacts of the tree sapling distribution are mostly realized only after several years (except in the case of citrus and papaya trees where production is achieved earlier). This intervention, in the view of the evaluation team, is less a livelihood recovery activity and more a long-term development intervention. At some point in time, the trees will provide some protection to wind and flooding, but again, the disaster preparation benefit is long-term and not immediately achieved.

Sustainability: The sapling activity sustainable impact on livelihood recovery is difficult to assess. There was no follow-up monitoring to determine the survival rate of the saplings, although the field visits suggested that the saplings were doing well. It is possible that the

technical orientation surrounding the tree plantation will be incorporated into maintenance practices and extended to other planting investments.

The fingerlings activity contributed significantly to the livelihood recovery of the beneficiary households. Sustainability in this case should be evaluated in terms of the continuation of fish pond cultivation. The technology of pond management and fish production are present, but the local NGO staff expressed concern over the technical challenges of obtaining viable fingerlings, particularly for households of remote access and poor roads. Many fingerlings in Galachipa died en route during the project and had to be replaced. It is uncertain if households will be able to solve this problem without NGO support.

5.0 Overall Findings

The overall findings of the evaluation return us to the basic questions presented in the introduction. To what extent have livelihoods recovery and which interventions appeared to be the most effective. Reference will be made to Figure 1, where the dynamic continuum of relief, recovery and preparedness (risk reduction) are set against the time line of post-Sidr milestones.

5.1 Livelihood Recovery

In the dozen or so FGDs that were held with DAP-EP beneficiaries in Kalapara and Galachipa, both men and women were asked to indicate how far the livelihoods recovery process had advanced. Visually a pre-Sidr livelihood status was established, the day-after-Sidr situation, and then the current situation (see photo to right). Each participant was asked to indicate the recovery progress and to explain the decision. In general, depending on contextual factors (such as underlying level of vulnerability), the beneficiaries tended to locate the rate of recovery as somewhere between 50 percent and 80 percent. Most people had been able to restore more or less adequate housing, although many of the ultra-poor still seem to occupy substandard housing. The water and sanitation situation had stabilized for most, and people appeared engaged in their livelihood pursuits in agriculture, fishing, day labor, and so forth.



Explanations for Recovery Progress

For the majority of households that reported having recovered about half their pre-Sidr livelihood situation, the explanations fell into two categories. For the poor and vulnerable families, as they explained, the few assets that Sidr had claimed had taken years to accumulate. In normal “peacetime”, most families do not generate much above subsistence, and little surplus

or flexibility is available for investment. Families point to the slow, patient process of saving and asset building and recognize that it will take a long time to accumulate the same level of assets they had on the 15th of November in 2007. Furthermore, for many families in Galachipa upazila, especially in the delta chars, Cyclone Aila reset the asset count back to zero. Since Aila occurred during the day and people responded in a timely fashion to the warnings, the mortality was limited; however, the destruction of home and loss of belongings were considerable on the unprotected char islands.

The second reason to explain the moderate rate of recovery is debt, a factor that was not adequately considered in the DAP-EP design and planning. The day after Sidr cut its swath through southern Barisal, households returned to a situation of desperate loss—housing, clothing, food stocks, animals, savings, etc. Most people found themselves forced to access the informal credit markets (*mohajans*) to address immediate needs. Although difficult to interpret, findings from an impact assessment commissioned by HKI,⁶ suggest that average household debt levels rose significantly during recovery. On the other hand, the qualitative results from the FGDs are unequivocal in emphasizing that major loans were contracted from mohajan moneylenders and relatives immediately after the event. Beneficiaries regularly cited loan amounts as high as 30,000 Tk, and many stated that part of their CFW income had gone to settle debt. It is well-documented that debt in rural Bangladeshi society is associated with shame and family status, and repayment levels are very high. But repayment often comes at substantial sacrifice to family well-being, even food security, and without doubt the debt burden is a significant brake on the livelihoods recovery process. While there is evidence that the CFW and asset-building interventions did limit *additional* dependence on the mohajan lenders, these interventions did not begin early enough in the recovery process to avoid the high frequency of loan-taking soon after Sidr.

5.2 *Effectiveness of the Interventions*

In any disaster situation, as Figure 1 depicts, it is common to speak of the response phase, recovery phase, and preparedness/prevention phase (also referred to as resilience-building or disaster risk reduction). While these phases are often analyzed separately for heuristic purposes; in fact, the household decision-making in the wake of a disaster suggests that these phases are not so distinct in time. In other words, households and communities begin livelihood recovery almost immediately after disaster strikes. Affected families do not distinguish between response and recovery objectives, but immediately take steps in pursuit of livelihood recovery. The beneficiaries did not wait until drinking water had been restored and food rations were delivered to look for work, to restore shelter, to move in search of income opportunities, and, unfortunately, to re-capitalize the shreds of the domestic economy with loans.

In a similar vein, it is possible to analyze the overlapping impacts of DAP-EP—that is, to focus on where the different impacts fit within Figure 1. From the perspective of the team, the supplementary feeding intervention was more a response-focused activity than a livelihood recovery activity. Similarly, the WASH activities did not directly promote livelihood recovery,

⁶ Impact Study: “Cyclone Sidr Livelihood Recovery Projects under DAP-EP”, Center for Resource Development Studies, July 2009, Dhaka

but contained elements both of response (latrine construction) and preparedness (by installing enhanced water systems at the community level). The interventions that had the most direct impact on storing a livelihood capacity by enabling households to engage in livelihood activities and explore livelihood options were the CFW, asset transfer, seed replacement, and fingerlings distribution. These interventions went the furthest in re-establishing stable livelihoods, and without them, DAP-EP would not have achieved its important Phase II goals.

The saplings, reforestation, and shelter rehabilitation were primarily interventions whose impacts are realized over the longer term, and are more appropriately seen as disaster risk reduction or, more broadly, as development activities.

5.3 Collateral Impacts

The project also supported long-term livelihood recovery and transformation in two very important ways. These “collateral impacts” refer to program benefits that make a clear development contribution and demonstrate how “emergency” programs can be designed to meet larger development goals. The first type of benefit that impressed the evaluation team was the use of recovery measures to introduce the adoption of improved technologies. This impact was identified in the seed replacement activity, where farmers have started to integrate a higher-yielding variety of paddy seed (and improved vegetables seeds also) into the livelihood system; in the fingerling and sapling interventions that provided technological orientation and follow-up; and in the asset transfer activity in which beneficiaries received appropriate training in the use and maintenance of the asset (e.g. sewing machines, rickshaws). These benefits are of key interest because, while they target vulnerable households in the process of recovery, in effect they extend out to the community and region at large. This, from the perspective of the evaluation team, is an important and lasting outcome of the program and a significant lesson learned.

The second collateral impact, one built into the design of the DAP-EP, was the integration of the private sector into the recovery process through the voucher system. This insightful innovation reflects a more sophisticated understanding of livelihood recovery as a broad community economic process. It is necessary not only to build household assets but also to reinforce the contextual mechanisms that support livelihoods, such as functioning input and output markets. The voucher system did energize local markets and increase entry opportunities, and a market more responsive and accessible to the poor is a positive development step.

6.0 Program Implementation Effectiveness

The implementation of DAP-EP faced unique challenges. SC-Bd already was already implementing JoJ, which had a disaster reduction component. The arrival of Sidr shifted the entire national office into emergency response mode, and all available staff were mobilized into the emergency relief and response effort. In January 2008, less than two months after the event, SC-Bd submitted an amendment to USAID outlining the response and recovery strategy and requesting additional funds. The amendment was approved, allowing SC-Bd to move forward.

At first, USAID added the funds to the JoJ budget, but then requested that it be split into a separate grant budget for administrative purposes. A DAP-EP proposal was presented to FFP in February and then revised and submitted in April of 2008. In the meantime, all SC-Bd national staff were completely engaged in the relief operations in Barisal.

FFP quickly approved the DAP-EP proposal and issued funds, but the national office was informed neither by SC-US headquarters nor by USAID, for reasons due perhaps to the concentrated focus on relief. The administrative miscommunication delayed the program start-up, which itself faced a certain timing urgency because of the monsoon cycle and the need to synchronize the interventions with the agriculture and fishing seasons. Due to the late start, the program could not be implemented (nor the resources spent) on the original timeline of one year, thus an extension was requested until August 2009 in order to complete all program activities. A second extension of the program to December 2009 was requested when it became clear that the burn rate had fallen behind particularly in the 202(e) budget line, used to cover staff costs, equipment, and some program delivery costs. FFP granted this extension, and from August to December remaining funds were to replenish emergency NFIs (non-food items) in regional warehouses, support the CPP, and complete the rehabilitation of school/cyclone shelters. Although the program was budgeted for 6 million dollars (8810 MT), the 2007 spike in commodity prices increased the overall value of the program to 7.7 million, as summarized in the table below.

As a result of the urgent demands during the Sidr response and the communication gap with the home office, the original timing of

Funding sources	Commodity Qty.	Initial	Eventual	FFP value
Monetization	6,680	2,384,800	3,077,893	3,730,779
Direct Distribution	2,130	1,233,985	1,637,147	1,637,147
ITSH		95,085	95,085	95,085
202(e)		2,286,130	2,286,130	2,286,130
Total	8,810	6,000,000	7,096,255	7,749,141

the intervention set and the disbursement of funds was disrupted. The issue of timing is discussed further in the recommendations.

6.1 Partnership Effectiveness

Several of the major interventions were implemented through partnership agreements with HKI (and its local partners) and NGO Forum. The rationale for the partnership lies in the reality of the moment. SC-Bd could not have implemented the entire intervention set with its own staff, and it looked to its JoJ partners to help implement the DAP-EP. It would have been unrealistic for SC-Bd to recruit and train the large number of staff needed to implement all program activities, and it was a matter of necessity to utilize trusted partners with experience in the region.

The evaluation team met with staff from all the implementing partners at both management and field level. It appeared from these discussions that the partnership activities were well coordinated, and that SC-Bd took the appropriate steps to assure quality standards and adherence

to procedures. SC-Bd has history of close collaboration with HKI, and in the field there was a clear level of comfort among the staff of the two organizations. The evaluation team did question why the saplings and fingerlings intervention and the reforestation component were not implemented together by the same partner, since the objectives and activities are so similar.

It should be added that SC-Bd coordinated effectively with other development organizations operating in the region. During the emergency phase, numerous agencies and NGOs descended on Barisal to assist in the relief effort, and coordination was a challenge. After the situation stabilized several months later, only a few NGOs remained to work in the recovery activities. SC-Bd collaborated with the other organizations, shared beneficiary lists (e.g. CRS), and made a concerted effort to eliminate overlapping beneficiaries.

6.2 Community Participation

There was in this program a strong emphasis on informed planning, careful and timely assessment, and community participation in the final decisions. With regards to such activities as CFW, asset transfer, saplings and fingerlings, great care was given to public consultation and eliciting the input of prospective beneficiaries. From targeting to scheme management, the role of the beneficiary communities was well established and respected. Despite the urgency of the situation, SC-Bd and its partners systematically insisted that the implementation of program components be discussed with community beneficiaries, local leadership, political representatives, and government officials.

7.0 What Next? Recommendations for Livelihood Recovery

The evaluation team found the DAP-EP to be a very effective program with positive and innovative elements that will guide such efforts in the future. The program impact on the victim families of Sidr was highly significant and succeeded in moving the beneficiary population well onto the livelihood recovery path. In a spirit of improving the livelihood recovery programming in the future, the following recommendations are based on two major conclusions. One is the strong negative impact of increased indebtedness on livelihood recovery and the other, related to the first, is the timing of a livelihood recovery program.

Recommendation 1: Timing: introduce recovery interventions concurrently with relief operations. The evidence from the field visits inspired the conclusion that livelihood recovery must begin hand-in-hand with relief operations. The major drag on the recovery process two years after Sidr is the level of indebtedness incurred by many families immediately after the disaster. The evaluation team feels that the dependence on loan-taking (especially exploitative lending) could be anticipated and interventions could be quickly implemented that would reduce it. Immediate cash transfers or disaster insurance schemes could be developed to quickly recapitalize families that need immediate assistance beyond food and water. It is possible to anticipate an institutional objection that the saving of lives must precede the saving of livelihoods and that all staff resources are fully committed to relief operations in the beginning. Nonetheless, the team documented the long-term damage that excessive debt burden places on

the household and proposes that response and recovery can be addressed in tandem. To accomplish this, the next recommendation is offered.

Recommendation 2: Planning: Develop at the level of the national office a Strategic Livelihoods Recovery Plan. SC-Bd, as other international NGOs, have elaborately detailed emergency relief plans with well-defined roles and functions, resources stockpiled, and step-by-step procedures appropriately sequenced. No such planning exists for a recovery strategy. SC-Bd has significant accumulated experience and expertise in Barisal and in disaster management (worldwide), and it is well-positioned to create a set of recovery activities (such as quick loans or cash transfer) that would be part of an “off-the-shelf” recovery strategy. The Sidr experience has demonstrated the immediate (not a year later) need for seeds, cash, basic asset recovery, and in this context, a Strategic Livelihoods Recovery Plan would be comprised of concrete actions implemented in the wake of a disaster that would mitigate the “non-nature” damage to livelihoods that the evaluation team has documented in case of Sidr. Such a Plan would serve as a roadmap for implementing livelihood recovery in a more timely fashion during the next cyclone. Moreover, the Plan would be disseminated in the vulnerable districts of Barisal during “peacetime” just as disaster management plans are promoted at the community level. In this way, future disaster victims would know ahead of time that such support mechanisms were available.

Recommendation 3: Programming around disaster risk reduction. SC-Bd has the major international NGO presence in Barisal and appears committed to the development of this region. The overriding reality of Barisal is its vulnerability to major climatic events, and all food and nutritional security efforts as well as income support interventions are ultimately tied to impending hazard and this vulnerability. Currently in SC-Bd, disaster risk reduction is treated as an isolated and separable component of broader project initiatives (e.g. MYOPs), when in effect disaster risk reduction could be the integrating programming principle. In the context of climate change, the vulnerability of Barisal communities will only intensify unless development efforts are designed and programmed to reduce this vulnerability and increase the resilience of local communities to adapt to such events. To bring disaster risk reduction center-stage as the focus of future programming in the region seems a logical and well-informed institutional strategy.

Finally, the evaluation team reiterates that the DAP-EP program met its important objectives in an effective and efficient manner, despite management challenges at the start. For the team perspective, this program deserves to be replicated and should form the basis of a livelihoods recovery strategy that enhances the preparedness of SC-Bd and partners and reduces the longer term crippling impacts of the inevitable cyclone around the corner.

Annex 1: List of People Contacted

SL No.	Name	Designation	Place of Posting/ Remarks
1	Md. Reaz Ahmed	Deputy Commissioner, Patukhali	Patukhali
2	Md. Ruhul Amin	PM Emergency , SC	Dhaka
3	Dr. Jahangir Hussain	PM, ELL, SC	Barisal
4	M. A. Sattar	PM J & J	Barisal
5	Amin uddin	PM , Real Project, HKI	Patuakhali
6	Md. Mahabub Hasan	DTL, SC	Patuakhali
7	Md. Hemaytul Islam	DM Finance, SC	Barisal
8	Dr. M. S. Rana	DPM, MCHN, SC	Barisal
9	Shah Suja	DPM , Emergency, SC	Barisal
10	Vargil Halder	DPM, Finance, SC	Patuakhali
11	Foiz Ahmed	DPM, JOJ SC Barisal	Barisal
12	Chandan Sarkaer	DPM , Enterprise, ELL, SC	Patuakhali
13	M. A Samad	DPM, WASH, SC	Barisal
14	S. I. khan	SPO ,ELL, SC	Patuakhali
15	Dr. Ayan Sarker Seal	SPO, MCHN, SC	Barisal
16	Arshad	Officer, M&E, JOJ	Patuakhali
17	Shahidul Islam	PC, HKI	Barisal
18	Md. Najmul Hossain	Team Leader, Patuakhali, HKI	Patukhali
19	Md. Hafizur Rahman	APC, HKI, Barisal	Barisal
20	Mokammel Haque	PO , M&E , ELL, Save the Children	Patuakhali
21	Akhteruzzaman	Program Officer, JOJ	Galachipa
22	Shahinur	PO - Emergency, SC	Kalapara
23	Selimuzzaman	Field Officer, Emergency	Kalapara
24	Sujit Rojareo	Admin Officer, SC	Barisal
25	Masud Rana	Field Officer, ELL, SC	Kalapara
26	Mrs. Asme Ara	Field Officer, ELL, SC	Kalapara
27	H. M Sulaiman kabir	APM, NGO Forum	Barisal
28	Shahin Mia	Field Engineer, NGO Forum	Barisal
29	Aminul Haque	Field officer, Real Project, HKI	Patuakhali
30	Madhobi Hossain	Project Coordinator, Speed Trust	Kalapara , Patuakhali
31	Wazed Mia	Field Engineer, Real project, HKI	Galachipa, Patuakhali
32	Akkass Ali	Land owner of Khajura Killa	Khajura, Kalapara
33	Palashi Rani Hlader	Caretaker, DTW, Chalitabunia	Nilganj, Kalapara
34	Shahab uddin	Field officer, NGO Forum,	Kalapara , Patuakhali
35	Hakim Farazi	CPP Union Team Leader	Nilganj, Kalapara
36	Md. Jahangir Alam	CPP Union Team Leader	Chalitabunia, Galachipa
37	Forkan Gazi	Care taker, DTW, Charlata	Chalitabunia, Galachipa
38	Peyara Begum	Caretaker, DTW, Chalitabunia	Galachipa
39	Mrs. Fatema	Villagers	Khajura, Kalapara
40	Rubel	Villagers	Khajura, Kalapara
41	Ansar Mollah	Villagers	Yusubpur, Kalapara
42	Halima	Villagers	Char lata, Galachipa
43	Mahinur	Villagers	Char lata, Galachipa
44	Rupzan	Villagers	Char lata, Galachipa
45	Shakina	Villagers	Char lata, Galachipa
46	Jesmin	Villagers	Char lata, Galachipa

47	Babul Talukder	Villagers	Char Bangla, Galachipa
48	Harun	Villagers	Char Bangla, Galachipa
49	Iddris	Villagers	Char Bangla, Galachipa