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IMPACT EVALUATION

Evaluation of the Impact of Food and Cash for Assets (FCFA) on Livelihood Resilience in Bangladesh

A Mixed Method Impact Evaluation

Evaluation Report

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Disclaimer

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Fact Sheet: WFP's FCFA Programme in Bangladesh

Evaluation of the Impact of Food for Assets on Livelihood Resilience in Bangladesh

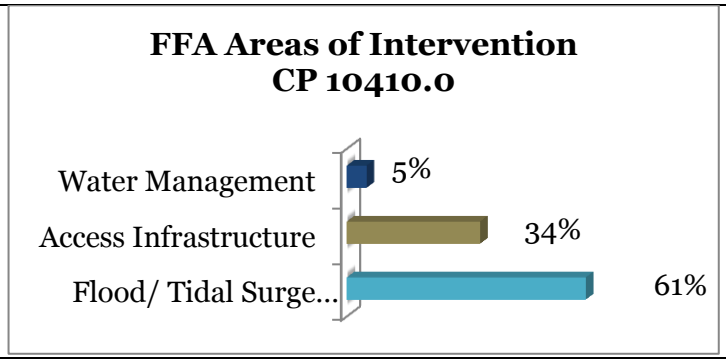
Bangladesh

Timeline Operation

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Project	CP 10059.0						CP 10410.0				
FCFA Activity											

WFP Operation

Operation	Title	Total Budget (USD)
CP 10410.0	Enhancing Resilience to Disasters and the Effects of Climate Change (ER)	US$60 million including GoB's matching contribution to the project



WFP in Bangladesh[1]

- WFP has been assisting the poorest people of Bangladesh since 1974 and has assisted a total of 155 million people through development programmes.
- WFP has been at the forefront of responding to under-nutrition and food insecurity, helping communities reduce the risks associated with climate change, in particular floods and cyclones.
- WFP has a strong track record of partnering with the Government of Bangladesh on climate change adaptation.
- Over the past 38 years, WFP has –
  - reconstructed 27,053 km of roads and 17,000 km of embankments (including roads raised above flood levels).
  - re-excavated and brought back into productive use of 4,120 km of drainage/irrigation canals and 3,000 acres of water bodies (mainly ponds); and planted 38 million trees.
  - done 25,200 homesteads raising and repaired 1,000 emergency flood and cyclone shelters
- In 2011, WFP has assisted 2.03 million vulnerable people, mainly women and children, and in 2012, WFP is currently assisting about 2 million vulnerable people.

Partners in Bangladesh

Government Agencies Ministry of Local Government, Rural Development and Cooperatives, Local Government Engineering Department

Donor organisations Government of Brazil, Government of Japan, LG Electronics, and WFP Multilateral

Co-funded by Government of Bangladesh

[1] Source: WFP Website. (http://www.wfp.org/countries/bangladesh/operations/wfp-activities)

Executive Summary

Introduction

Evaluation Features

1. This evaluation assessed the impact of WFP's food and cash for assets (FCFA)[2] programmes within the enhancing resilience (ER) component of country programme 104100 (2007–2011), implemented in collaboration with the Government of Bangladesh. As one of a series on the impact of food for assets (FFA), the evaluation's objectives were to assess the outcomes and impacts on livelihood resilience, identify the changes needed to increase these impacts, and generate lessons for improving the alignment of FFA programmes with the 2011 FFA Guidance Manual and the disaster risk reduction policy.[3] The evaluation addressed three common core questions:

- What positive and negative impacts have FFA activities had on individuals within participating households and communities?
- What factors were critical in affecting outcomes and impacts?
- How could FFA activities be improved to address the findings from the first two questions?

2. The evaluation was designed to test a theory of change in which food or cash inputs are provided for work on constructing assets or time spent in training, with the aims of:

- improving household food security in the short term;
- improving the biophysical environment, agricultural production and livelihood options in the medium term; and
- achieving sustained improvements in livelihoods resilience, including the ability to cope with crises in the longer term.

3. The associated factors considered necessary for achieving the intended changes/outcomes include:

- appropriate situational analysis;
- FFA activities and assets that meet quality standards;
- technical assistance and other capacity;
- availability of food and non-food items;
- complementary inputs by WFP and other actors; and
- community and/or local government ownership, with adequate arrangements for asset maintenance.

4. The mixed-method approach used in the evaluation included surveys of 1,500 women in three distinct groups: i) households participating in FCFA work; ii) non-

[2] Food and cash for assets (FCFA) is the Bangladesh country office's preferred terminology and is used throughout this report instead of WFP's standard acronym of C/FFA.
[3] The programme evaluated was designed and implemented prior to the adoption of the guidance and policy, but its goals were broadly similar and the evaluation terms of reference emphasized learning.

participant, extremely poor households in intervention villages; and iii) extremely poor households in comparison villages. Participants and non-participants were compared with the comparison group to measure the direct and indirect/spillover effects of FCFA. Qualitative data were collected through focus group discussions with men and women, asset assessments, key informant interviews and participatory rural appraisals. The evaluation was conducted by an independent team, with fieldwork during April and May 2013.

5. The limited baseline and endline data made impact measurement problematic. While recall methods helped build understanding of the impacts, they did not enable quantitative assessment of effects such as those on short-term household food security and nutrition levels, or the drawing of direct causal linkages between interventions and observed changes. Comparative cross-sectional analysis of participants, non-participants in intervention villages, and comparison households[4] was therefore applied. Analysis of implementation and contextual factors drew on secondary sources, administrative records and qualitative data.

Context

6. The incidence of poverty in Bangladesh declined from 59 percent in 1991 to 31.5 percent in 2010/11,[5] and significant progress has been made in national food security over the last two decades. However, the country ranks 68th of 79 in the 2012 global hunger index[6] and 146th of 187 in the 2011 United Nations Development Programme's human development index.

7. Bangladesh is severely disaster-prone, ranking first among the 15 countries considered at extreme risk of experiencing natural disasters,[7] and enduring 219 natural disasters between 1980 and 2008.[8] Environmental degradation and uncertain climate patterns negatively affect livelihoods, food production, health and nutrition. The Government has been addressing climate change through the Bangladesh Climate Change Strategy and Action Plan 2009,[9] which emphasizes disaster risk reduction through the development and reinforcement of infrastructure such as emergency shelters in vulnerable coastal areas.

Food/Cash for Assets Programme Description

8. WFP has implemented FCFA activities in Bangladesh since 1976, with objectives evolving to address the changing needs. During the evaluation reference

[4] Cross-sectional analysis uses data from a specific period, in this case post-intervention. It relies on the assumption that the comparison group is a close proxy for the situation of participants without the intervention. Analysis of panel data, both pre- and post-intervention, can take into account any baseline differences between the participant and the comparison groups, which is not possible in cross-sectional analysis.
[5] http://www.indexmundi.com/g/g.aspx?c=bg&v=69
[6] International Food Policy Research Istitute (IFPRI). 2012. Global Hunger Index. Washington, DC. This is a multidimensional index based on indicators of child mortality, child underweight and undernourishment.
[7] Maplecroft. 2010. Natural Disasters Risk Index 2010. Bath, United Kingdom.
[8] http://www.undp.org/content/undp/en/home/ourwork/crisispreventionandrecovery/projects_initiatives/Bangladesh-drr-casestudy-transformational-change/
[9] Ministry of Environment and Forests. Dhaka: http://www.moef.gov.bd/climate_change_strategy2009.pdf

period of 2008–2011,[10] FCFA aimed to protect livelihoods and assets by providing short-term employment during the lean season, and to reduce vulnerable groups' risk of and exposure to shocks by building assets for income generation and disaster preparedness. Latterly, to increase their ownership of the assets created, communities were encouraged to identify their own needs and priorities and to select the activities for implementation.

9. WFP's estimated expenditure on the ER component was US$60 million. ER was well aligned with government disaster management, safety net and climate change strategies, and co-funded by the Government. The main government partner was the Ministry of Local Government, Rural Development and Cooperatives, through its Local Government Engineering Department (LGED).

10. During the reference period, 471 FCFA projects were undertaken, involving 55,000 participants, 70 percent of whom were women, in 45 *upazilas* (sub-districts) of 13 districts. Flood/tidal surge protection accounted for 61 percent of assets, access infrastructure for 34 percent and water management for 5 percent.

11. To combine knowledge enhancement with work opportunities, participants received a combination of food and cash wages for two years, based on 90 to 95 days of labour for six months a year and training on five or six days a month in the remaining six months. Training included disaster risk reduction and preparedness planning, nutrition and hygiene, women's empowerment, income-generating activities and life skills.

Findings

Asset Functionality

12. Six types of asset created through FCFA – homestead raising, ground raising, embankments, roads, ponds and canals – were assessed. Most assets were functional and serving the purpose for which they were designed, but some were never completed.

13. Table 1 presents findings related to asset maintenance and ownership, by asset type. Maintenance of the assets is critical to ensuring the continuation of benefits, but approximately 25 percent of respondents were not aware of the asset maintenance status, or of who was responsible for asset management and maintenance.

[10] Although FCFA officially started in 2008, implementation started in 2009.

Table 1: Ownership and maintanence of assets (FCFA participants)

Asset type	Ownership regime	Properly maintained	Not properly maintained	Unknown
Roads	Public	63	6	31
Embankments	Public	75	3	22
Ground raising	Club[11]	52	7	41
Homestead raising	Private	74	1	25
Canals	Club	81	3	16
Ponds	Club	Not included		

14. The maintenance status of assets was related to their ownership regime. Private goods such as homestead raising and club goods such as canals were better maintained than purely public goods such as roads. One explanation for these differences concerns the extents to which households had direct incentives and control, and community members could enforce shared responsibility. Communities sometimes did not consider themselves responsible for roads or embankments, or considered the maintenance costs to be more than they could invest.[12] Assets that directly reduced disaster risk were better maintained than those that did not, regardless of ownership.

Biophysical Effects

15. Each type of asset yielded several biophysical benefits, as indicated in Table 2. For example, roads constructed or renovated as access infrastructure also serve as embankments for flood protection. Embankments were considered to have the most biophysical outcomes, including reduced severity of flooding and reduced soil and riverbank erosion, increased vegetable production and increased agriculture productivity. Overall, an increase in trees was the most frequently reported biophysical outcome from the assets constructed, followed by increased vegetable production.

16. Public and club goods – embankments, roads and canals – generated more positive biophysical outcomes than private assets did. Homestead raising was useful in improving small-scale vegetable cultivation and tree plantations; public and club assets opened up new opportunities for income generation and large-scale economic activities for whole communities and ensured physical security by providing protection from disasters. Public and club assets also served other purposes: canal improvements, for example, facilitated transport and water management.

[11] "Club" goods fall between private and public goods, with a restricted set of users who can be specified; the users of purely public goods cannot be specified.
[12] The union *parishad* (council) is the lowest level of elected government in Bangladesh. Union *parishads* receive annual block grants and social protection projects that may be used to maintain local-level infrastructure. Grant size is based on the union's population, and varies from year to year, averaging US$12,000–25,000. http://www.lgd.gov.bd/index.php?option=com_content&view=article&id=15 & http://www.lgd.gov.bd/index.php?option=com_content&view=article&id=15&

Table 2: Biophysical Outcomes (FCFA Respondents)

	Ground raising	Home-stead raising	Embankments	Roads	Canals	Average for all assets
Mean number of positive outcomes reported	3.07	3.73	6.11	4.72	4.93	4.33
Number of observations	102	372	76	339	152	1 047

17. Public and club goods – embankments, roads and canals – generated more positive biophysical outcomes than private assets did. Homestead raising was useful in improving small-scale vegetable cultivation and tree plantations; public and club assets opened up new opportunities for income generation and large-scale economic activities for whole communities and ensured physical security by providing protection from disasters. Public and club assets also served other purposes: canal improvements, for example, facilitated transport and water management.

Agricultural Productivity and Market Access

18. As shown in Table 3, embankments and canals helped to bring more land under cultivation. More than 80 percent of survey respondents found that embankments were also effective in enabling an additional crop cycle. About 90 percent reported that canals increased soil fertility through irrigation.

Table 3: Outcomes of agricultural productivity (FCFA respondents)

Land productivity outcome	Ground raising	Homestead raising	Embank-ments	Roads	Canals	Average for all assets
More land under cultivation	21	30	88	54	95	51
Additional crop cycle	1	4	82	33	51	26
Increased soil fertility	0	1	51	29	90	27
New crop cultivation	15	26	78	40	62	38
Lower production costs	0	1	73	82	47	39
Mean number of positive outcomes reported	0.36	0.61	3.53	2.31	3.25	1.75
Number of observations	102	372	76	339	152	

19. The most important impact of road construction was probably improved market access for agricultural products. Roads were reported to have reduced the time and costs of transporting farm produce to market, and enabled the development of new markets in previously under-served areas. More traders were reported to be entering these areas, giving farmers more bargaining power in price negotiations. Eighty-two percent of participant respondents reported that roads reduced the costs of agricultural production through easier access to inputs.

Livelihoods

20. Overall, the evaluation found a positive impact on the annual income of participant households, each of which earned about 5,200 taka (about US$65) more than households in the comparison group during the year preceding the survey.[13] There was no statistically significant difference between the incomes of non-participants from intervention villages and those in the comparison group.

21. Training in income-generating activities was found to be one of the main mechanisms for fostering household income growth. On average, participants had 0.39 more income-generating activities than the comparison group. Diversifying income-generating activities is important, not only in increasing household income but also in reducing vulnerability among extremely poor households facing seasonal variations and shocks.

22. Cash savings are an important means of reducing vulnerability to shocks and strengthening coping ability; programme participation increased the probability of accumulating savings by 26 percentage points, and the average saving size by more than 1,000 taka (about US$12). The effect is more prominent in coastal districts, where 98.5 percent of participants reported cash savings compared with 48 percent in non-participating communities.

23. Ownership of land – including cultivable land, homesteads and ponds – was about 10 percentage points[14] higher for participants. Nine percent more participating households owned poultry or livestock compared with the comparison group. According to cross-sectional analysis of survey responses, the total asset value of participants was approximately 11,000 taka (US$140) higher than that of non-participants.

Food Security

24. Despite the relatively large average impacts on income and household assets, findings about longer-term food security were inconclusive. As shown in Table 4, after controlling for demographic variation, survey responses showed no difference between participant and comparison groups regarding the household's ability to provide three meals a day over the previous year. No significant impact on dietary diversity scores was found in survey response data. Some differences were seen between comparators and non-participants in intervention villages, but the existing data do not enable clear conclusions about spill over effects to be drawn.

[13] This was the reference period for income data, when most ER interventions had finished. The incomes reported therefore did not include direct transfers from FCFA.
[14] Interpreted as 10 percentage points because 0.1 is on a scale of 0 and 1, with 0 = does not have land and 1 = has land.

Table 4: Impact on food security and nutrition

	Food security last year	Dietary diversity
Participant	0.00	-0.01
Non-participant	0.07***	-0.09*

*** p < 0.01; * p < 0.1 (Robust t-statistics, interval of confidence)

25. There were no significant differences among the food consumption scores of FCFA participants, non-participants and comparators, with more than 90 percent of respondents from all groups reporting acceptable scores. Secondary data from monitoring reports documented significant increases in the percentages of participants within the "acceptable" range for the food consumption score.[15] It is important to note that follow-up measurements for both the evaluation and the monitoring reports were taken during seasons of relatively high food availability, when acceptable scores would be more likely. But 80 percent of survey respondents reported that FCFA food distributions took place during periods of food scarcity, which suggests that the food provided filled a need at the time of distribution, even if the long-term evidence about consumption is not conclusive.

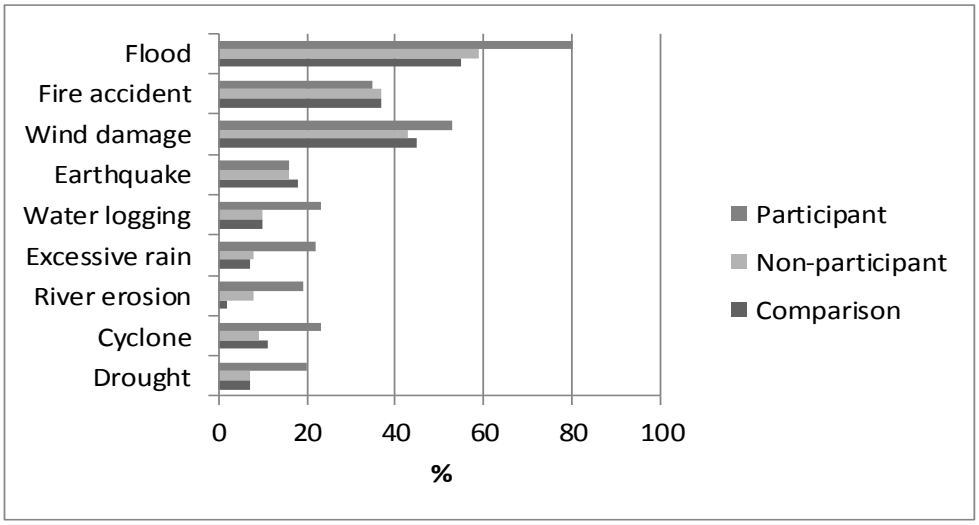
26. Focus groups and interview respondents claimed that homestead raising and training provided indirect benefits to food security and nutrition because they resulted in more home gardening and better nutrition. Survey data showed that knowledge of vegetable cooking and use of sanitary latrines was 16 to 17 percent higher among participants than other groups, which could have an indirect effect on food security through better health and nutrition. These topics were part of the life skills training component: 47 percent of respondents reported having received training in nutrition, and 43 percent in cleanliness and hygiene. This increased knowledge could thus plausibly be attributed to the FCFA programme.

Vulnerability and Coping in Crisis

27. Sixty-four percent of FCFA participants responding to the survey received training in disaster vulnerability reduction and disaster preparedness. FCFA participants were clearly more aware of preparedness techniques for almost all types of disasters than non-participants (see Figure 1). There was no significant difference, however, between the coping strategy indices of participants and the comparison group.

[15] WFP Standard Project Reports, 2010 and 2011.

Figure 1: Awareness of Disaster Preparedness*



* Respondents reporting at least one means of disaster preparedness for the type of disaster.

Women's Empowerment

28. As the survey was completed by women, the impacts presented in earlier sections were those reported by women. But for almost all indicators in the survey, scores were worse for households headed by women than for those headed by men. Households headed by women are a particularly disadvantaged group of the poor, and appear to have benefited less from FCFA participation than other groups. However, the pro-poor nature of participant selection appears to have targeted this group effectively, as households headed by women were more likely to be FCFA participants than others (see paragraph 31).

29. In focus groups, many women respondents lauded the provision of childcare, sheds, access to drinking-water and sanitation. These gender-sensitive initiatives made the work environment more conducive to women's participation.

30. There were indications that women participants were overburdened, in that 23 percent of women respondents reported that FCFA activities created problems with their household workloads. Sharing of responsibilities was also often reported, and provision of childcare was reported to have reduced the workloads. About 63 percent of women participants reported that they could send another household member to carry out FCFA activities if necessary; 43 percent had sent such replacement workers because of illness, pregnancy or other commitments.

31. Between 2009 and 2011, approximately 75 percent of participants' committee members were women, up from 20 percent in 2007, when WFP successfully advocated with the Government for more women in leadership positions. Overall, large proportions of both participant and non-participant groups reported improvements in women's status. As shown in Table 5, more than 80 percent of participants and 61 percent of non-participants reported that FCFA work and

training had helped increase women's participation in household decision-making. According to key informant interviews, ER facilitated social transformation of gender roles.

Table 5: Perceived effects of FCFA on Women's Empowerment (% of survey respondents

Perceived effect on women	Participant	Non-participant
Improved status in society	85	82
Greater social contribution	75	51
Access to microfinance programmes	75	50
More household decision-making	83	61
More decision-making on household finances	37	11
More social decision-making	44	23
More decision-making on community asset management	14	2

Socio-Economic Distribution of Effects

32. Participant households appeared to be poorer than households in both the other groups. The probability of participating in FCFA decreased by a statistically significant 1.7 percentage points for every additional year of schooling attained by the household head. Households of FCFA participants were 20–26 percentage points more likely to be headed by a woman than by a man[16]. Larger household size was also positively associated with participation.

33. In intervention villages, both participant and non-participant respondents reported that the poor and extremely poor benefited most from all types of assets. Benefits from embankments and roads were more uniformly distributed across all groups; the building of homesteads, which are private assets, was reported to benefit mainly the poor and extremely poor.

Factors Affecting Impact

34. The *char* areas in northern Bangladesh are known for extreme poverty and are vulnerable to flooding, river erosion and other natural calamities. Two recent cyclones – Sidr and Aila – in the southern coastal districts destroyed the livelihoods of many households, leaving them extremely poor. This vulnerability to natural shocks combined with the geographical targeting of FCFA to reach the most vulnerable locations enhanced community support for FCFA activities among both participants and non-participants.

[16] Households of FCFA participants were 20 percent more likely to be headed by women compared with non-participants and 26 percent more likely compared with extremely poor households in comparison villages.

35. The local economic context played an important role in determining workforce availability. Where alternative and better–paid work options were available, non-governmental organizations (NGOs) had difficulty finding enough eligible people willing to participate in FCFA activities. The low wage rate was reported to have been effective in ensuring the participation of only the poorest and in reducing the efforts of local elites to capture FCFA resources.

36. The availability of complementary services or benefits provided by other NGOs or development agencies affected the long-term sustainability of FCFA outcomes. Most ultra-poor women participants needed further support in utilizing their training to earn more income. Other NGO programmes in the intervention villages provided microfinance, asset transfer projects and other technical support. Thirty-eight percent of participants reported using NGO services, compared with 27 percent of non-participants in intervention villages and 26 percent in the comparison group. Ninety-one percent of participants reported using at least one service, compared with 90 percent of non-participants and 85 percent in the comparison group.

37. The establishment of an effective and efficiently managed network enabled collaboration built on the comparative advantages of partner organizations. Information on the main members of the network and their roles, collected through interviews and focus group discussions, is shown in Table 6.

Table 6: Network for ER implementation

Actors	**Role**
LGED officials (engineers/assistant engineers)	Scheme selection, monitoring of asset development
Other government officials	Food distribution, coordination
Local-level elected representatives	Assistance in participant selection, overview and monitoring of implementation (informal), problem resolution, ensuring the sustainability of assets post-programme
NGO officials	Lead role in participant selection, facilitation of local-level planning, assistance in scheme selection, motivation of workers, monitoring of asset development, provision of training to beneficiaries
Participants' committees	Participation in local-level planning, assistance in scheme development and site selection, monitoring, wage and food distribution, maintenance of assets
WFP country office and sub-office	Overseeing of field-level operations, technical support to NGOs, monitoring and supervision, liaison with national-level government ministries

38. The multiple levels of accountability improved effectiveness and reduced leakage. Participants' committees improved transparency by acting as intermediaries between NGOs or LGED and participants. The NGOs and LGED retained an oversight role, while the committees assumed responsibility for the cash and food distributions; participants could therefore go directly to the committee in case of discrepancies. The committees also monitored attendance and supervised fieldwork.

39. This delegation of field-level supervision to the committees allowed the NGOs to focus on developing and maintaining partnerships with government agencies for participant selection, scheme design and asset development. The attitude of national government officials towards partnering with NGOs was a significant factor; at all but one site, officials acknowledged the role of NGOs and reported a positive working relationship with them. Most local government representatives were also supportive of the FCFA schemes and helped NGOs to implement them.

40. The requirement for LGED's technical assessment and approval of plans and completed work sometimes delayed project implementation and the distribution of food or cash. The evaluation found that the network had not addressed asset maintenance effectively, leaving network members confused about who was responsible for follow-up maintenance.

41. Flexible management by NGOs was also important. For example, participants who were unable to work because of illness or other reasons might be allowed to send an alternative worker from their household.

42. Food transportation required significant work from the participants' committee, and participants reported having to cover transport expenses in some instances, in spite of the allocation of 400 taka per mt of food to cover transport to distribution points.

43. Successful implementation requires appropriate policy alignment and budgetary support. Key actors at the national level included the Ministry of Local Government, Rural Development and Cooperatives, the Ministry of Food and the Ministry of Disaster Management.

Conclusions and Recommendations

Overall Assessment

44. During the evaluation reference period, WFP provided food or cash to more than 50,000 people – mostly women – as remuneration for participation in asset construction or training. Assets built were intended to provide protection from natural disasters, mainly flooding.

45. The food provided addressed food shortages and improved short-term food consumption. However, survey responses suggest that short-term food consumption impacts were not sustained over the longer term. Inadequate baseline and endline surveys hindered assessment of the linkages between immediate results and longer-term impacts on food security and nutrition.

46. Positive effects through medium-term impacts were found, including on the biophysical environment and agricultural productivity. Impacts were also evident in the increased number of income-generating activities among participants.

47. Indications of longer-term impacts on resilience included increased annual income and cash savings among participants, and greater knowledge of disaster preparedness and response. The construction of physical assets not only provided participants with direct protection from disasters, but also created significant spill-over effects for other members of intervention communities; for example, roads made schools and health facilities more accessible to all, including the poor, and embankments provided a refuge from floodwaters for all.

48. There was compelling evidence that WFP's efforts to promote the participation of women in both FCFA activities and participants' committees contributed to a social transformation in women's roles. Unlike previous experiences, women were not merely the sources of manual labour but also assumed supervisory and managerial positions in the committees.

49. WFP's significant efforts to increase women's participation in FCFA activities, with the long-term aim of empowering them, had impressive results. Women's role in preserving their families' livelihoods in the face of frequent natural disasters has been increasingly recognized in the intervention communities and in Bangladesh society more generally, in spite of traditional social barriers; the ER component made the best use of this opportunity.

50. Nonetheless, households headed by women, which are among the most vulnerable, appear not to be benefiting as much as other participants. Some women reported that the FCFA activities were physically demanding and created problems with household chores. Building on strong qualitative evidence derived from perceptions reported during the evaluation, quantitative and comparative evidence is needed to deepen understanding of the effects of FCFA on women's lives.

51. The establishment of a network clarified roles, built trust, enhanced transparency and facilitated the sharing of responsibilities for FCFA activities. However, the network has not been formalized and there is need to document it and to identify ways of developing synergies among its members to achieve short- and long-term objectives.

52. The evaluation confirmed the importance of associated factors, including appropriate targeting so that assets satisfy the needs of the poorest; government and community ownership; complementary activities; and market linkages through road construction.

53. While there were many positive outcomes, the intervention suffered from inefficiencies in implementation. The follow-up maintenance of assets such as roads and canals is another area of concern. Better planning and engagement is needed to ensure that assets remain functional and continue to deliver benefits over time.

54. The findings from the evaluation underscore the importance of having systematic and comparable monitoring data from before, during and after implementation to assess short-, medium- and long-term impacts and enhance

understanding of FCFA activities' contribution, particularly to complex and lasting intended outcomes related to points in the theory of change or impact pathway.

55. Significant changes adopted in the ER Plus approach since early 2013 may improve the longer-term food security and reduce the poverty of ultra-poor women and their families. Following the two-year FCFA work and training period, in a third programme year the Government of Bangladesh and other donors are providing one-time cash grants and business development training to women from labourers' households, in addition to a monthly cash allowance. It is important to ensure that data are collected to enable eventual assessment of the impacts of this new approach, particularly on food security, livelihoods and empowerment.

Recommendations

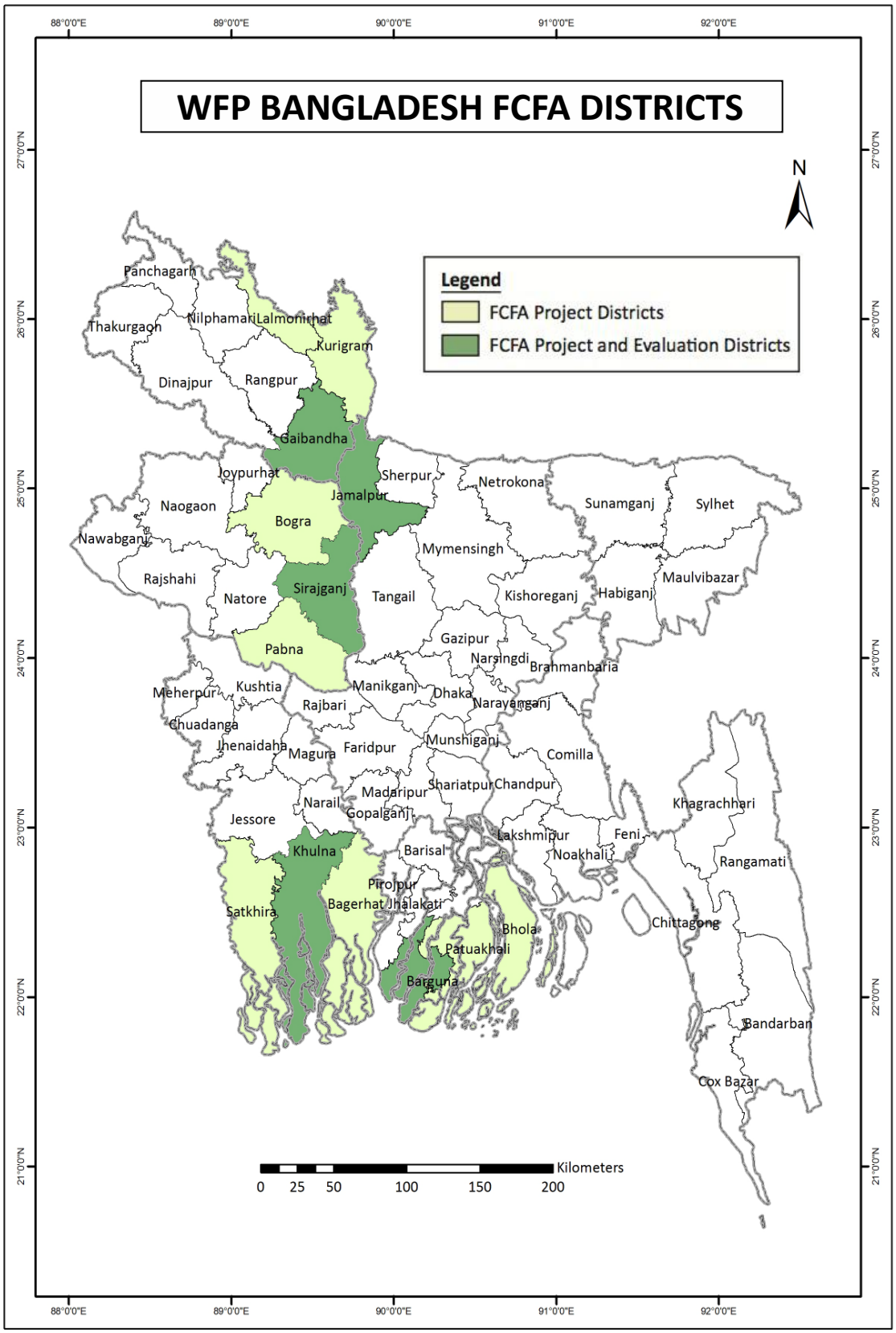
56. **Recommendation 1: The office should continue to provide the Government with support in disaster risk reduction, building on the experience of the ER component in future programmes.** Lessons should be well documented and widely disseminated to guide the adoption of good practice and address continuing challenges. Given that the ER component is well aligned with WFP's disaster risk reduction policy and FFA guidelines, WFP Headquarters should also draw lessons to support replication in FFA programmes in other countries. (WFP country office).

57. **Recommendation 2: The office should work with its partners to elaborate and institutionalize the network management model for FCFA, refining it to facilitate synergies among different actors, to enhance access to the complementary services that lead to improved household income and food security for the ultra-poor.** (WFP country office).

58. **Recommendation 3: Feasible asset-management plans should become an integral feature of the FCFA approach.** An asset maintenance committee, comprising representatives of the local community, including opinion leaders, local government representatives and officials generally involved in decision-making regarding maintenance activities, should be established for each asset constructed. Participants' committees could function as social accountability mechanisms and advocates for access to appropriate local government funds. (WFP country office, its NGO/government partners and WFP worldwide).

59. **Recommendation 4: More robust monitoring systems should be developed to ensure that major intended outcomes can be measured.** These systems should include the collection of baseline and endline data, and specific analyses to deepen understanding of the contributing factors and processes by which impacts are achieved. In particular, additional data about the impacts of FCFA on women's health, nutrition and empowerment and on the sustainability of expected longer-term changes in food security should be collected and analysed. (WFP country office and NGOs).

Map (FCFA Period of 2007-2011)



1. Introduction

1.1. Evaluation Features

1. This report summarises the methodology and details the findings, lessons, conclusions and recommendations emanating from the impact evaluation of the Food and Cash for Assets (FCFA)[17] activities in Bangladesh commissioned by the WFP Office of Evaluation (OEV). The evaluation was guided by the Terms of Reference (TOR) for the "*Evaluation of the Impact of Food for Assets on Livelihoods Resilience*" issued by the OEV in September 2012 (see Annex 9). The TOR provided the scope and approach for the impact evaluation of WFP FCFA interventions. The evaluation for Bangladesh built on the approaches and methodologies developed and employed in earlier impact evaluations of FCFA in Guatemala, Nepal and Uganda.

2. This evaluation assesses the impact of WFP's Food and Cash for Assets (FCFA) programmes within the Enhancing Resilience to Disasters and the Effects of Climate Change (ER) subcomponent of the Country Programme 104100 (2007 – 2011) implemented in collaboration with the Government of Bangladesh (GoB). As one of a series on the impact of FFA, the objectives were to assess the outcomes and impacts on livelihood resilience, identify changes needed to deliver more on potential resilience impacts and generate lessons about how FFA can be better aligned with the 2011 FFA Guidance Manual and Disaster Risk Reduction (DRR) policy[18]. The evaluation addressed three common core questions:

- What positive and negative impacts have FFA activities had on individuals within participating households and communities?
- What factors were critical in affecting outcomes and impact?
- How could the FFA activities be improved to address the findings emerging from the first two questions?

3. The evaluation was designed to test a theory of change (ToC) derived from WFP FFA Guidance Manual and other sources, and validated during evaluation planning. Food or cash inputs are provided for work to construct assets or time spent in training, intended to:

a. improve household food security in the **short term;**
b. improve the biophysical environment, agricultural production and livelihood options in the **medium term;**
c. achieve sustained improvement in livelihoods resilience, including improved ability to cope with crises in the **longer term**.

[17] Food and Cash for Assets (FCFA) is the WFP Country Team's preferred terminology, notwithstanding WFP's standard acronym of C/FFA or FFA. FCFA is used throughout this report

[18] The evaluation TOR recognized that since the programmes being evaluated were designed and implemented prior to the adoption of the FFA Guidance and DRR policy. However, goals were broadly similar and the evaluation TOR emphasised learning.

4. Associated factors considered to be required to achieve intended changes/outcomes include:

d. appropriate situational analysis;
e. FFA activities and assets meet quality standards;
f. technical assistance and other capacity;
g. availability of food & non-food items;
h. complementary inputs by WFP and other actors;
i. community and/or local government ownership with adequate arrangements for asset maintenance.

5. In this evaluation, impact is defined as the "lasting and/or significant effects of the intervention— social, economic, environmental or technical— on individuals, gender and age-groups, households, communities and institutions. Impact can be intended or unintended, positive and negative, macro (sector) and micro (household)." [19] The evaluation focuses on the creation or recovery of natural resource assets (soil, water, agricultural and forests) but it also recognizes the contributions of flood protection and access assets to livelihoods resilience. In Bangladesh, like other countries where WFP programmes have been heavily engaged in FCFA activity, there has been limited documentation of the final outcomes and impacts - either positive or negative - from physical assets created through FCFA, and the food assistance provided. Given that FCFA activity is expected to remain a cornerstone of WFP programming in Bangladesh, a strong understanding of what has been accomplished to date should be established.

6. The intended users of this evaluation report are project beneficiaries, implementing partners, WFP staff at headquarters, regional, country and sub-office levels, other UN agencies, key development partner agencies as well as government and non-government partners in Bangladesh. This evaluation analyses evidence of the impact of FCFA programmes in general and in the context of disaster vulnerability in particular. The terms ER and FCFA are used somewhat interchangeably in this report.

7. ***Methodology*** For this evaluation, the conceptual framework followed was based on the programme logic model adopted by WFP for this programme (see Annex 7.1 and 7.2 for the logic model). The conceptual framework builds on this logic model to outline the key expected outcomes both on the participants of this programme and at community level. Since the participants are also part of the community, there is a dynamic relationship between the impacts at these two levels. This can be viewed as the general equilibrium effects of the interventions. Moreover, this dynamic nature indicates that there are differences in the directions of the impacts. For example, any impact on wage rate will have differential impact on the workers and employers. Similarly, price effects are also going to be different on

[19] Based on definitions used by ALNAP, OECD/DAC and INTRAC

sellers and buyers. Finally the factors of impact determine the magnitude and sustainability of the impacts. While some of the factors are purely external (or internal), some factors are partially under internal controls.

8. A mixed-method approach was adopted for this evaluation following such a framework. On the quantitative front, a household survey was conducted, that covered 1,500 households from three distinct groups (500 households from each group):

a) participants in FCFA works (earned food and cash wages from participation in asset construction or training) selected from NGO lists

b) non-participant extreme poor households from intervention villages (did not earn food or wages or participate in construction or training) selected from NGO lists and

c) extreme poor households from comparison villages, selected using participatory rural appraisal techniques.

9. Project participants were selected from among the very poor selected by the implementers to work in asset building and receive the trainings. Non-participants have been selected following similar targeting approach adopted in participant selection to understand the impacts on the poor in the communities who do not receive direct supports. Comparison villages were selected from the same sub-districts where the programme was not implemented. Both the participants and non-participants were compared to the comparison group in order to measure the direct and indirect (spillover) effects of ER.

10. Based on discussion with the Country Office about the high priority placed on the engagement of women, a decision was taken to target the survey to women, and thus 100% of respondents were women. Both men and women respondents were included in qualitative interviews and focus group discussion. However, sampling was not stratified by sex of household heads since there is no secondary data that could be used as sampling frame. In our sample 15% were headed by a female, ranging from 59 to 91 observations in the three groups. Consequently we could not measure the differences in impact between male and female headed households.

11. In addition to this survey, focus group discussions, asset assessment, key informant interviews and participatory rural appraisals were conducted. The qualitative data has been used as complementary to the quasi-experimental impact evaluation and findings from both data sources are reported as relevant to build understanding of the impacts and factors affecting impact achievement.

12. Impact assessment at household level (Section 2) is primarily based on the household survey, and the contextual analysis (Section 3) relies heavily on the qualitative data. Both sections have used project's secondary documents and records on assets and wages etc. The field work for the evaluation began on April 22 and was completed by May 17th. Field data collection activities were carried out by experienced team of country level evaluators and researchers and were closely

monitored by the ET to assure quality of data. Further information on the methodology and work plan is provided in Annex 1.

13. There are ten annexes to this report that include the TOR and Evaluation Matrix, two versions of the Theory of Change (original logic model from the ToR and the modified version from the IR of this IE), summary of all survey results, bibliography (documents reviewed), and list of persons met.

14. The absence of baseline and end line information on the socio-economic status of participant households and communities as well as specific bio-physical vulnerabilities of the communities studied created limitations to the measurement of impacts especially at the participants' level. While the re-call method used to collect data helped to build understanding of the impacts created by assets, such impacts could not be determined for some specific indicators like the change in short term food security and nutrition level of the participant households and the extent to which changes were caused by the interventions. As a result, the ET depended to comparative analysis between participants, non-participants and comparison households for evaluating most impacts. Similarly, quantitative data on implementation and contextual factors are not available. Thus, section three of the report is largely based on qualitative interviews and focus group discussions and the available administrative data on assets created. Analysis of implementation and contextual factors also drew on administrative records.

15. In carrying out the evaluation, the ET had to contend with considerable political strife that made travel and the scheduling of interviews very difficult. Evaluation activities in Khulna and Barguna were also disrupted by a severe cyclone. This was in addition to the often heavy rains that made travel difficult. Nonetheless, the ET successfully finished the data collection as planned with support from WFP country and sub-national offices as well as partner NGOs (PNGO) in selected sites.

1.2. Context of FCFA in Bangladesh

16. Over the last decade, Bangladesh has demonstrated contrasting trends in its development. According to a 2013 report, 47.4 percent of the Bangladeshi population is vulnerable or living in severe poverty.[20]Although the figure does fluctuate, in 2011, Bangladesh ranked 146th out of 187 countries on the UNDP Human Development Index[21].

17. On a positive note, the population growth rate has been diminishing and although the incidence of poverty continues to be a concern, it also is declining. From 2009 to 2011, the Gross Domestic Product (GDP) grew at a steady six percent per

[20]Human Development Report 2013 Exploratory No Explanatory note on 2013 HDR composite indices Bangladesh
[21]UNDP. Human Development Report, 2011

year[22]. The proportion of the population living below the national poverty fell to 31.5 percent in 2010-2011 from 59 percent in 1991, and has been falling since 2004[23]. These bring Bangladesh closer to achieving its Millennium Development Goals (MDGs). Bangladesh has also been making progress in improving food security. Recent Global Hunger Index reports (2011 and 2012) highlight Bangladesh's success in this regard[24].

18. Nationally, food grain production has improved although there remain several crops, such as wheat, where production could be boosted; and there are other food sources such as fish and livestock that are produced at less than adequate levels due to poor production practices[25]. The Food and Agricultural Organisation (FAO) reports that 25 percent of the nation's population has limited access to and inadequate quantities of nutritious food all year round. It is recognised that the poor quality of food and lack of diversity in the diet impose enormous costs on the society in terms of ill health, lives lost, reduced economic productivity and poor quality of life.[26] As well, there are concerns that food insecurity is worse in some regions with even more critical situations at the district or sub-district level.

19. According to the Global Hunger Index 2012, despite being one of the success cases in reducing food insecurity during the last two decades, Bangladesh still ranks 68th among 79 countries. Nonetheless, proportion of undernourished population has declined by 12 percentage points during the two decades (38% in 1992 and 26% in 2008). Prevalence of underweight among under-five children declined from 62% in early 1991 to 41% by 2010.

20. As part of efforts to tackle food security issues, social protection has been a policy priority for the GoB. Since the late 1980's, NGOs and international organizations have developed and implemented different variations on the concept of social safety nets. At the same time the Government continued to focus on food-based preventive and reactive strategies related to social safety nets. In recent years the government has promoted its Social Protection Strategy that calls for the scaling up of a more comprehensive and preventive approach that goes beyond food rations and post-disaster relief. An element of this broader approach is FCFA.

21. Environmental degradation, and especially uncertain climatic patterns, is having negative influences on livelihoods and wellbeing of households, food production, and health and nutritional standards. Bangladesh is one of the most disaster-prone countries and ranks first among the 15 countries considered at

[22] http://www.bbs.gov.bd/webtestapplication/userfiles/image/National%20Accounts%20Reports/GDP/GDP_2011-12%20(p).pdf
[23] http://www.indexmundi.com/g/g.aspx?c=bg&v=69
[24] See Global Hunger Index Reports of 2011 and 2012
[25] Regional Consultation on Trade, Climate Change and Food Security in South Asia 20-21 December 2012, Nepal. Professor MustafizurRahman. SAWTEE
[26] http://typo3.fao.org/fileadmin/user_upload/faobd/docs/In_Focus/New_food_and_nutrition_security_project_signed_by_Government_of_Bangladesh_and_FAO.pdf

"extreme risk" of experiencing natural disasters[27]. Cyclones, storm surges, floods, tornadoes, earthquakes and droughts are constant causes of concerns.

22. The combination of concurrent environmental disasters and extreme poverty seriously undermines development efforts in Bangladesh.[28] Between 1980 and 2008, Bangladesh experienced 219 natural disasters that caused over US$16 billion in damages.[29] Six of these occurrences were considered to be major including Cyclone Aila of 2009 that killed over 300 people and destroyed 4,000 kilometres of roads and embankments. Aila occurred in the south-western part of Bangladesh where the low lying delta areas of the country are found[30]. There are 710 kilometres of coastal belts in Bangladesh including the delta area where 19 of the 64 districts are found[31]. At the same time, northern parts of Bangladesh must contend with major rivers overrunning due to monsoon rains, and this in its own way is as destructive as coastal flooding. Moreover, according to the Intergovernmental Panel on Climate Change, Bangladesh is at risk of losing large tracks of fertile land due to rising sea levels. The inundation brings with it the increased presence of saline water. From 1973 to 1997, the amount of land having mild salinity increased by over a million hectares.[32] The major concerns with saline water are the impact on farm production through water logging and soil contamination, and the threat to safe drinking water.

23. Until 1990, the approach to disasters in Bangladesh was mostly based on recovery. This started to change around 1993 with the creation of the Disaster Management Bureau. Since that time, there have been a number of developments and a change in working philosophy leading Bangladesh towards the establishment of a pro-active Disaster Risk Reduction (DRR) approach including the National Plan for Disaster Risk Reduction of 2010 to 2015. There are currently 13 ministries sharing responsibility for DRR including the Ministry of Agriculture and Ministry of Local Government and Rural Development that standout in this regard.

24. In the NGO sector, there is a broad-based involvement in DRR including national and international NGOs with many having a diverse range of core mandates in areas such as vocational training. In Bangladesh, there are now educational opportunities in the DRR field at both the academic and vocational level. Overall, the focus on DRR has moved from purely poverty reduction towards making a stronger link to climate change. A significant aspect of many NGOs both national and international in the DRR field is the use of FCFA as a modality. In parallel, there is a movement towards the standardisation of training materials in the DRR field spearheaded by the Department of Disaster Management that draws on different

[27]Maplecroft. Natural Disasters Risk Index 2010
[28]WFP. WFP/VAM Food Security Atlas, 2004
[29] http://www.undp.org/content/undp/en/home/ourwork/crisispreventionandrecovery/projects_initiatives/Bangladesh-drr-casestudy-transformational-change/
[30] http://www.guardian.co.uk/global-development/2012/mar/05/bangladesh-villagers-struggle-after-cyclone-aila
[31]http://www.fao.org/forestry/12669-09d3e208c72f517f191a02fed14d9bb8a.pdf
[32]http://www.irinnews.org/Report/75094/BANGLADESH-Rising-sea-levels-threaten-agriculture

training resources. The standardisation of training material helps to address the issue of the lack of coordination between agencies in the DRR field.

25. Development partners of Bangladesh are acting from the perspective that there is strong evidence of a need for ongoing support in the areas of DRR and climate change. Some of the key agencies in this regard include the European Union (EU), Department for International Development (DFID) and the United States Agency for International Development (USAID). There is the EU supported "Alleviating poverty through Disaster Risk Reduction in North-West Bangladesh". At the same time the Humanitarian Aid and Civil Protection Department of the European Commission (ECHO), is helping vulnerable communities in Bangladesh to reduce the risks arising from recurring floods, cyclones and other natural disasters.[33] In 2011, DFID provided up to £20 million over five years to strengthen planning and preparedness for natural disasters and humanitarian needs. Through its climate change programme, USAID recently committed to improving the resilience of communities to the negative impacts of climate change.

26. WFP has been working with the GoB to address the issue of climate change through the Government's "*Bangladesh Climate Change Strategy and Action Plan* of 2009".[34] The plan emphasizes DRR and development and reinforcement of infrastructure such as is required in vulnerable coastal areas and emergency shelters. The focus of WFP is to support activities that lead to improved food security, disaster mitigation and prevention, and creating sustainable livelihoods for vulnerable segments of the population. As set out in WFP's 2011 Bangladesh Country Strategy, written at the end of the reference period for this evaluation, the DRR component is based on a resilience building approach and is focused on:

a. *Physical and environmental resilience:* reducing the risk and exposure of vulnerable groups to shocks by building protective assets and working on community and household level adaptation strategies.
b. *Economic resilience:* protecting and re-activating existing livelihood assets (via the irrigation and drainage canals) and creating short-term employment opportunities through food and cash for assets during the agricultural lean seasons.
c. *Social Resilience:* enhancing community cohesion through a participatory approach to decisions about the assets created.[35]

27. Similarly in 2005, the GoB enacted the National Adaptation Programme of Action (NAPA) that is an integral part of the country's poverty reduction. It has two

[33]This is funded under ECHO's seventh Disaster Preparedness Action Plan (DIPECHO) for South Asia and aims to scale-up and duplicate Disaster Preparedness mechanisms in areas at risk.
[34]MOEF 2009.Bangladesh Climate Change Strategy and Action Plan 2009. Ministry of Environment and Forests, People's Republic of Bangladesh, Dhaka; www.moef.gov.bd/climate_change_strategy2009
[35] Bangladesh Country strategy, WFP

key themes relating to WFP's mandate in Bangladesh; Comprehensive Disaster Management and Infrastructure in support of climate change adaptation.[36]

1.3. WFP's FCFA Programme in Bangladesh

28. WFP has implemented FCFA activities in Bangladesh since 1976. The first FCFA activities began as the "National Relief Works Programme for Land and Water Development" and gradually became the "National Food Assisted Works Programme for Land and Water Development," until it was incorporated into the Country Programme 2001-2006 under the Integrated Food Security (IFS) component.[37] Names and objectives of FCFA activities were revised several times to address changing needs and to align with WFP's policies and strategies such as the Enabling Development Policy and Food Aid Assisted Development (FAAD).[38] As a result, FCFA continued to have a large relief component until it gradually shifted into rehabilitation, and then to development as new development elements were incorporated into the programmes.

29. Between 2002 and 2011, FCFA continued through two Country Programmes (CP).[39] The FCFA components aimed to protect existing livelihoods and assets by providing short-term employment during the lean seasons and to reduce the risk and exposure of vulnerable groups to shocks by building assets that served income-generation and disaster preparedness purposes. In the past, FCFA programmes have focused on building physical public infrastructure with relatively little emphasis on community ownership of these assets. However, beginning with the IFS component, communities were encouraged to identify their own needs and priorities and make decisions on the activities to be implemented. This was thought to be a means to increase community ownership of the assets created. [40]

30. Under the IFS activity,[41] FCFA aimed to create community benefits by preventing flood damage, improving the natural resource base of communities, and improving access to markets as a means of improving livelihoods. A combination of food and cash wages was provided to FCFA participants to enable them to buy complementary food items, meet other family needs and save for emergency situations.[42] An evaluation conducted in 2004 showed that women participants preferred the combination of food and cash because cash enabled them to buy

[36] http://www.moef.gov.bd/climate_change_strategy2009.pdf
[37] WFP Bangladesh.Brief History of WFP's Thirty Years in Bangladesh: Revisiting the Past, 2006.
[38] WFP Bangladesh.Brief History of WFP's Thirty Years in Bangladesh: Revisiting the Past, 2006.
[39] FCFA was also included in Emergency Programmes EMOPs but these are not included in this evaluation so are not described in this report.
[40] WFP.WFP's Disaster Risk Reduction Strategy and Compliance with the Hyogo Framework for Action.Bangladesh Case Study, 2007.
[41] FCFA was implemented also under the Rural Development activity of the CP but projects were reduced and partly incorporated into the Integrated Food Security.
[42] WFP Bangladesh .Brief History of WFP's Thirty Years in Bangladesh: Revisiting the Past, 2006.

complementary foods while the use of cash only would have resulted in a smaller nutritional benefit as money would have been diverted away from food needs.[43]

31. The areas of interventions of the FCFA schemes were highly concentrated in water management, flood protection and access infrastructure. Assets were selected for their high potential to protect communities from disasters such as raised homesteads, ground raising, embankments and roads-cum-embankments to prevent the loss of community assets and household assets due to flood damage. The second Country Programme started in 2007 (which has been the subject of this impact evaluation), but FCFA started in 2009. The FCFA component (using both food and cash transfers) was housed under the ER. Aligned with the GoB's disaster management strategy and WFP's Strategic Objective 2, ER activities targeted on mitigating the effects of natural disaster through specific risk-reduction activities.

32. The FCFA activities targeted the ultra-poor people living in the most food-insecure areas of Bangladesh and vulnerable households living in disaster-prone areas. Assets were identified by participants through local level planning according to their needs and priorities in order to build ownership and sustainability of the assets created. Between 2009 and 2011, about 55,000 participants were supported with 70 percent women participants. In the FCFA, the participants are provided with a combination of food ration and cash wage for two years[44]. In each year, the participants would engage in asset construction for six months for 90-95 days and for the remaining six months, they would receive a standard package of training for five or six days each month.

33. During the reference period for this evaluation of 2009-2011, WFP's estimated expenditure on the ER component was US$60 million. ER was aligned with government disaster management, safety net and climate change strategies, and co-funded by the government. The main partner was the Ministry of Local Government, Rural development and Cooperatives, through its Local Government Engineering Department (LGED). During the reference period 471 FCFA (a conditional transfer to create community assets or to build capacity in exchange of food and/or cash) projects were undertaken in 45 Upazillas (sub-district) of 13 districts. Activities carried out were:

d. Flood/tidal surge protection (61% of the infrastructure schemes) – mainly embankments, ground raising and homestead raising aimed at preventing floods from destroying crops, food stocks and the assets of

[43]DRN, ADE, BAASTEL, ECO and NCG.Joint Evaluation of Effectiveness and Impact of the Enabling Development Policy of the WFP: Bangladesh Country Study, 2004.

[44] FFA wage: 2.5 kg rice or wheat and Tk. 37.50 per day per participants up to 2011 and 2 kg rice or wheat, 200gm pulses and 100gm vegetable oils and Tk. 58.00 per day per person since 2012; however the payment based on the output i.e. the aforesaid wage were entitled if one participant achieved the daily target- 1.5meter cube of earthwork; FFT: 15 kg rice or wheat and Tk. 225 per month up to 2011 and 22.5kg rice or wheat and Tk. 652.5 per month since 2012

the poor. In coastal areas, the secondary and tertiary embankments were built.

e. Access infrastructure (34%) - mainly roads to link farmers to markets and increase food security of local communities.

f. Water management (5%) - mainly canals for drainage and irrigation purposes, and fish ponds to provide additional sources of protein and income.

34. Under both CPs, project participants were trained in a variety of topics including risk reduction/preparedness planning, nutrition/hygiene, women's empowerment and income generation and life skills, with the objective of combining knowledge building with work opportunities provided through FCFA and asset development. Annex 2 presents the overview of the two FCFA based CPs. Assets constructed under CP 10059.0 were not subject to this evaluation because historical data could not be compiled and digitized within the time and resource constraints of the evaluation. The evaluation was restricted to CP 10410.0.

2. Results: Outcomes and Impact of FCFA

2.1. Asset Creation and Bio-physical Outcomes and Impacts

35. Six specific types of assets created through FCFA were investigated closely in this evaluation. These include ground raising, homestead raising, embankment, road, pond and canal. Both FCFA participants and non-participants from intervention villages were asked whether any of these six types of assets had been created by WFP and partner NGO (PNGO) in their community. Almost everyone from participants group (499 respondents out of 500) was aware of at least one type of asset being created in their community/union (Table 1). More importantly, about 93% of the non-participants also reported being aware of any such asset being created by WFP. This high level of awareness among the non-participants demonstrates the visibility of these projects and indicates a high level of community engagement. Although the non-participants were selected from those who did not directly benefit from individual assets (e.g. homestead raising), some of them indirectly benefitted from community assets.

Table 1: Awareness of Asset Creation

Asset type	Participant	Non-participant
Ground raising (%)	21	5
Homestead raising (%)	75	60
Embankment (%)	16	4
Road (%)	70	66
Pond (%)	2	4
Canal (%)	32	28
Number of asset types (mean)	2.16	1.66
Any assets (%)	100	93

Source: Household Survey - 2013

36. During the surveys and interviews/group discussions, it was observed that most of the respondents were able to distinguish the assets created under FCFA/ER from other public works. Although some of them could identify these as ER or WFP projects, a large share of the respondents associated these projects with the partner NGOs or sometimes by the name of the NGO staff/trainer responsible for implementation (e.g. "China apa's work"). The association of the partner group with the physical work is the result of the heavy engagement of partner NGOs in the actual construction works.

37. Among the six types of assets, homestead raising and road construction were reported more frequently by both the participants and non-participants. About one third of the participants also reported canal re-excavation being done in their community. Pond was the least frequently mentioned asset created through WFP/ER activity. This distribution is similar to FCFA projects between 2008 and 2011 nationwide where the bulk of the projects were flood protection, followed by access infrastructure (mainly roads) and water management projects (canal and ponds) (see Table 1.1 in Annex 1). However, the figures of Table 1 and Annex 1.1 are not directly comparable since Table 1 shows percentage of the respondents being aware of certain types of project and Annex 1.1 gives the distribution of project types. It is also very important to note here that some of the assets can serve crosscutting purposes. For example, roads constructed/renovated as access infrastructure can also serve as embankments for flood protection.

Bio-physical Outcomes

38. According to the respondents, each type of asset created in these communities is yielding multiple forms of bio-physical benefits (Table 2). We use this perception based indicator as a proxy for bio-physical outcome, and findings from site visits are reported in a later section. The pond category has not been reported in the Table because of the small sample size. Among the other five types of assets, embankments are the most appreciated assets among the FCFA participants. According to the participants, embankments in their respective communities are the most effective in reducing soil and riverbank erosion, improving vegetation and increasing agriculture productivity. This is in addition to reducing severity of flooding. Respondents were asked about eight different types of bio-physical benefits of the assets, and they reported embankments being effective in producing 6.1 (on average) of those benefits. Indeed, more than 80% of the respondents mentioned embankments as being effective in producing six of these bio-physical outcomes. It is important to note here that out of the sampled villages, embankments were built in the villages from Barguna, Khulna and Gaibandha districts, which are prone to saline water intrusion and flood. Therefore, the relatively higher reported effectiveness of embankments can be influenced by the needs/priority of these districts. By contrast, ground raising was seen as the least effective in generating bio-physical outcomes in general as this asset has been associated to 3.07 outcomes on average.

39. According to participants' perspectives, community assets (embankment, road and canal) are more effective in bio-physical outcomes compared to individual assets (homestead raising). Whereas homestead raising is useful in improving vegetation, facilitating the establishment of tree plantations and fruit producing trees, the community assets serve two basic purposes: At one end, they ensure the physical security of the participants by providing protection from disasters. They also open up new opportunities for income generating and economic activities. This particular assessment is reflected not only in the quantitative findings and during group discussions with a number of participants expressing a similar view. For instance, in the coastal areas like Khulna and Barguna, community assets like ponds and canals have created new sources of fresh water which are used for both drinking and irrigation purposes.

Table 2: Perceived Bio-physical outcomes of different asset types

Type of bio-physical outcome	Ground raising	H/S raising	Embank-ment	Road	Canal	Average for all Assets
Panel A. Participants						
1. Reduced soil erosion (%)	50	47	86	69	38	56
2. Reduced river erosion (%)	0	3	83	29	37	22
3. Better water availability (%)	0	3	53	24	97	27
4. Reduced severity of flood (%)	8	54	96	75	69	61
5. More vegetable production (%)	65	80	86	65	93	76
6. Improved agri productivity (%)	33	37	89	69	98	60
7. More trees (%)	97	88	96	94	54	86
8. More products from trees (%)	60	67	55	60	38	59
Number of positive outcomes reported (mean)	3.07	3.73	6.11	4.72	4.93	4.33
Number of observation (n)	102	372	76	339	152	1,047
Panel B. Non-participants						
Number of positive outcomes reported (mean)	1.00	2.88	1.95	2.95	3.77	2.92
Number of observation (n)	25	298	22	329	140	833

Source: Household Survey – 2013; Asset category 'pond' (6 cases) not reported, but included in total.

40. Only eight percent of the participants, among those who are aware about ground raising projects in their communities, reported such assets being effective in reducing severity of flooding. This is in contrast to the primary objective of ground raising (to reduce the severity of floods). It is plausible that the respondents viewed ground raising more of a coping strategy rather than reducing flood severity since their houses could still be affected. During asset assessments, ground raising was also found to be an effective means of coping with floods as the villagers took shelters in such community lands when affected by floods.

41. Since there is a possibility of courtesy bias among the participants in answering questions of effectiveness of FCFA assets that they themselves have built, it is important to consider the figures in Table 2 (Panel A) as the upper limit of the effectiveness of the assets. However, the non-participants are less likely to have a reporting bias. The non-participants from these same villages were also asked to provide their opinion of effectiveness of these assets. While the participants reported 4.33 outcomes (out of eight) for all asset types combined, the non-participants have also reported a relatively high level of effectiveness (2.92). These results demonstrate that on an average, an asset created under FCFA is producing about three to four different types of bio-physical benefits according to the inhabitants of the communities (both participants and non-participants) where these assets were created.

Increased agricultural productivity

42. The ET found substantial evidence of different bio-physical outcomes, especially around agriculture productivity. For instance, in *Udakhali, Gaibandha*, the participants explained to the ET that the construction of different assets has significantly increased the productivity of agricultural land. According to one respondent, "*in our locality, usually water flowed easily onto the cultivable land. The free flow of excessive water severely disrupted our Aman (the main rice cropping season in Bangladesh) production. Furthermore, this water also carried sands with it which would make a layer on our land making cultivation more problematic*". Participants pointed out that due to the construction of roads (which also serve as embankments because they are raised), water does not enter into agricultural land and as a result, people living in this locality can now produce paddy twice a year. Such increase in agriculture productivity is beneficial to whole community. Increased demand for labourer in agriculture is expected to benefit the ultra-poor who do not have their own land. At the same time, canal digging has made irrigation easier. This positively affects food production increasing rice production by 200 to 300% as reported by interviewees.

43. Most of the community assets that were investigated were reported to have had a significant impact on land and agriculture productivity. The impact of homestead raising is seen as protecting houses from floods and providing scope for tree plantations, small-scale kitchen gardening and better protection of livestock. Embankments, roads and canals have affected land productivity at a larger scale.

Table 3: Perceived Agriculture productivity impact of different assets

Type of land productivity outcome	Ground raising	H/S raising	Embank-ment	Road	Canal	Average for all Assets
Panel A. Participants						
1. More land under cultivation (%)	21	30	88	54	95	51
2. Additional crop-cycle (%)	1	4	82	33	51	26
3. Soil fertility increased (%)	0	1	51	29	90	27
4. New crop cultivation (%)	15	26	78	40	62	38
5. Lower cost of production (%)	0	1	73	82	47	39
Number of positive outcomes reported (mean)	0.36	0.61	3.53	2.31	3.25	1.75
Number of observation (n)	102	372	76	339	152	1,047
Panel B. Non-participants						
Number of positive outcomes reported (mean)	0.04	0.77	0.64	1.40	2.36	1.24
Number of observation (n)	25	298	22	329	140	833

Source: Household Survey – 2013; Asset category 'pond' (6 cases) not reported, but included in total.

44. The survey data produced strongly similar results as the qualitative interviews. The participants almost universally reported embankments and canals being effective in bringing more land under cultivation (Table 3). More than half of these respondents also found roads being effective in contributing to this outcome. Over 80% of the participants also found embankments to be effective in introducing an additional crop-cycle, and about 90% reported the canals increasing soil fertility through irrigation. During a group discussion with beneficiaries regarding the canal at Botbunia village in Dacope, the respondents provided a full cost estimate of cultivating in their lands near the canal. According to their estimates, having the canal has reduced their cost of producing rice by over 3,000 taka (USD40) per *bigha* (0.33 acre) through more cost-effective irrigation. Roads are also reported (82%) to have reduced cost of agriculture production through easier access to inputs. Overall, according to the participants, embankments and canals are more effective in improving land productivity by generating 3.5 and 3.25 outcomes respectively out of the five types of outcomes. Non-participants also reported canals being very effective in improving land productivity although they did not report as much benefit from embankments as compared to the participants.

45. Roads have improved land productivity around the construction sites. During road construction, the sands from nearby plains were skimmed to put on the roads. This had an immediate effect on the land productivity of the plains since the more fertile silt has again become the topsoil. However, there is fear that this can be only a short-term gain if the sand again washes back on the plains after heavy rains. There is need for proper grass carpeting of these roads to sustain land fertility gain as well as to ensure the longevity of the roads for subsequent floods.

Photograph 1 : Multiple usage of community asset/ground raising of *eidgah* (prayer field)

Improved access to markets

46. Probably the most important impact of road construction is to generate new and improved markets for agricultural products. As the Chairman of *Udakhali* Union Parishad (UP) explained, "*the first step towards development is road construction which results in improved connectivity. And when the transportation system improves, it will create new employment opportunities and increased income for the poor. The benefits of constructing roads are not limited to only those who were engaged in the project; rather everyone gets something out of it*". The example of the road constructed in *Chargisrish* union is a case in point. This is a remote *Char* area where the only means of transportation are boats and trawlers. As a result, even if the famers produced a good amount of crops, they have to take their harvest to the *Upazila* by boats and trawlers which incurs extra expenses thus, making it difficult to make a profit by selling their produce. Second, according to the Chairman of Kazipur Upazila, "*as there was no easy means of transportation, no business person was interested in going to the char area to buy agricultural products. Only a few went there and consequently, they set the price. The farmers had no other option except to sell their agricultural products at the price set by them*". However, the WFP project intervention has changed the scenario. As part of the project, in *Chargirish* union, a four km long road has been constructed that connects three villages- Boyra, Raghunathpur and Salal. In Raghunathpur, the junction that links these three villages, a market has been established which is known as "*Manabmuktir Bazar*"(Manabmukti is the name of the partner NGO). Therefore, with an established market within the *Char area*, the farmers can bring their products to the market and sell them at a profit.

47. Furthermore, as one respondent pointed out, "*previously if you would walk through the entire char area, you would see only one or two shops. Now a number of grocery shops have been established in this market which provides the people living there with choices in regard to buying different kinds of goods*". In effect, this particular market has become a "hub" of local business as it has not only become a selling point but also encourages people to engage in agri-related businesses as they

are now buying agricultural products from this market and selling them at divisional level markets. Due to this new road, connectivity with Dhaka, the capital city has become easier. According to one respondent, "*in the past people had to come to Kazipur to go to Dhaka but now through using the road, they can easily cross the Boyra bridge and go to Dhaka and save four hours during each trip"*. Furthermore, people from other places, especially business people can now come to the *char*. Farmers have more control over the selling price of their products. Moreover, in the past the male adult members were more likely to have stayed home for fear of sudden flash flood emergencies. During such emergencies, it is often critical to have male members for relocating quickly with household possessions. They can now migrate for better work and pay with less fear of such damages back home (please see para 63 for further explanation of the migration issue). At the same time such markets improve the vitality of local areas and act to discourage male participants to migrate to larger urban centres. It was reported by several of the group discussion participants that these roads have also improved school attendance of their children since they no longer have to travel by boats.

Social Benefits

48. The ET found evidence of social benefits being accrued from many assets. For example, a project of raising community land (an *Eidgah* in Kazalapara village in Dewanganj) resulted in continuous access to tube-well water for the community as this used to be submerged during floods. The graveyard, which was raised as a part of the community raising project is no longer under water during the monsoon. This has had two benefits to the community. Livestock grazing in the graveyard is normally socially unacceptable, but since the raising project, the graveyard has also become an acceptable refuge place for goats and cows during floods in Dewanganj. In addition, the asset has a socio-emotional impact since the community no longer has to leave the dead-bodies of their family members buried in mud during the monsoon. Although the project has created more grazing land for the livestock of poor households throughout the year to some extent, the emotional benefits seemed more powerful. Similar benefits have been reported in other communities also.

Present status and maintenance of assets

49. Perception of the number of benefits from the asset of Table 2 and 3 is a crude measure of bio-physical outcomes. In order to cross-validate the survey data, the ET also conducted site visits of several of these assets that were created during 2008 to 2011. Annex 3 gives a summary of the assets visited during the evaluation and the current status of the assets. Most of the assets are operationally functional (in terms of serving the purpose they were meant for), except for a few cases where the assets are partially functional. In-depth interviews and focus group discussions indicate that there are two basic reasons for the partial functionality of several assets. First, in some cases, these assets were not properly constructed. For instance, in the village of *Naldanga* (situated in *Dacope* upazila of Khulna), the canal re-excavation project was incomplete. The participants informed the evaluation team, *"we were actually*

working on the project but when the rainy season started, it became extremely difficult to work. As a result, we stopped working". Even though the canal is still providing some benefits to the people of this area including reduction of water-logging and supply of fresh water, due to incomplete excavation, the canal is not completely functional as one respondent commented, *"right now, there is no water in the canal"*.

50. This incomplete construction of assets was also observed in Barguna. In one particular case, even though the responsible PNGO was supposed to dig the whole pond, the project period ended before the task was completed and as a result, the land designed for the pond has started to fill back in. Another reason behind the partial functionality is the lack of proper maintenance of the assets. This particular trend is mainly observed in the case of road construction where due to lack of maintenance, these assets are not performing to the fullest extent.

51. In qualitative interviews and FGDs, interviewees mentioned that the issue of maintenance has remained unaddressed by the ER project. For example, several UDMC members in an intervention union in Sirajgonj informed the ET that since an earthen road was constructed, no maintenance took place. Thus, this road has become un-usable in places. Another key informant in Jamalpur mentioned that the soil of the area is sandy. Consequently, a flood causes perforations in an earthen road very easily causing the road to be destroyed within several years after construction. Another NGO worker in Khulna commented that once the assets were created, the respective UP was responsible for maintenance. It is not possible for the PNGO to continue to work on maintenance. However, it is not clear who is responsible for maintenance of the FCFA created assets. While the NGOs and WFP perceive that, these should be maintained by the LGED as it has been the partner of the project, the LGED personnel opined that many assets do not fall into LGED's regular categories of responsibility and thus it is unable to maintain them. LGED suggested that the UP should be responsible for maintenance of these assets.[45] The FFA manual does not clearly spells out who should be responsible for maintenance.

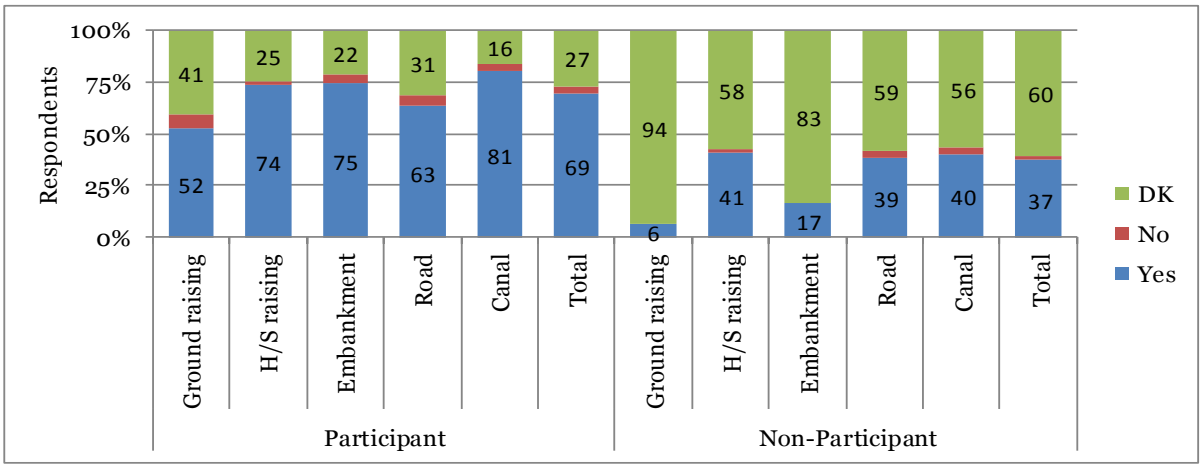
52. Maintenance of the assets is critical to ensure the continuation of benefits. For about a quarter of the cases, the respondents were not aware of who is responsible for asset management. However, such lack of clarity is more common among the non-participants (41%) compared to the participants (13%). Local NGO and the users of the assets were most commonly reported (about 20% each) being responsible for

[45] Union Parishad (council) is the lowest level of elected government in Bangladesh. There is a division of rural infrastructure development and maintenance between LGED and the UP. LGED is mainly responsible for large and concrete intra-union roads, rural roads that connects one union with the other or an union with an upazila, while the UP is responsible for maintaining intra-union medium and small roads. The UP receives annual block grants and social protection projects (food for work test relief etc) that are usually used to maintain local level infrastructure. Grant size is determined by union population but varies from year to year; on average between USD 12,000 to USD 25,000. (http://www.lgd.gov.bd/index.php?option=com_content&view=article&id=15&). The maintenance of embankments and canals are even more confusing as the responsibility may be either of LGED, UP or even BWDB (Bangladesh Water Development Board) depending on the specific asset.

the maintenance of assets. Union Parishad and Participants' Committees were also reported in 14% and 5% cases respectively.

53. Figure 1 shows the perception of the participants and non-participants whether the assets are being maintained properly. In general, participants reported a higher proportion of the assets being maintained adequately. Although the non-participants could report overall 37% of the assets being maintained, they were unaware for almost all the remaining cases. According to the participants, ground raising and roads have lower levels of maintenance. Eighty one percent of the participants reported that the canals renovated in their communities under FCFA are being maintained.

Figure 1: Whether assets created in FCFA are being maintained properly



Note: DK=Don't Know

54. None of the respondents (both participants and non-participants) reported assets as being completely dysfunctional (Table 4). However, participants were more likely to have reported assets being fully functional (88%) rather than partially functional (11%). The corresponding figures for the non-participants are 42% and 24%, and the remaining 34% of the non-participant respondents reported not being aware of the current status of the assets. Among the different asset types, canals were reported as being partially functional more frequently than any other asset type.

55. Current status of the assets has strong association with reported asset maintenance and weak association with the person/group responsible for the maintenance. According to survey data, about 83% of the assets that were being maintained were reported as fully functional compared to 41% assets that are not being maintained. Assets that are being maintained by the users themselves are slightly more likely to remain fully functional. This finding matches the physical observations and group discussions. The general finding from group discussion is that asset maintenance is more likely to occur when the community has an interest in the asset. For example, schools or community land raised or small link roads constructed are being maintained properly by the community who uses them.

Informal maintenance arrangements have been worked out in some cases. In a group discussion with UP members and chairman in Chikajani Union in Dewanganj, they reported multi-purpose use of an embankment that was created under FCFA. According to them, this embankment is used as a road for transportation, as shelter during floods, and as ground for drying firewood and crops. To protect this embankment, the community who uses it are planting trees on its two sides.

Table 4: Current status of the assets built

	Ground raising	H/S raising	Embank-ment	Road	Canal	Average for all Assets
Panel A: Participants' assessment						
Fully Functional (%)	90	93	86	89	73	88
Partially Functional (%)	9	6	11	10	26	11
Non-functional (%)	0	0	0	0	0	0
Do not know (%)	1	1	3	1	1	1
Panel B: Non-participants' assessment						
Fully Functional (%)	32	49	33	46	24	42
Partially Functional (%)	3	15	0	25	53	24
Non-functional (%)	0	0	0	0	1	0
Do not know (%)	65	36	67	29	22	34

Source: Household Survey – 2013; Asset category 'pond' (6 cases) not reported, but included in total.

56. In a similar discussion at Udakhali in Fulchhori, the UP members could account for about 50-60 homesteads and six roads that were raised/renovated in 2008. According to them, the homesteads are all in good condition. Out of the six roads, one road was later improved to tarmac by LGED, two roads are still somewhat functional, two were damaged by flood in 2012, and one was partly damaged. Although maintenance of these roads is a concern for these communities, they also identified that there are several other roads that require more immediate attention because of their current bad conditions. Consequently, these roads are not being prioritized since they are in relatively better condition.

57. Distinction of the assets as private, public and club goods is a useful categorization to help understand the dynamics of asset maintenance. While private and public goods are quite distinct in terms of ownership and whether people can be excluded in using the property, club goods fall in between the two categories. Although the ownership of club goods is similar to public goods, informal restrictions can be placed on who is invited or obligated to be a user or non-user. In the case where the community identifies users of club goods, it is possible to put social pressure on the users for maintenance of club goods by creating a sense of obligation directly linked to the right to use the good. Both private goods (homestead raising) and club goods (ground raising, canals and ponds) are being maintained relatively better than the purely public goods (such as roads and embankments) since club goods are mostly used by the inhabitants of these communities.

2.2. Livelihood Outcomes and Impacts

58. In measuring the impact on household livelihoods, there are a few methodological constraints that merit some discussion. The first and foremost concern is possible selection bias between the participants in intervention villages and the comparison group. If the selected participants were more vulnerable than the comparison group at the baseline[46], comparing their current status after the intervention may give an underestimation of the true impact. Although the sampling process was designed to minimize the difference between intervention and comparison groups, it is methodologically not plausible to ensure that they are statistically 'identical'. In the absence of baseline data, such bias cannot be accounted for in this cross-sectional survey. Therefore, the impact estimates should be read with this caution in mind.

59. It is possible from the survey to reflect on the possible extent of such bias by looking at characteristics that are unlikely to be influenced by their participation. In Table 5, we compare several demographic characteristics of the three groups. It is a fair assumption that variables such as household size, sex of household head and household head's education are unlikely to be affected by their participation in FCFA. According to this comparison, the participants appear to be poorer than both the comparison group and non-participants from their same villages. For example, households with less educated heads of households are more likely to have been selected in FCFA. Controlling for the other variables, probability of participation in FCFA decreases by 1.7 percentage points for every additional year of schooling of the heads of households relative to the non-participants. This difference between participants and non-participants in head's education is statistically highly significant. However, the difference between participants and comparison groups in this variable is not significant. The pro-poor nature of participant selection becomes much clearer if we look at female headship. A household being headed by a female increases the chance of being an FCFA participant by 20 to 26 percentage points. Larger household size is positively associated with FCFA participation although participants have more earning members compared to the other two groups.

[46]Which is likely to be the case since the more vulnerable unions of each upazila were prioritized for the interventions.

Table 5: Demographic profile comparison of participants

	Relative to comparison group		Relative to non-participants	
Education of household head	-0.005	(0.896)	-0.017	(2.966)***
Female headed household	0.196	(4.317)***	0.262	(5.563)***
Age of household head	-0.007	(8.80)***	-0.006	(7.282)***
Number of earners	0.102	(4.530)***	0.090	(4.198)***
Household size	0.029	(2.557)**	0.034	(3.028)***
Constant	0.432	(7.360)***	0.418	(7.290)***
Observation	999		1001	
R-square	0.094		0.095	

Source: Household survey – 2013;
Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1;
Dependent variable in OLS estimate is whether the household is participant.

60. While these differences demonstrate the success of FCFA in reaching out to the relatively poorer households, these also pose methodological challenges in measuring the impacts of their participation. Although our impact estimates control for these demographic differences, we cannot control for other such differences that may have influenced the outcome indicators. Similarly, we cannot take account of any difference in the outcome indicators pre-intervention because of the lack of baseline data. With these caveats, the regression analysis estimates the direct impact on the participants and spill-over effects on the non-participants in the intervention villages by comparing both these groups with the comparison group. We also control for upazila fixed effects to control for any upazila specific common trend that may have an influence on livelihood outcomes of all the households. Estimates on income, work and savings are shown in Table 6 with the complete regressions results being presented in Annex 4.1. The analysis of Annex 4.1 (and subsequent regressions) can be explained as the following – accounting for the differences in household demographic characteristics, the participant coefficient shows the impact on participants compared to the comparison group (i.e. direct impact), and the non-participant coefficient measures the impact on non-participants compared to the comparison group (i.e. spillover effect).

61. Overall, we find a positive impact on the annual income of the FCFA participant households. Controlling for the demographic differences, FCFA participant households earned significantly more (about Tk 5,200 or about USD 65) in the last year preceding the survey compared to the comparison group (Table 6). This impact does not include the transfers from FCFA activities since the recall period started after the end of FCFA activity in most cases. The non-participants from the intervention villages also had about Tk. 1,000 more income compared to the comparison group although this difference is not statistically significant.

62. Besides providing paid work for the asset creation, training on income generating activities (IGA) was also conceived within the project as one of the key mechanisms for fostering household income growth in the ER interventions.

Diversity in the IGA is important not only for increasing household income but also to reduce vulnerability among the extreme poor households. The evaluation results indicate a significant positive impact on increasing the number of income sources for the respondents. On an average, participants have 0.39 more IGAs compared to the comparison group (Table 6). This estimate (and the remaining estimates in Table 6, 7, 8 and 10) is done using the same regression specification as impact estimates on income. The figure 0.39 implies that between a participant and a respondent from a comparison group having the same demographic characteristics (i.e. household size, number of earners; and age, sex and education of head), the participant has 0.39 more income sources.[47] At the same time, no spillover effects are observed on the income diversity of non-participants.

63. The interventions also appear to have had quite a large effect on employment status of the households by fostering migration for work (temporary/seasonal migration for work). The interventions seem to have resulted in an increase of 0.22 members (per household on average) from participant households migrating for work in the past one year. Although migration is often seen as a coping strategy, qualitative interviews found this to be a more opportunistic response of households. It was frequently reported that previously family members could not migrate even though they wanted to because of transport difficulties and the fear of flash floods when absence of male members can mean greater loss of assets and even lives. With more secure houses, and easier and cheaper transportation, they can go elsewhere to work for higher wages. Spillover effects on migration for work are observed with non-participant households as well. Lack of spillover effect on IGA despite significant spillover on migration indicates the possibility that the IGA diversity may have been influenced by the trainings while migration may have been an outcome of the asset creation. In fact, during the qualitative discussions, some of the assets were reported having direct effects on migration and increased mobility. Comments such as "*previously it took us an hour to go to the market and now it takes only 20 minutes"* or "*this road has never seen a bicycle before, and now you can find motorcycles and nasiman (local transport means) anytime of the day"* were made during almost every group discussion. This speaks to the increased mobility.

64. Estimates of these impacts between coastal (Khulna and Barguna) and *char* districts (Jamalpur, Sirajgonj and Gaibandha) reveal interesting diversity. Detail estimates are shown in Annex 4.1. Impact on migration for work is being observed only in the coastal districts while the impacts on income are almost entirely seen among the villagers from *char* districts. Although we see positive impacts on income diversity of the respondents in both types of areas, the effects are much stronger in coastal area (0.68) compared to char area (0.16).

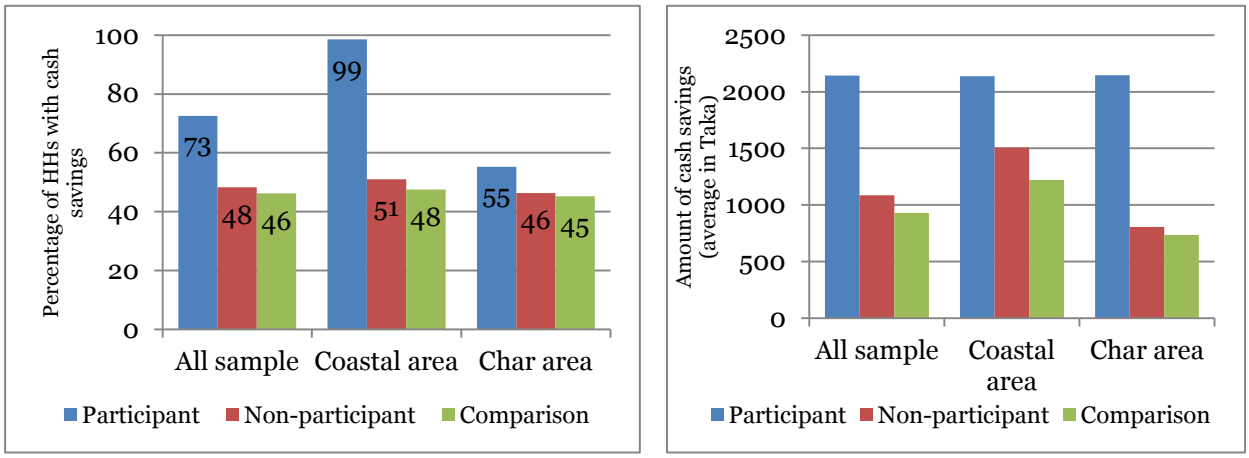
[47]In other words, if a comparison group respondent has 2 income sources, a participant with similar characteristics has 2.39 IGAs.

Table 6: Estimated impact on employment and financial outcomes

	HH annual income (in Taka)	Number of IGA of the respondent	Migration for work	Whether have cash savings	Amount of cash savings
Participant/ direct effect	5,216**	0.39***	0.22***	0.26***	1,062***
Non-participant/ spillover effects	990	-0.01	0.15***	0.02	77

Source: Household survey – 2013; Full estimates in Annex 4.1; *** p<0.01, ** p<0.05, * p<0.1

Figure 2: Household cash savings by group and location



65. In rural livelihoods, cash savings is critical in reducing household vulnerability to both idiosyncratic and covariate shocks. On the one hand, cash savings allow households to cope with shocks relatively easily (instead of other costlier means of coping e.g. selling assets or engaging children in paid work). At the same time, having savings often becomes important as a means of risk mitigation. Consequently, generating cash savings was found to be one of the stronger components of the ER programme whereby the participants were able to save, especially from the training allowances. As shown in Table 6, programme participation has significantly increased the probability of having cash savings (by 26 percentage points) as well as the average amount of savings (over 1,000 taka). While only 46% of the comparison group reported having any form of cash savings by the household, this rate was 73% for the participants (Figure 2). This effect is more prominent in the two coastal districts where almost all the participants (98.5%) reported having some amount of cash savings. Although this effect on proportion of households having cash savings is relatively weaker in the *char* districts, there are large impacts on the total amount of savings by the participants in these districts (about 1,200 taka). Nonetheless, the changes in the coastal districts indicate further room of promoting cash savings in the other districts.

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67. It is beyond this evaluation to conclusively explain the difference in the impact estimates between coastal and *char* area. However, it is possible to put forward conjectures based on wider literature and contextual understanding. A large portion of the extreme poor population of the coastal areas have descended into poverty relatively recently after cyclones. Because of their better education and human capital, they are better able to utilize the supports than their counterparts in the other three districts. In fact, average year of schooling of household heads in the survey sample is over 3.5 times greater for the households in coastal areas compared to the char areas. According to national Household Income Expenditure Survey report, Rangpur (a char area) has the lowest literacy rate among all the seven divisions. Barisal (a coastal area) division has observed much lower reduction between 2005 and 2010 in income poverty compared to the other parts of the country. The poverty rate in Barisal was 39.4% in 2010 compared to 35.7% in the northern parts of the country.

68. Impact on ownership of different household assets also shows significant success of the FCFA interventions (Table 5). Although there is no significant impact on household's *access* (owned or rented) to *cultivable land*, impact on *ownership* of *any land* (cultivable, homestead, pond etc.) is about 10 percentage points[48] more for the participants. This implies that the participant households have increased ownership of non-cultivable lands. It is also important to note here that although the impact on access to cultivable land is statistically not significant, this magnitude (4 percentage points) is quite high considering only 19% of the sample households have such access to cultivable land. Land is the most precious type of asset for rural households in Bangladesh, and 10 percentage points seem to be too large an impact to be fully attributable to FCFA interventions. Similarly, a nine percentage points of

[48]To be interpreted as 10 percentage points since 0.1 is on a scale of 0 and 1. Here, 0=don't have land and 1=have land.

effect on non-participants is also a very large spillover effect. Despite this caution on the size of the effects, the direction of this impact is certainly very encouraging.[49]

Table 7: Impact on asset ownership

	Access to cultivable land	Whether own any land	Whether own any poultry or livestock	Whether own fishing net	Total value of assets (in Tk)
Participant	0.04	0.10***	0.09***	0.08***	10,807.43**
Non-participant	0.00	0.09***	-0.00	0.05**	300.29

Source: Household survey – 2013; Full estimates in Annex 4.2; *** p<0.01, ** p<0.05, * p<0.1

69. Impact on the ownership of poultry and livestock is more directly linked with the training components in ER interventions. According to our impact estimate, nine percentage points more households in participant group own some amount of poultry and livestock compared to the comparison group. This effect on ownership of poultry and livestock is in line with the impact on diversity of IGA where we found about 13 percentage point effects on the participants being engaged in poultry rearing (results not shown). Among the other key productive assets, ownership of fishing nets is significantly higher among both the participants and non-participants relative to the comparison group. The following case illustrates the livelihood impact of an asset on the community.

Box 1: From fishing to poultry rearing: a case of opportunities created

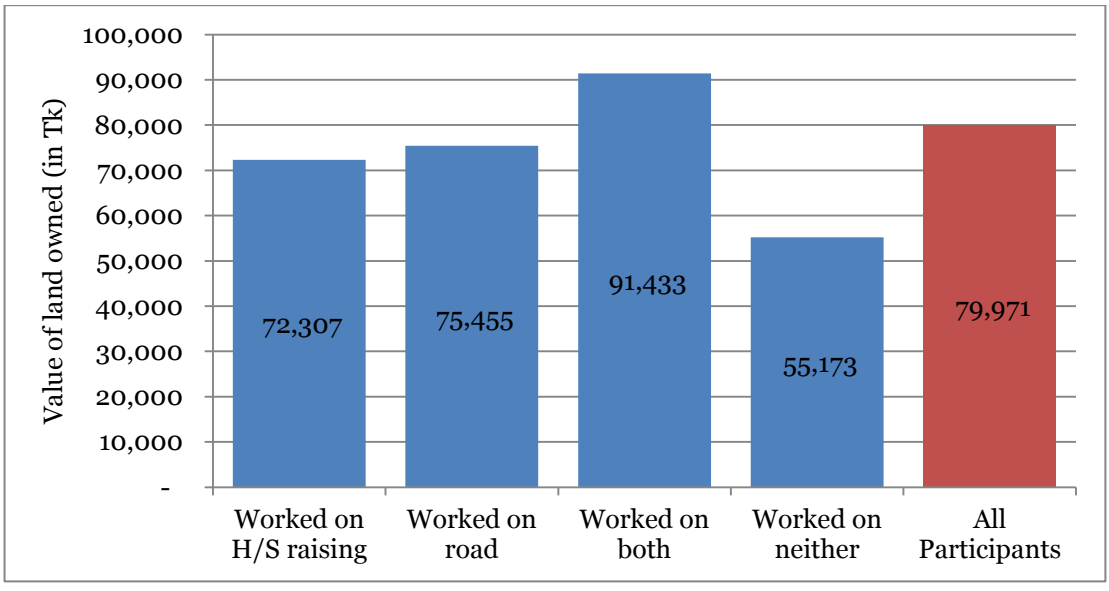
YasminAra is a 30-year-old ultra-poor housewife residing beside an FCFA re-excavated canal in Botbunia, Dacope. Her husband used to work in a poultry farm at the upazila headquarters. The couple dreamt of owning a poultry farm but could not think of starting one due to lack of fresh water in their area. Yasmin did not opt for FCFA work as she felt it was too physically demanding. However, as soon as the canal was re-excavated, she utilized the advantage of living by the canal to begin fishing. She saved money by selling fish. Yasmin and her husband used taka 4550 from the proceeds of her fish sales to borrow taka 20,000 from relatives to start their own poultry farm in 2012. Fresh water from the canal made their dream come true.

[49] It is important to mention that here "ownership" mean "user rights". Often, when ultra poor households can afford, they lease in cultivable land for one year or more (depending on the negotiation with the land owner and amount of money the household can afford.)

70. The final column in Table 7 shows the impact on total value of household assets. Programme participation has increased the total asset value of the poor households by about 11,000 taka (USD 140). There are at least two possible factors for explaining this impact on household asset. First, the participants may have acquired more household assets after joining the programme. Second and more directly related to FCFA, is the possibility of the assets created in FCFA directly impacting the value of household assets. Further exploration of the data reveals that the impact on total household asset is almost entirely correlated to the value of land owned by them.

71. Although appreciation of land value was reported as one of the effects of assets created in FCFA during several group discussions, we tried to explore the correlation between the type of public works done in the communities, participation in the work itself and value of land. According to these discussions, both homestead raising and roads may have had some effects on the land value of the participants in the villages. In this analysis, the key assumption is – at least some of the workers/participants on a specific type of project are also direct recipients or beneficiaries of the asset. According to Figure 3, the average value of land owned by the participants (among those who own any land) is about 80 thousand taka. However, this value is only 55 thousand taka for those participants who did not work on road construction or homestead raising. For those who participated in either of these two types of asset creation, their average land value is between 72 and 75 thousand taka. Finally, those who worked in both homestead raising and road construction, have an average of over 91 thousand taka worth of land. A plausible conclusion is that homestead raising and road construction benefited the participants by increasing the value of their land. Moreover, in some cases, through extra savings the participants were able to purchase more land, which increased the overall value of the land held.

Figure 3: Association between type of work and land value



Impact of FCFA on food security status

72. Table 8 describes the impact of FCFA on food security status of the participants. Despite the relatively large average impacts on income and household assets, no impact on self-reported food security status was found. This food security measure is based on households reporting on whether they have managed to ensure three meals a day during the past one year. According to this indicator, there is no difference between participant and comparison groups after controlling for the usual demographic variables. Also no significant direct impact was found through the evaluation's measure of dietary diversity scores (which range between 0 and 9). However, a seven percentage point positive effect on the non-participants of intervention villages in food security measure was measured and a negative 0.09 points on dietary diversity. Therefore, the spillover effects are too spurious to make a clear conclusion. Nonetheless, it appears that FCFA has not made a dent on direct nutritional intake despite its impact on income and assets. Such a lack of correlation between impact on income and nutritional measure is quite puzzling for Bangladesh and South Asia for that matter. One possible explanation in this particular evaluation is households are prioritizing investment in assets and cash savings from their additional income rather than spending on food.

Table 8: Impact on food security, nutrition and health

	Food security last year	Dietary diversity	FCS	Knows vegetable cooking	Use sanitary latrine	Safe drinking water
Participant	0.00	-0.01	-0.85	0.16***	0.17***	-0.02
Non-participant	0.07***	-0.09*	0.87	0.01	0.03	-0.03*

Source: Household survey – 2013; Full estimates in Annex 4.3; *** p<0.01, ** p<0.05, * p<0.1

73. There was no significant difference between food consumption scores (FCS) comparing FCFA participants with non-participants and comparators, with over 90% of respondents from all groups reporting acceptable scores (93% of participants and 96% of both non-participants and comparison). Secondary data from monitoring reports documented significant increases in the percentage of participants within the "acceptable" range for FC.[50] It is important to recognize that follow-up measurements from both the evaluation and the monitoring reports were taken during seasons of relatively high food availability. However, 80% of survey respondents reported that FCFA food distributions had taken place during periods of food scarcity; thus, based on recall evidence it appears that the food provided would have filled a food need.

74. Although there is no evidence of improved dietary diversity among participant households from this household survey, such impacts were mentioned in almost all the group discussions. Beneficiaries, project implementers, local elites, and members of upazila/union disaster management committees unequivocally claimed that

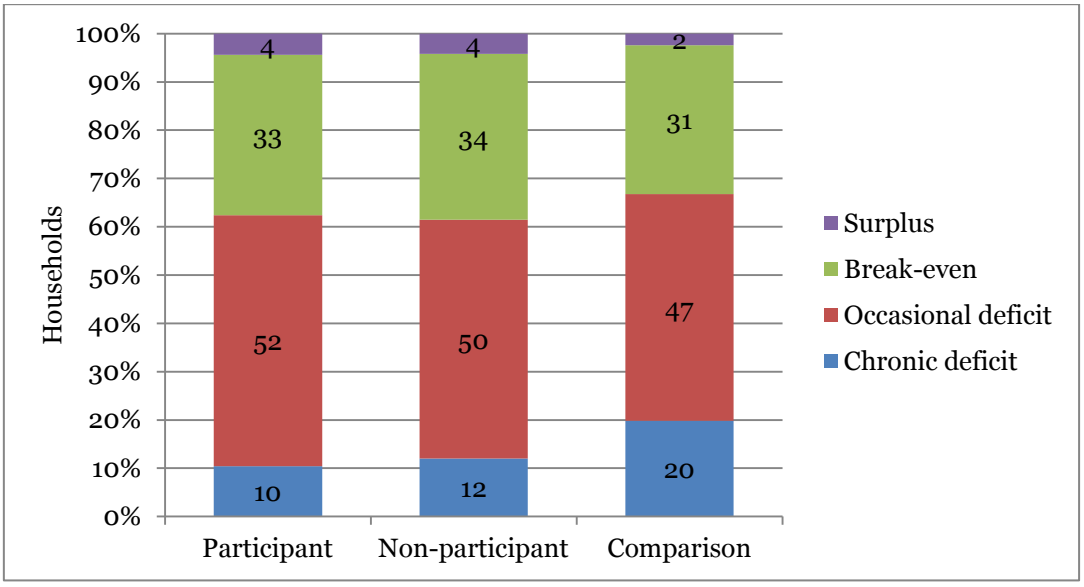
[50] WFP Standard Project Reports 2010 and 2011

homestead raising as well as ER trainings had the effects on the beneficiaries in terms of promoting kitchen gardening and better nutrition. In a few occasions, better market access created through roads construction/renovation were also claimed to have created markets for vegetables.

75. Moreover, many community residents mentioned that assets created have helped to generate employment resulting in increased food security. For example, one ultra-poor housewife in Khulna mentioned, *"we faced severe food crisis in the past. My husband could not find any day labour job during lean seasons. We used to eat less rice with wild green leaf. We could not even borrow food as other households were also starving. I fainted several times due to weakness and hunger. But, agricultural work is available in the locality now as landowners cultivate during lean season using fresh water received from canal. We do not starve any longer."*

76. As Table 8 demonstrates, there are some impacts on health related outcomes. There is about a 16 percentage point increase in the knowledge of the beneficiaries about proper methods for cooking vegetables. Probably the most noteworthy impact from the household survey is on the use of sanitary latrines (average impact 17 percentage points). This was most prominent in the char areas (about 25 percentage points). Training on health and hygiene were parts of the life-skills components of the intervention package, and these effects indicate the usefulness of the trainings. Health impacts were also indicated on many occasions during qualitative interviews. Respondents of these interviews and group discussions reported that raising homesteads and community lands has reduced the extent of water logging, and now they observe fewer cases of skin diseases and diarrhoea.

Figure 4: Self-reported economic status



77. It is important to cross-validate these impacts on income and savings with self-perception of the respondents about their economic status. Figure 4 shows the self-

reported economic status of the group of households. As shown, both participants and non-participants from the intervention villages are less likely to rank themselves being in chronic deficit than the comparison villages. This 8-10 percentage point decline in chronic deficit demonstrates quite remarkable direct and spillover effect of the interventions. However, no major improvement in households self-reporting in surplus or break-even circumstances was observed.

78. There is a strong possibility that programme participants benefitted from short-term food security gains. However, due to lack of data during the intervention period, such impacts could not be assessed.

2.3. Vulnerability and Crisis Coping Outcomes and Impacts

79. One of the key objectives of FCFA is to reduce household vulnerability to natural disasters through the assets, and enhance preparedness through various targeted training. Table 9 reports the extent of household vulnerability to various types of natural disasters. Primarily, we observe the very high level of vulnerability of all three groups of households to these various disasters. Around 90% of the households from all three groups reported facing at least one of these disasters during the past one year. From these figures, it appears that project participants are relatively more vulnerable (93%) than the comparison group (89%). Among the specific types of disasters, project participants have been victims of both drought and excessive rainfall more frequently than the comparison group. Incidentally, the overall differences between participants and comparison for both drought and excessive rainfall were almost entirely driven by the differences in the same sub-district. This also means that the community selection by the project was effective as treatment communities faced more disasters and they needed more interventions therefore were clearly in need of more assistance.

Table 9: Vulnerability to various natural disasters

	Whether faced in last year (% of surveyed households)			Whether faced in last 3 months(% of surveyed households)		
Type of disaster	Participant	Non-participant	Comparison	Participant	Non-participant	Comparison
Drought	42	33	28	25	26	20
River erosion	13	7	6	1	1	0
Excessive rainfall	27	20	18	3	3	0
Water logging	16	11	12	1	0	0
Earthquake	35	39	41	15	11	10
Landslide	1	0	0	0	0	0
Wind damage	55	63	59	37	46	45
Sand storm	2	1	1	1	0	1
Fire accident	1	0	1	1	0	1
Flood	26	22	29	0	1	1
Faced any crisis	93	90	89	55	62	59

Source: Household survey - 2013

80. Since the FCFA programme ended in some of the villages only a few months before the recall period started for the survey and one year is sometimes too long a recall period, looking at the vulnerability in more recent times reveals a more reliable picture of the effectiveness of the ER assets. The last three columns of Table 9 report the percentage of households who faced disasters during the last three months preceding the survey. As we can see, the differences in rates in facing these crises somewhat reverse among the groups, and participants appear to be victims of these shocks less often than the comparison group. Although these differences are not statistically significant, the reversal suggests that the actual effects can be more visible in the next couple of years.

81. Awareness building on disaster preparedness is one of the core elements of the trainings in ER interventions. In the survey, the respondents were asked about their awareness on how to prepare themselves against disasters to mitigate risks and to enable them in coping with such shocks if they happen. The respondents from participant households were clearly more aware about preparedness techniques compared to the other groups for almost all types of disasters (Figure 5). Because of the repetitive nature of floods, there is a greater awareness about preparedness for floods in general in Bangladesh. Moreover, the training emphasized heavily on the issue. Consequently, about 80% of the respondents from participant group could report at least one method of preparing themselves compared to 59% and 55% in the non-participant and comparison groups respectively. Such remarkable differences were also observed for water logging, excessive rain, river erosion, cyclone and droughts.

82. During a group discussion with the beneficiaries in Fulchori, the participants were asked whether there is any specific example of new knowledge learned during the trainings. They mentioned a long list of issues discussed during training sessions including better practices in livestock rearing, making businesses more profitable, cleanliness of homestead, child care, violence against women, dowry, kitchen gardening, and disaster preparedness. They also highlighted one example of innovation in keeping firewood dry during floods. As the group explained to the ET "*we have very little firewood that runs us throughout the year. Previously, we used to store our firewood and dung cakes inside our kitchens/houses. This meant that every year this would get damaged during floods. Now we have learned that we can keep them hanging from our roof. Last two years, we did not face the same trouble during rainy season. We learned about this in training*". There were quite a few examples of such small innovations that beneficiaries learned from the training sessions.

Figure 5: Awareness on disaster preparedness

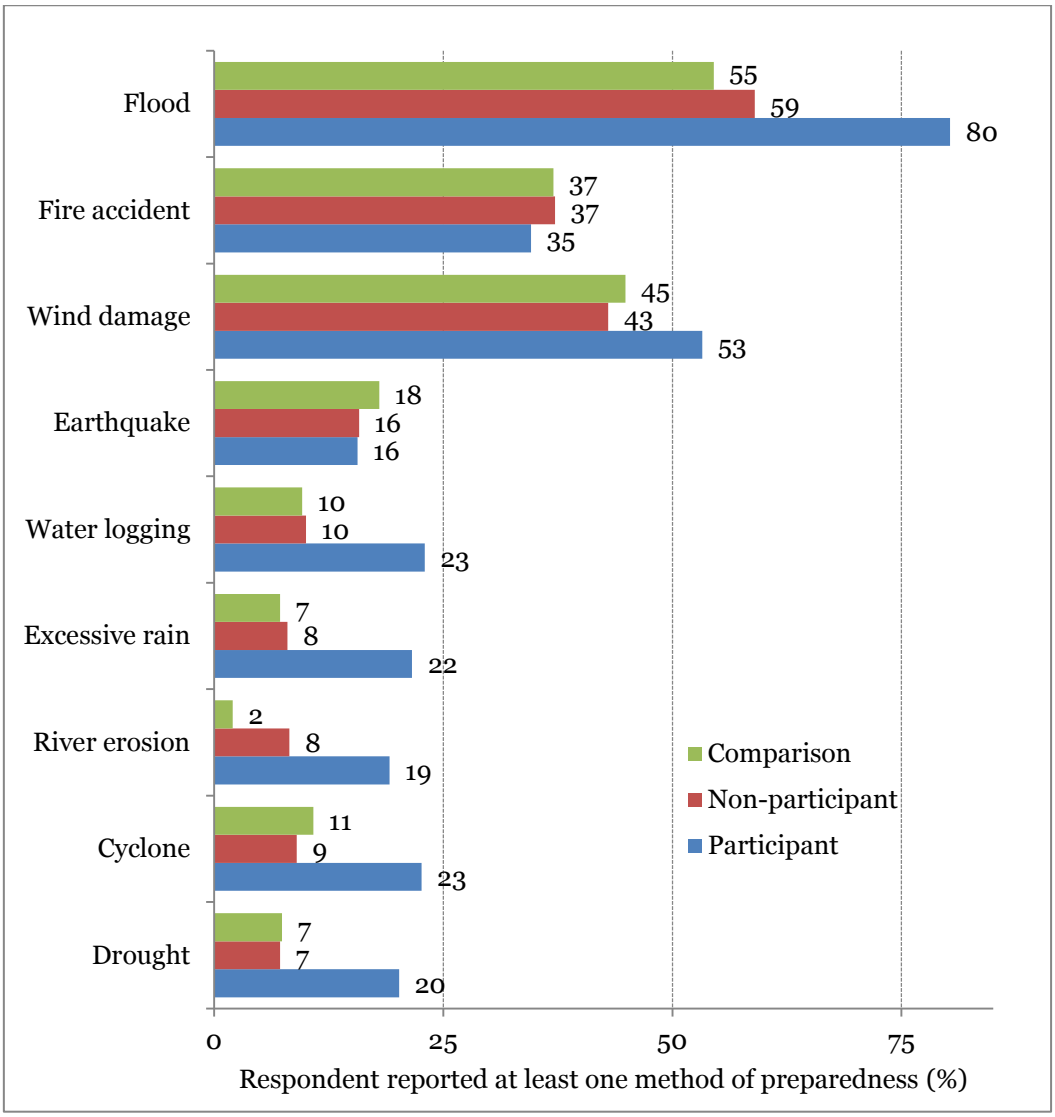


Table 10 : Impact on vulnerability and shocks

	Faced any crisis last year	Faced any crisis in 3 months	Loss/expenses due to crisis last year	Loss/expense due to crisis in 3 months	Disaster preparedness score	Inadequate money for food last week	Coping strategy index total
Participant	0.03	-0.05*	399.69	-58.49	1.05***	0.00	-0.30
Non-participant	0.01	0.03	319.84	18.94	0.05	-0.07**	0.09

Source: Household survey – 2013; Full estimates in Annex 4.4; *** p<0.01, ** p<0.05, * p<0.1

83. While the descriptive statistics give an indication of the ultimate effects of the programme, impact estimates are presented in Table 10. In line with the descriptive statistics, no impact was found on vulnerability due to natural shocks during the last year of the project although there is a negative effect (reduced vulnerability) during

the last three months. Financial loss and expenses incurred due to crises is a difficult variable to interpret. On the one hand, households with more assets and financial means are also likely to face greater losses and more likely to cope better. At the same time, this also reflects greater vulnerability to natural disaster in terms of potential related shocks. Overall, no significant difference was found between the participants and comparison group in their financial loss either over the last year or the last three months. In general, there is also no noticeable difference between non-participants and the comparison group in terms of these measures of vulnerabilities.

84. Estimated impact on disaster preparedness (measured on a scale of 0 to 11) for participants is 1.05 points, which is about 50% higher than the mean for comparison group. However, no difference between the non-participant and comparison groups has been observed in this indicator. This indicates that effects of the trainings on disaster preparedness are yet to spillover on the other members in the communities.

85. There is no direct impact observed on the participants relative to the comparison group in coping strategy index. Higher values for both these indices reflect the households being worse off. In terms of facing food shortage or access to food, there is improvement observed on the non-participants relative to the comparison group (spillover effects).

FFT and its perceived usefulness

86. As part of the ER project, the participants were trained in many income generating activities, but a key problem as identified by one interviewee- "*once the project was completed, it was not clear how the participants would utilize their training. As the wage rate was low, they could not really save much and as such, investing in different IGAs like poultry or livestock were difficult for them. Therefore, even though they had training, they had no idea what they would do with it*". In order to have a complete idea about the availability of complementary services, it would be better if we first look into the training received by the project beneficiaries.

87. While all the participants reported receiving some form of training, just over 80% of them reported to have joined in all the training sessions (Table 11). There were also variations in their reporting about the number of days spent on training with a mean of 39 days for training.

Table 11: Profile of trainings provided (% of participant sample)

Received training	**100%**
Number of days received training	39 days (average)
Attended every training day	81% of the participants
Training frequency was weekly	96% of the participants
Reported receiving training on …	
Reducing disaster vulnerability	64% of the participants
Disaster preparedness	64% of the participants
Income generating activity	46% of the participants
Life-skill training	11% of the participants
Nutrition	47% of the participants
Cleanliness and hygiene	43% of the participants

88. Whereas a significant number of participants received training on disaster management (64%), the number of participants who received training on IGA or Life-skill training is comparatively lower (46% and 11% respectively). Furthermore, in the context of being trained, most ultra-poor women needed further support to utilize their training for earning an income. Other NGO programmes in this case provided much needed support through micro finance, asset transfer project or other technical support. Even though the evaluation's data or findings do not show whether the WFP-ER project participants have succeeded in complementing their training with benefits received through NGOs, this is actually an important point to consider, i.e. if the training needs of the participants of the ER project are assessed before providing the actual training.

89. In order to reflect on the effectiveness and quality of training, the participants were asked to rank the trainings they received on a scale of 1 to 5 in terms of both effectiveness and quality. In this scale 1 represents the best quality and 5 represents the worst. According to survey data, the mean for ranking on effectiveness and quality are 1.92 and 1.93, and the median for both is 2.

2.4. Social Empowerment Outcomes and Impacts

90. Women's empowerment is one of the broad objectives in ER. However, having measurable impacts on women's empowerment takes a much longer period and requires a certain amount of social transformation. Nonetheless, the evaluation asked the participants and non-participants about their perceptions on a few selected indicators of women's empowerment (Table 12). Overall, a large proportion of both these groups claimed that the project in their locality has made improvement in women's status. According to them, their social contribution and participation in other project functions (e.g. microcredit) have also improved quite substantially. Another general feature of the survey results is that the participants reported much higher impact than the non-participants. According to the respondents in intervention villages, participation in participants' committee has enabled women to negotiate with NGOs, government officials as well as manage the construction of assets.

91. There is some indication of overburdening women participants as 23% of the women respondents reported that doing FCFA activities created problems in their household chores. Besides this, 36% of the participants mentioned that FCFA activities were physically demanding. However, reporting of shared responsibility was also quite frequent. About 81% women from participant households reported that they could send another household member for FCFA activities as replacement if necessary, and 51.6% actually sent such replacement workers in cases of illness, pregnancy and other unavoidable commitments.

92. Over 80% of the participants (and 61% of non-participants) have reported that FCFA works and trainings have resulted in greater participation of women in household decision making. More than one third of the participants also reported

that this increase in decision-making about household finances is quite a large rather than marginal improvement. Not surprisingly, such perceived impacts are much higher for empowerment on intra-household decision-making compared to participation in social decisions. One ex-UP chair commented, "*due to training, women are now more aware and active in their daily lives. They participate more in income generating activities and making household decisions. Seeing these women, many women in fact from the area are now even going to cities to work in garments factories. After all, when a tree grows big, others come to it to be under its shade.*"

Table 12: Perception of FCFA effects on social empowerment

Perceived effect of WFP/FCFA project on…	Participant	Non-participant	Difference
Improving women's status in society (%)	85	82	3.2
Women making greater social contribution (%)	75	51	24.2***
Women's access to microfinance program (%)	75	50	25***
Women taking greater household decisions (%)	83	61	21.6***
Women taking a lot more decision on HH finances (%)	37	11	25.7***
Women taking greater social decisions (%)	44	23	20.3***
Women taking a lot more decisions on community asset management (%)	14	2	12.7***

Source: Household survey – 2013; *** p<0.01, ** p<0.05, * p<0.1

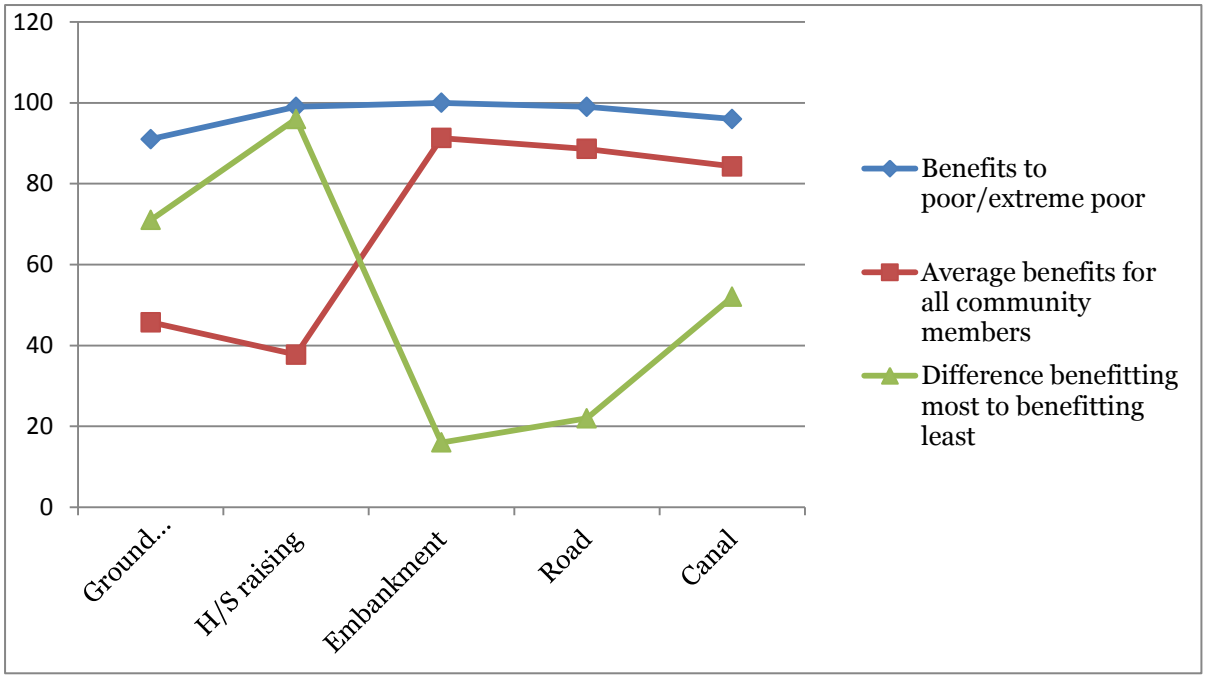
93. While there are substantial amount of evidence regarding the impacts of FCFA, it is also important to explore the distribution of these effects across different social groups. For this purpose, the respondents in intervention villages were asked to identify the social groups who have benefitted from different types of assets created. In Table 13, the first panel shows the percentage of participants who thought that an asset of each type has benefitted different groups in their villages. The same statistics for the non-participants are shown in Panel B. Figure 6 gives a more intuitive presentation of the comparison of perceived benefits to the poor/extreme poor vs. all the other household groups in the community. Benefit to the community is measured as an average of the proportions of households from different groups reported to have benefitted from the different types of assets.

Table 13: Perception on benefits for different socio-economic groups

Whether.benefitted	Ground raising	H/S raising	Embank-ment	Road	Canal	Total
Panel A. Participants' assessment						
Poor and extreme poor	91	99	100	99	96	98
Middle income class	73	29	84	94	84	66
Rich households	67	7	97	94	92	60
Agri day labourer	24	60	92	90	93	73
Non-agri day labourer	25	62	89	88	44	66
Big farmers (10+ *bigha*)	20	3	89	78	91	49
Other farmers (<10 *bigha*)	20	4	88	77	90	48
Panel B. Non-participants' assessment						
Poor and extreme poor	70	94	69	96	94	93
Middle income class	40	15	46	87	81	56
Rich households	37	3	58	88	89	53
Agri day labourer	23	67	50	85	73	72
Non-agri day labourer	27	72	58	89	44	71
Big farmers (10+ *bigha*)	7	2	58	80	85	48
Other farmers (<10 *bigha*)	7	3	58	81	82	48
Negative impact on any group (%)	**0.5**	**4.1**	**0.5**	**1.6**	**5.4**	**2.02**

Source: Household Survey – 2013; Asset category 'pond' (6 cases) not reported, but included in total.

Figure 6 : Benefits between poor/extreme poor and others in the community



94. As shown, almost all the respondents (participants and non-participants) reported that the poor and extreme poor of their villages benefitted more than others from all types of assets. Homestead raising, which is undertaken on private property, benefitted primarily poor households, and very few respondents thought that middle income or rich households benefitted from them. Ground raising, which usually involves small groups of households in the communities, was also reported to benefit poor and extreme poor more frequently than middle class or rich although they all benefit in some form or another from such community assets. Community assets, i.e.

embankments, roads and canals, seem to have benefitted all the different household groups.

95. A few respondents (2%) also mentioned that certain groups of households had observed negative effects from the assets created. Such negative effects were mentioned primarily in relation to canals. Some households living too close to the canals reported negative effects when the canals were renovated. In a group discussion with the Participants' Committee in an upazilla in a char area, respondents explained how a few households in between homesteads that have been raised are suffering more from excessive rains. An elderly couple is still facing serious problems due to earth from canal digging being deposited right beside their own small earthen hut that creates pressure on their dwelling causing fissure on walls and floor. This extreme poor elderly couple went to the PNGO, the local elected officials as well as government officials. But, their grievances have yet to be addressed.

Photograph 2 : Elderly couple's hut having fissure due to ER earth work

96. There were also a few interesting cases of positive effects identified during group discussions. The Participants' Committee members in Dewanganj reported that during monsoon, the price of chickens used to go down drastically. Usually the rich and middle-income people would buy poultry stocks from the poor who have fewer means of taking care of their livestock. After homestead raising and repair of an embankment, they did not suffer from the floods of 2010 and 2011. Therefore, they were not forced to sell out their livestock at a cheaper price. This is one of the examples of positive effects that had differential influence in favour of the extreme poor.

97. In terms of domestic responsibilities, a few respondents reported facing trouble with childcare for FCFA work. According to these respondents, they had less time for taking care of their children due to long work hours. It is critical to mention here that many of the respondents lauded the initiatives of the FCFA to take care of their children. Caring about the workers through the provision of childcare, sheds, access to drinking water and sanitation were hugely appreciated by the participants although survey responses indicated that not all asset works provided these types of

services, most positive responses were related to building of canals and embankments. Overall between 26 and 35 percent of respondents reported having had access to these types of facilities. However, in interviews and discussions it was clear that small initiatives of having separate toilet facilities for men and women made a big difference in making the work environment more women friendly. It can be expected that the standards set by the ER in creating an enabling environment for the women will have a much larger impact on similar public works programmes.

98. ER has also facilitated social transformation surroundings gender roles, especially in the two coastal districts. In Dacope, it was reported that women did the asset works wearing burka/hijab. This particular union was known for being conservative in terms of not allowing women to work in public places. After two consecutive cyclones, many households have become extremely poor. Previously due to social pride, many of them did not participate in earth work despite extreme hunger. Men often used the excuse of childcare to discourage women members of their families from joining such activities. After the nature of work and these specific initiatives for women and childcare were explained, the partner NGO was able to get the buy-in of the community elites for the women to work in FCFA. Although they allowed them to work, they requested that women should also be allowed to work wearing a burka if they wished. We found that quite a few women used hijabs to avoid social stigma and shame. As the respondents explained "*in the end, we did the work for our families. We need to maintain social norms, but hunger can override any social rule. It is more shameful to wait for relief than do whatever work one can find*". Such changes in work related ethics are nothing short of social transformations. This has been evident in all sites where the ET collected field level data.

3. How Does FCFA Create Impact?

3.1. The Role of Contextual Factors

99. Based on qualitative interviews and FGDs, the ET identifies that the contextual factors that have enhanced or inhibited the performance of the ER project can be categorized into four groups- **natural shocks, specific local economic context, human effect** and **complementary services** provided by other agencies. Of these four, natural shocks have mainly determined the level of community interest in the programme. Local economic context has defined the availability of labour force for the WFP project. The human effect has played an important role in determining the level of legal and implementation complexities faced by the PNGOs and the attitudes of the political and administrative actors towards the WFP programmes. Finally, the complementary services provided by other agencies/NGOs have affected the sustainability of the project's effect.

100. The *char* areas in the northern parts of the country are historically known for extreme poverty and are vulnerable to flooding, river-erosion and other natural calamities. As a result, there has been a consistent demand for constructing

embankment and roads, ground raising, homestead raising etc. At the same time, two recent cyclones (Sidr and Aila) in the coastal districts have destroyed livelihoods of many households leaving them extremely poor. Moreover, these cyclones caused intrusion of saline water into common sources of fresh water making availability of fresh water scarce. Ponds and canals needed to be re-excavated to facilitate the supply of fresh water. Consequently, in the five evaluation sites, respondents from all social groups felt the necessity for more public works to protect them from natural disasters and provide extreme poor people with work to ensure their food security. This has enabled the PNGOs and the local government to find workers and beneficiaries who were willing to do the earth works.

101. Natural disasters have played another important role in the selection of beneficiaries for the ER project. Traditionally, women in the conservative rural setting are not interested in participating in labour-intensive public works. The natural disasters have forced many poor women to engage in such work and thus have effectively broken this social barrier and allowed ER to select women participants. The most important factor is, in the face of the after-effect of natural disasters, this participation of women was well-accepted by the society. In all the focus groups and interviews, women participants have stated that in almost all cases, their contributions were recognized and they faced no hurdle in participating in the programme. According to one participant from an upazila in a Sirajganj, two religious leaders came to observe their work and told them, "*it is most unfortunate that you are living in an area affected by constant river erosion, But do not worry. You do your job while maintaining purdah and everything will be all right*". The ET has observed the same sentiment in all the evaluation sites. In one study area (Gaibandha), a local elite commented, "*These are extreme poor women and they are not stealing or begging rather they are trying to feed their families. There is nothing wrong in it and moreover, nowadays, no one really cares about that"*. This change in social attitude due to disasters has played an important role in ensuring greater participation of women in the project.

102. The local economic context played an important role in terms of determining workforce availability and also in affecting the motivational level of workers. The project has been implemented in two phases- between January and June, the workers were engaged in different infrastructure building projects and for the next six months, they received training in various areas including disaster preparedness, hygiene, income generating activities etc.

103. However, the wages received by the workers were lower than that of the market rate. According to a staff of a PNGO (working in a northern char district), "This project was initially designed in 2007-08 and as such, the wage rate was assessed based on the rate of 2006-07. But, the project did not start in time and when it finally started, the wage was determined as BDT 37.50 per day plus 2 kg of rice. In total, the wage was BDT 82. At the same time, during the training phase, the participants were receiving BDT 652.5 and 22.5 kg of rice per month. The problem is, during this time,

the standard wage rate in this locality was BDT 150 per day. As a result, it was extremely difficult for us to find workers".

104. In areas like Sirajganj and Khulna, overall, finding willing participants was extremely difficult. As one participant stated, "*when the NGO officials first came to us to collect our names, a lot of people were interested. They enrolled their names and fairly quickly, the limit of 500 beneficiaries was reached. However, when the project was explained in details and the wage rate was made clear, many of selected participants dropped out and at that time the PNGO officials found it difficult to find eligible participants*".

105. In the case of the coastal areas, the experience was even more critical. Given that in the aftermath of cyclone Aila, many NGOs and international development agencies were providing humanitarian assistance, the PNGO initially failed to convince people to join the ER project. At one point, they had to deliver false promises. As one participant re-called, "*we were not so interested in the project given the wage rate was so low. However, the NGO officials and the elected representatives told us that we should be part of the project as it would run for a long time- at least for five years. This actually convinced many to enrol. After all, even though the wage was low, we would have employment for a long time.*"

106. The two examples above indicate that when there were other options available for the ultra-poor, they were not very motivated to join the project. However, when these options were not available, the severity of the economic condition encouraged people to join the project more enthusiastically. For the beneficiaries of Gaibandha and Jamalpur, this was a much needed initiative as an ultra-poor woman said, "if programmes like this continue, our whole village will become Gaibandha (be developed like a city)". The quantitative findings also confirm that local wage rate for unskilled work is indeed an important factor in motivating the workers. Over 40% of the survey respondents reported that the wage rate was lower than the market rates.

107. It should be mentioned here that the low wage rate ensured that only the poorest of the poor would participate and at the same time the project was protected from 'elite capture'. Furthermore, this low wage rate also played an important role in protecting the programme from political or elite intervention. During our interviews with the PNGO officials and also with the elected representatives, many admitted that as the amount of money involved in the project was too low, the political leaders were not really interested and they rarely tried to intervene. However, as indicated above, this success had a price which depended on the local context - where there were other opportunities of employment for the poorest group, they were not enthusiastic in joining these projects and in the other cases, the wage rate did not influence participation.

108. In terms of human effect, probably the most important contextual factor was the attitude of the government officials in regard to working in partnership with the NGOs. Existing studies on the bureaucracy of Bangladesh depicts the government

machinery as an elitist, 'closed' branch of the government, which is often interested in preserving its interest and shows signs of scepticism towards NGO interventions. With this attitude it is unlikely that Government will be interested in working closely in partnership with non-state actors. In a few cases, the qualitative evidence shows how this attitude of the government officials was hindering the performance of the ER project. For instance, one LGED engineer did not hide his hostility towards the NGO interventions as he opined, "*the government should always work alone in implementing these projects. The involvement of the NGOs only creates complexities and does not help at all*". The respective PNGO was critical of his role and expressed that his non-co-operation had hindered the performance of the project.

109. However, an important finding of this evaluation is the softening and change in attitude of some government officials. Except in one site, in all the other four cases, the ET observed that government officials acknowledged the role of NGOs in development work. A positive working relationship developed between Government Organizations and NGOs. For example, one government official noted, "*this is all about partnership. I do agree that without the help of NGOs, the implementation of the project would be extremely difficult. They have played an important role in the selecting the participants and motivating the people".* In another case, the LGED Engineer of one site while talking about the aspect of monitoring said, "*The PNGO actually did a great job. Even though we were supposed to monitor a number of aspects of the project implementation, honestly speaking, I did depend on them*". This is a significant change in the attitude of the government officials which positively affected the project.

110. The attitude of elected local government officials was also mostly supportive. Even though in some cases, they tried to influence the participants' selection process, in general, they showed a great interest in the successful implementation of the schemes and helped NGO officials in performing their duties. As explained earlier, because of the low wage rate, there was less interest from political leaders. On a few occasions, the political leaders at both UP and Upazila levels mentioned "*ER projects are low finance work*" or "*these are ultra-poor works*" trying to highlight that these projects involved too little finance to be worth their time. It is reasonable to speculate that this has been one of the reasons behind ER's success in limiting leakage and elite capture.

111. Second, the UP chair and members are elected representatives. There is some evidence that this sense of electoral accountability has played an important role in refraining political officials and elites from intervening in the programme. In a number of cases, the UP chair and the members mentioned that desire of people to improve their wellbeing should be encouraged. In fact, the ET observed that in most cases they helped the PNGOs in identifying the extreme poor and at the same time, they negotiated with the NGOs on behalf of these poor.

112. Whereas these attitudinal changes have positively affected the performance of the ER project, another factor inhibited its success: the presence of legal complexities. Land related dispute is quite common in Bangladesh and even though the project mainly concentrated on working on public lands there were cases where disputed land ownership slowed down or even suspended project activities. This mainly happened when beneficiaries would start digging canals, ponds or constructing roads and the 'owner' of the land refused to allow them to work claiming that this was not public property. In most cases, these disputes were resolved through the local elected officials but in some cases, especially in the coastal areas, these land-related disputes were dragged through the local courts and the project implementation was hampered.

113. Another contextual factor that affected the long-term sustainability of the project's outcomes was the availability of complementary services/benefits provided by other NGOs or donor agencies. In the context of being trained, most ultra-poor women needed further support to utilize their training for earning an income. Other NGO programmes in this case provided much needed support through micro finance, asset transfer project or other technical support. Even though the evaluation's data or findings do not show whether the WFP-ER project participants have succeeded in complementing their training with benefits received through NGOs, this is actually an important point to consider, i.e. if the training needs of the participants of the ER project are assessed before providing the actual training.

3.2. The Role of Implementation Factors

114. The implementation factors can be categorized into three groups: participant ensuring factors, managerial factors and the sustainability factors. Of these three, participant ensuring factors include targeting participants, development of an operational strategy (i.e. negotiation with local leaders, development of User Committee), site selection and asset determination (scheme selection). The managerial factors include coordination and collaboration, partnership development, flexibility and adaptability and network accountability. Finally, the sustainability factors include post-programme monitoring and maintenance.

115. In order to analyse the dynamics of the implementation procedure exercised in the project, it is useful to identify different actors that played roles in different phases of the project. The field work confirms that the following actors were involved at different phases in varying capacities.

Table 14: Actors in ER implementation

Actors	Role in the Project
LGED Officials (Engineers/Assistant Engineers)	Scheme selection, monitoring the development of asset
Other Government Officials	Food distribution, Project Coordination
Local Level Elected Representatives	Assistance in participant selection, overview and monitoring of implementation (informal), problem resolution, ensuring sustainability of asset (post-program)
NGO Officials	Lead role in participant selection, facilitation of Local Level Planning, assistance in scheme selection, motivating workers, monitoring asset development, providing training to the participants
Participants' Committee	Participation in local level planning, assistance in scheme development and site selection, Monitoring, Wage and Food distribution, maintenance of asset
WFP-CO and sub-office	Overseeing the operations at the field level, providing technical support to PNGOs, monitoring and supervising the projects, liaising with national level government ministries.

116. From this table, it becomes quite clear that this GoB-PNGO-WFP collaboration took place not through a traditional hierarchical mechanism rather through a structured network. Therefore, a key factor in defining the success of the implementation process has been an effective and efficient management of the network (as evolved through the project design) that allowed NGOs and Government to collaborate and build on respective strengths while avoiding some of the problems that can often doom such partnerships in Bangladesh.

117. In the ER project, even though there are some instances where this network structure did not function smoothly, in most cases, an effective and efficient partnership was developed between the GOs and the PNGOs. Both of these actors had clear idea about their designated roles and as such they rarely made efforts to transcend each other's boundary. For instance, in case of participant selection, the primary responsibility was in the hand of the PNGOs and whereas the LGED did help these NGOs in this process, the lead was always under the control of the NGOs. Similarly, in case of site and scheme selection, the major role was performed by the LGED. According to one LGED official, "*the difference is between motivation and technique. The NGOs are good at motivating people. They can help them in addressing their needs and can provide them with assistances in an efficient way. On the other hand, we are good at technical matters. We know the engineering aspect and we know what is needed where, how and why. If we all understand each other's role, working together becomes easier*". Overall, the ET observed a good working relationship between the NGOs and GOs.

118. Whereas this partnership between the GOs and PNGOs played an important role in case of participant selection, scheme development and asset development, in the case of distributing benefits to the participants, it created few problems. As both the public and non-profit sector are involved in the project and as money is being spent through GoB, thus before discharging money for the project, it was necessary to follow some bureaucratic procedures. This actually created two interrelated problems: The proper procedure required signature from a number of government officials who were not often available. Therefore, finishing up the procedure took some time and the consequence was late distribution of money and other resources for the participants. At the same time, the presence of these bureaucratic hurdles created scope for corruption. As both the beneficiaries and the NGO officials admitted, "*whenever we went to the upazila to get something signed, the government officials demanded 'something'*".

119. Other than bureaucratic hurdles, there were certain other problems related to money and food distribution channels. For instance, in regards to collecting rice from the food depot, certain expenses were incurred including transportation and labour cost. The IE field data shows that in some cases, this cost was subtracted from the participants' wage which was frustrating for them.

120. Whereas the network structure functioned really well up to the level of asset creation, in terms of asset maintenance, this network was found to be dysfunctional. In fact, the IE qualitative study indicates that there is significant confusion amongst participants and the PNGOs about who actually are in charge in maintaining these assets. According to some respondents, this responsibility lies in the hand of the LGED whereas the others stated that the roads, canals or ponds should be maintained by the UP. It is not clear whether this confusion has actually generated the inertia in asset maintenance, the fact remains no one is in charge. The qualitative research confirms the quantitative findings- whereas the private resources (i.e. homestead raising) are well-maintained, the problem is there mainly in cases of "Common Pool resources", i.e. roads, ponds, canals etc. In effect, as the government officials are not performing their jobs in maintaining these common pool resources. Quite unfortunately, no sense of community ownership has been developed for these assets.

121. In regard to ensuring a fair and transparent participant selection process, interviews and focus groups reported that in most cases, the PNGOs succeeded even though the degree of fairness varied from one circumstance to the next. For example, during FGD in an upazila in Gaibandha, the PNGO representative explained the participants' selection procedure- *"first of all, we are supposed to work together with the Upazila Disaster Management Committee (UDMC) and develop a Local Level Planning (LLP) initiative. The participants in the LLP are the nine members from nine wards of the Union Parishad, three female members and 10-12 local elites. Once the members were identified, they were trained in various concepts and issues including Community Risk Assessment, Field Assessment, Social Mapping,*

Hazard Mapping etc. While conducting the Field Assessment, the participants of the LLP went to the localities to conduct Well-Being Assessment (WBA) and based on their assessment, they divided the inhabitants into four groups- Rich, Middle Class, Poor and Extreme Poor." He explained, *"a list of potential participants was prepared at this stage and the PNGO workers went to every extreme poor household of the locality to examine the validity of list. We sat with this list with the members of the UDMC, UP Chair and Members and based on their opinion a final list was prepared which was then sent to the Upazila."*

122. Other interviews and FGDs suggest that the selection process described above has been more or less followed and in fact, in some cases, the PNGO field workers went door to door to assess the economic condition of the potential participants of the project. However, the ET also witnessed a number of variations within five study sites in terms of the selection of participants. For instance, in some cases, the NGO officials collected the names after discussion with community people but did not check their poverty status through home visits. In some cases, the NGO officials sought the help of the local UP chair, members in identifying the most needy beneficiaries.

123. The involvement of the UP Members/Chairs in participant selection had both positive and negative impacts. In some cases, the involvement of the local elected representatives played a huge role in convincing people about the benefits of the project and its schemes/assets. In other cases, the UP Chair/members tried to manipulate the selection process by recommending people who did not meet the selection criteria. According to one UP Chair, "*People sometimes came to me with a request- they thought that if I would tell the NGO officials to include them in the participant list, it would not be turned down. But the truth is, in our locality, the NGO people did not listen to our requests".* However, the IE reveals that "turning down" the request of the elected representatives was not that easy. One NGO official said, *"if you want to hear the rules of participant selection, I can tell you and in fact, I have memorized them. But let me be frank with you, we do receive requests from the Chairman/members and yes, sometimes we do have to cave in".* According to one LGED engineer, this is natural and acceptable, "*You cannot fight with the crocodiles if you live in the water. These people are the most powerful ones and if you make them angry, you will not be able to do anything here".*

124. However, the question is- how much negative impact did this involvement create on participant selection? As the ET does not have specific data on this, it depended on the perception of the beneficiaries and other local elites about this. Accordingly, it has been reported that the UP chair/members have indeed manipulated the selection process to a certain extent. However, even in the worst case, "*only 30% of the beneficiaries were selected based on the recommendation of the elected representatives*" and the rest 70% were selected by the PNGO. Nonetheless, this percentage is only a perception of the community and is not a scientific figure. Moreover, there are differences of opinion about the exact extent.

The quantitative data also reveal that targeting was effective. Thereby, the IE safely concludes that even though there was involvement of local UP Chair and Members in participant selection, the manipulation was probably at an acceptable level.

125. This actually raises an important question: How did the PNGOs succeed in limiting the level of improper targeting at a minimum level? The IE field study suggests that the interaction between the managerial and the participant ensuring factors plays the key role in limiting the undue influence of the elected representatives.

126. In some specific cases, the PNGO officials showed excellent management abilities. They effectively negotiated with local officials and explained to them the project's goal and objective quite efficiently. The following case of an Upazila manager of a PNGO shows how they can actually made a difference in participant selection.

127. The Upazila Manager of a PNGO pointed out that the major challenge that he faced was political pressure exerted by local level representatives. He said, "*I had to spend most of my time and energy dealing with these problems"*. Furthermore, he explained, *"it is all about politics. These elected officials have their own vote banks and they always try to satisfy them. As a result, they create pressure by suggesting that we should include their voters in the programme and when we included people- the ultra-poor, they tried to force us to remove their names as those people did not vote for them"*. He also reported that each of the members provided him with a list containing 150 people asking that they be included. The PNGO field worker visited the households and found that a number of people included on the list were not poor but rather quite well-off and subsequently not selected. Obviously, this did not satisfy the elected representatives and when they demanded why their people were not included, the manager had to be strategic, - "*I explained to them in detail the programme goal and who were the targeted beneficiaries and made it clear that I could not provide support to economically well-off. For instance, one of the women included on the list was a school teacher. I told them, "Do you think a school teacher would do this type of manual job? Afterwards, I took 15 eligible participants from their lists*".

128. The above case points out that even though the elected officials did try to manipulate the selection procedure, it was possible to deal with the situation but it required negotiation skills, ability to explain the entire project and in fact, to listen to their request without compromising the project's goals.

129. As pointed out earlier, the ET observed significant change in the attitudes of the Government and elected officials regarding the project. As they were more supportive and sympathetic to the needs of the poorest portion of the population, their interference in participant selection was minimal.

130. The impact of the attitudinal factor has also been observed in case of site selection and scheme development. Ideally, the site for asset development and scheme selection, i.e. homestead and ground raising, canal and pond digging, road construction should be done through the Local Level Planning (LLP). Consequently, the Engineers of the LGED and NGO officials should consult with the people about their perception regarding asset need, site selection and scheme development and should survey the area before finally approving the scheme. The whole procedure is important as it develops a unique sense of community ownership on the part of beneficiaries and also allows the government officials to take under consideration the perspective of community people. The ET observed significant variation in this particular aspect and the LLP was conducted through a combination of the following three processes:

131. First, in some cases, Local Level Planning Approach was adopted by project officials. In a number of cases, the opinion of the local populace was taken under consideration while selecting the site. For instance, in Kazipur Upazila of Sirajganj, the beneficiaries once selected expressed their opinions about where ground raising was required and which homesteads should be prioritized in case of homestead raising. In Barguna, when the scheme of pond-digging was approved, a local inhabitant contacted with the NGO explaining that his pond should be excavated as that would help the local inhabitants a lot. His request was granted.

132. Second, in other cases, sites were selected after conducting a survey of community members by the LGED engineers and NGO representatives. In these cases, local needs were determined by these officials and the opinions of the local people were rarely sought. This particular model was mostly exercised in the Jamalpur region.

133. Thirdly, time constraints also played an important role in the case of scheme selection and construction. For instance, in Botbunia of Khulna, the PNGO initially decided to dig a larger canal based on LLP need assessment. However, as the rainy season was closing in, it decided not to undertake it and instead decided to dig a smaller canal.

134. Therefore, even though the opinion of the participants were not sought in all occasions, it is important to point out that in most cases, the Government and NGO officials had worked together in developing the site selection and asset development plans.

135. Another key operational strategy that significantly affected the performance of the WFP project is the concept and development of the Participants' Committee which probably played the most important role in completing the asset construction. One respondent in Sirajganj explained the formation and function of the Participants' Committee in the following way:

136. *"The participants' committee was selected after 2-3 months by the actual participants' selection. In our locality, in the final participant list, 500 women were selected and these women were further divided into 16 groups each containing 32-33 members. After this group selection, the PNGO people told us to come to the UP office and in that meeting, each group was told to select its Chairperson and Secretary. In my group, I was selected as the Chairperson. After a few days, the PNGO people told the Chairperson and the Secretary of each group to come to their office. When all of us (32 in total) went there, the NGO officials selected six of us to take charge of the 16 groups."*

137. According to interview and FGD findings, the main responsibility of the Participants' Committee members was to collect money from the banks and collect rice from the food depot. Once the money and rice were collected, the Participants' Committee members were also in charge of distributing them. For this purpose, a bank account was opened on the name of the Chairperson and the Secretary and money was deposited into that bank. Each month, the Participants' Committee members went to the bank along with the PNGO members and withdrew money. However, before withdrawing the money they were required to have approval from the Project Implementation Officer (PIO) who generally sat at the Upazila Parishad Office. There was rarely any opportunity for leakage here as the participants knew how much money they were supposed to get and if the amount of money was not up to their satisfaction, they could always ask questions. A similar procedure was followed in the food depot while withdrawing the allocated rice.

138. The formation and functioning of the Participants' Committee has added a unique dimension to the project for a number of reasons. First of all, through creating this Participants' Committee, a layer of supervision is created between the LGED and PNGOs and the participants and thus LGED and PNGOs are detached from monetary management. Eventually, the monetary management was transferred to the participants themselves as representatives of the participants were in charge of distributing benefits and resources. Thus, the Participants' Committees worked as a transparency mechanism between the PNGO/LGED and the beneficiaries.

139. Second, the Participants' Committee members were bestowed with a number of responsibilities including checking the attendance of the participants, examining the level and extent of involvement of the participants and motivating them whenever necessary. Delegating the responsibility of field level supervision to the Participants' Committee served two basic purposes: it allowed the PNGOs to concentrate more on developing and maintaining partnership with the government agencies. As indicated earlier, the organizational set up through which WFP projects have been implemented is relatively new in Bangladesh and the success of this network-centric organizational setup relied on close collaboration between all actors. Through the Participants' Committee, NGOs have adopted a hands-off managerial approach for asset developments while delegating these to the committees. A hands-on managerial

approach in dealing and maintaining relationships with other outside actors was maintained.

140. Thirdly, this delegation of responsibility has also been useful in project completion. Given that the Participants' Committee members themselves are the participants of the project, they understood the mindset of the workers performing in the project and could act accordingly to ensure the best service from them. The Participants' Committee formation, sharing information with them and ensuring their involvement in food and cash distribution by the PNGOs helped in reducing leakages. Even though the survey data is not adequate to measure leakages, the participants were asked about possible undue expenditure that they incurred. Almost all of them informed that they gave small amount of money to the Participants' Committee. It was explained to the evaluation team that this money was used to meet the expenses of food transportation. Transportation of food requires a significant cost and workload for the Participants Committee. The project has thus allocated Taka 400 per metric ton of food to cover transport to distribution points. The qualitative data could not be substantiated enough on participants' reporting payment for transport, the ET feels that this should be further explored by WFP.

141. Another key factor that also affected the availability and motivation of the workforce was the flexible management approach adopted both by the Participants' Committees and PNGOs. For instance, when the participant became sick and could not come, they usually sent *their male counterparts in the project*. The PNGOs did not really create any barrier in this "nominee" system unless and until the other participants objected. However, in the case of Sirajganj almost 100% of the participants were women. According to the Participants' Committee Chair of one Upazila, "*At one point, some women did try to send their husbands or sons to work on behalf them especially when they were sick or facing other problems. However, the other participants strictly objected to this, as they did not want to work with males. Therefore, in our union, even though the nominee system continued, there was a condition- the nominee had to be a woman".*

142. In some cases, the PNGOs were forced to show flexibility in different contexts. For example, when the PNGO first selected beneficiaries; it identified 500 people fairly quickly. However, problems surfaced when the participants started to quit even before the construction work started. It was eventually a serious problem as the list was already sent to the Upazila and it lacked the necessary enlisted personnel to start the work. To deal with this problem, the PNGO worked with the local elected representatives to identify the potential participants and succeeded. However, it could not include the name of the new participants and the new ones worked instead of the people who were enrolled but did not participate. These new participants were known by different names in the attendance sheet and they also received wage by using the name of the original participants. Whereas, this definitely was not an acceptable condition and question should be raised about the PNGOs' performance, at the same time, the flexibility and adaptability of the PNGO management and the

Participants' Committee should also be appreciated as rigidity would definitely resulted in the suspension of the project.

143. Another important factor that successfully helped the implementation procedure was the development of multiple layers of accountability channels which is a very important element of the network structure. For instance, from the bottom, the participants were accountable for their performance to the Participants' Committee which eventually checked their attendance and analysed their performances. At the same time, the Participants' Committee had a close relationship with the PNGOs and as such, whenever a complaint was raised about something, the issue was brought to the PNGO officials and sorted out immediately.

144. Moreover, the PNGO officials were to some extent accountable to government officials. Even though there was no formal accountability mechanism in place and in fact, the government official had no authority over the NGO officials, an informal accountability mechanism was established. For instance, in one Upazila, there was a case when the participants were paid at a lower rate quite regularly. The participants of the project collectively brought this to the attention of the UNO (Upazila Executive Officer) and he assured that on the next payment day, he would be there to observe the whole thing. When the UNO was physically present the next payment day, the beneficiaries received the full payment and this trend continued. Similarly, informal accountability was also ensured through the elected representatives. Often, these representatives came to the site to observe and beneficiaries also brought different issues to their attention if deemed necessary.

145. The ER project has created impact by motivating workers showing the return from training and engaging local elites to encourage completion of schemes on time. Despite the relatively low wage rate for the work and allocated time for public works, the completion rate of schemes is laudable. The Participants' Committees and PNGO staff were able to prepare their work-plans based on works required. Although the payments are set at a daily rate, the works were being done practically at piece rates in many cases. Based on the prepared schemes, the participants tried to complete the tasks in fewer days by working longer hours since the payments are done on the basis of work completed.

146. The discussion on the implementations factors described at the very beginning of this subsection shows that whereas these factors have played both the role of enabler and constraint. The eventual success of the projects is the manifestation of the fact that these constraints have been successfully mitigated through adopting different strategies. The following table summarizes the findings that have been discussed in this sub-section.

Table 15: Enabling and Constraining Implementation Factors Affecting ER's Success

Implementation Factors	Role as Enablers	Role as Constraint	Mitigation of Constraints
Participant ensuring	Participation of elected leaders ensure effective identification The participants' committee played an important role in ensuring participation of the workers in completing the projects and also in motivating them	Leaders tried to manipulate the selection Not Applicable	Use of managerial factors like partnership and negotiation Not Applicable
Managerial Factors	Positive attitude of the government and elected officials towards NGO intervention Flexibility on the part of the PNGOs facilitated participation and project completion Clear idea about role distribution and function among the network actors which ensure cooperation and transparency	There instances of some hostility and tension Bureaucratic hurdles in case of money management	Use of managerial skills especially negotiation Not addressed
Sustainability Factors	There were sense of ownership in some cases and people concentrated on asset maintenance and development	In most cases, especially in case of common pool resources, lack of sense of ownership and consequently, declining status of resources	Not really addressed

3.3 Interaction between contextual and implementation factors

147. This subsection focuses on exploring how the two different sets of factors interact with each other. The findings of the qualitative work reflect a specific pattern of interaction- the variation in contextual factors mentioned above indicates what types of opportunities were/are available for the ER project or what types of constraints may affect the success or partial success of the project. On the other hand, the implementation factors indicates what types of strategies were, are or could be adopted by the programme officials either to make the best use of the opportunities or to neutralize constraints.

148. This pattern of interaction was observed at every phase of the project's development and implementation be it identification of beneficiaries, selection of site, or development of schemes and assets. However, as indicated earlier, whether

the project has been successful or partially successful largely relied on the managerial success of the PNGO staff in managing the constraints or utilizing opportunities. For instance, as explained in the previous two sub-sections, the attitudes of the government officials and the elected representatives can significantly affect the performance of the programme, i.e. when the government officials feel the need of the cooperation, understand the modality of NGO functioning and trust their non-government partners in delivering an effective performance, they are likely to be more enthusiastic and committed to the project. This particular attitude of government officials provides an excellent opportunity for the PNGOs and WFP to achieve the project's objectives. FGDs and interviews show that in most cases they have and in these cases, the implementation factors like cooperation and collaboration have come into play. The outcome of these contextual and implementation factors was a relatively free, fair, efficient and effective beneficiary and scheme selection process.

149. However, in some other cases the attitudinal constraint came not only from government officials who had been sceptical about NGO involvement and believed that, "Government projects should be done by the Government." Also elected officials considered the project as their opportunity to satisfy the needs of their constituencies who helped them win the election. These attitudes worked as constraining factors for the project and clearly the implementation strategy of cooperation and collaboration could not work in such circumstances. It was necessary to find and adopt new strategies which would not "enable" but rather "neutralize" these constraining issues. As such, a new set of issues was necessary and in number of cases, we have seen the PNGO officials adopt them. The key issue here is not to give in completely nor to engage in conflict. Rather the important thing was to be strategic, patient, persistent and negotiate with government actors skilfully. In some cases in Khulna and Jamalpur, PNGO officials succeeded in doing this and this eventually neutralized these constraints.

150. However, compromise and "caving in" to some extent did not have a significant negative effect on the project's effectiveness. As one NGO official said, "*you cannot work by making the local elites furious*". In fact, the IE findings show that negotiation and compromise served two important purposes: First, NGO representatives could always seek help from them whenever necessary and second, these representatives played the role of "informal accountability channel" by overseeing the work of the project.

151. This "political" cooperation with the elected representatives becomes more useful in times of legal complexities. The IE shows that, while carrying out the asset development projects, sometimes the PNGOs faced problems from local people especially when they refused to allow the digging to go on claiming that the project was destroying their personal property. In such cases, the intervention of the local representatives was extremely helpful as they could talk and negotiate with these people on behalf of the project and sort matters out.

152. A similar assessment can be made about ensuring the people's participation in asset development. As has been pointed out earlier, the local economic context played an important role in determining people's interest in the project. In some cases, especially in the coastal area of Khulna, due to availability of other financial assistances and work opportunities, the people were not that interested in joining the project. A similar trend was witnessed in Sirajganj where the PNGO had to struggle to identify the targeted 500 participants. This contextual factor eventually created a constraint in ensuring the success of the ER project. Consequently, the PNGOs had to come up with new and innovative managerial solutions to deal with this. One important element that helped to neutralize this constraint was the introduction and functioning of the Participants' Committee as mentioned earlier.

153. Another important factor is the collaboration and cooperation between elected representatives and the PNGOs in dealing with the problem of finding beneficiaries. In this particular case, by seeking the opinion and help of elected officials, the PNGOs succeeded in identifying needy participants. This assistance from local elected officials created an opportunity for them to get involved with the project and the IE shows how this involvement was useful. In an informal way, their involvement ensured the accountability of NGOs as the beneficiaries could always go to NGOs if they had any problems with the project's management. Furthermore, in a number of cases, the members and chairs of the Union Parishad visited the sites and they encouraged the people to work hard.

154. At the same time, due to local economic conditions, a large number of people were interested in the project. This interest created an opportunity and a new kind of challenges for NGO officials. In such cases, they had to deal with the elected officials to prevent them from inserting the names of 'their' beneficiaries.

4. Conclusions and Recommendations

4.1. Overall Assessment

155. The evaluation tested a theory of change in which cash and food inputs provided in exchange for work or time spent in training contribute to the short term goal of improving household food security; medium term goals of improving the biophysical environment, increasing agricultural production and improving livelihood options; and longer term goals of sustained improvement in livelihood resilience and ability to cope better in times of crisis.

156. The FCFA interventions were consistent with the TOC, and designed to provide short-term employment and food during the lean seasons; build assets that reduce the exposure of the most vulnerable groups to various disaster shocks and in the longer term lead to improvements in the natural resource base; and create income-generating opportunities for project beneficiaries through training and providing access to markets.

157. The IE findings suggest that the project was largely successful in achieving many of these objectives. Both the quantitative and qualitative assessments indicate that in most cases, food was provided to people whose food security was threatened and the assets constructed were well targeted to provide protection against the greatest risks. Low wages helped to ensure that only the poorest participated and reduced the risk that resources would be captured by elites.

158. Most of the assets constructed are still in place and functioning, thus contributing to medium term objectives of improving the biophysical environment and increasing agricultural production. Most assets contribute to more than one type of biophysical change including direct improvements such as reducing the severity of flooding but also indirect improvements such as increasing tree cover and vegetable production, which follow when once flood prone land is protected. Trees are also planted to protect the asset from erosion. Direct and indirect outcomes were also seen in terms of agricultural productivity. Some assets helped create more cultivable land, others protected land from inundation. Increased production followed from that. Roads increased access to inputs and markets thus indirectly stimulating production.

159. Findings confirmed that, in comparison with non-participants, improvements in incomes, savings, land and livestock ownership were achieved. Training also helped diversify income generating activities, which were more diverse for participants than comparison groups. Increased awareness on a number of issues such as disaster management, preparedness and recovery that proved to be very beneficial to the participants was confirmed. Individual knowledge about health related issues also increased.

160. More broadly, the project strengthened social capital, as the construction of roads not only protected agricultural fields, but also allowed people to move around more freely with confidence to search for temporary work while having the ability to return home. This also meant greater connection to the outside world for participating communities.

161. One of the most important contributions of the project was to women's empowerment. In almost all the localities where IE data were collected, women used to be engaged mostly in household work and were not encouraged to leave the house and join the labour force. However, an effect of constant natural disasters has been to see this barrier broken. The ultra-poor women found themselves in a position where they had to do something to protect their livelihoods and the ER Project succeeded in making the best use of this oppo**r**tunity.

162. The participation of women in the ER project was widely accepted and to a large extent encouraged by the people in targeted communities. Community leaders fell in line with this attitude, as did religious leaders. The most important consideration is the "after-effect" on the support for women's engagement. Many women participants reported that their status within the family improved. Their

husbands listen to them, and would now seek their advice. Furthermore, by providing financial help to the family, women have attained an important place in the family structure and gained some level of decision-making power. The effect of women's empowerment is visible not only within the family but also within the community at large. Unlike previous experiences, women were not just sources of manual labour. They took on supervisory and managerial positions. . The ER contributed to a change in attitude by government officials. Their acceptance of the role played by the NGOs in the development sector facilitated the effective functioning of the project and created a sense of trust amongst project stakeholders.

163. The most important design factor for the success of the ER project was the way the project implementation network was managed. The network helped to ensure that power within the project did not reside with any particular agency or actor. Spreading decision making amongst the different actors ensured that everyone had a distinct role including in some cases beneficiaries who participated in local level planning exercises or through the Participants' Committees. Implementation of a network approach ran the risk that Bangladesh's traditional bureaucratic structure might hinder its effective functioning. However, through collaboration and negotiation, it was possible to mitigate the risk and in fact improve relationships.

164. NGO officials also showed considerable expertise in managing the network. In most cases they effectively dealt with the demands of elected officials and through negotiation succeeded in attaining the objectives of the project. At the same time they were quite flexible in adopting different managing practices to address different needs.

165. The Participants' Committee also played an important role in ensuring the participation of the poor and by maintaining close interaction with PNGO officials. A final important reason behind successful implementation was the creation of multiple layers of accountability within the network which succeeded to reduce the level of leakage to a minimum. In effect, all actors eventually held each other accountable and were extremely successful.

166. While network establishment helped ensure clarity of roles, build trust, create transparency and distribute power within the ER activity, the network model has not been formalized. More should be done to document it and ensure it becomes an integral feature of the FFA approach in Bangladesh, and considered elsewhere

167. While the evaluation confirmed many positive outcomes, several limitations were found. Female-headed households, which are among the most vulnerable, appear to not be benefitting as much as other participants. Some women reported that the FCFA activities were physically demanding and created problems in terms of their other responsibilities. Most women were not able to apply their trainings in relevant income generating activities.

168. The evaluation found no impact on longer term food security, with no significant difference between food consumption scores, dietary diversity scores and ability to provide three meals a day between participants and non-participants. Furthermore, no change was observed in coping strategy indices comparing participants and non-participants. Further analysis is needed to deepen understanding of how FCFA can contribute more in these areas.

169. One area of concern regarding FCFA interventions is on-going maintenance of assets such as roads and canals. There were instances of communities banding together to ensure that proper standards of assets are maintained. However, there are circumstances where responsibility appears to be falling between the cracks with neither communities nor local government departments assuming control. Better planning and engagement is needed to ensure that assets remain functional and continue to deliver benefits over time.

170. Lack of adequate complementary services and support was raised as an issue that could help catalyse greater improvements sustained over longer time periods. While the low wage rate ensured that only the poorest would participate, and limited efforts of elites to capture the project, it also limited the ability of participants to save and invest. The findings from the evaluation underscore the importance of having systematic and comparable monitoring data before, during and after implementation to assess short, medium and long term impacts, and better understand the contribution of the FCFA activity, particularly to complex and lasting intended outcomes, related to key points in the theory of change or impact pathway. Data limited the ability of the evaluation team to assess actual long term change in livelihood status, but examples of people being lifted out of poverty were rare in spite of positive changes in some associated indicators.

171. A number of contextual factors were not fully captured in the ToC, but which emerged during the evaluation as important to the achievement of outcomes. These include government and community ownership, complementary activities, and market conditions. The specific local economic context may result in availability of potential participants or lack thereof. Government and elected officials may have more positive or negative attitudes towards the project activities; complementary services may either be available or unavailable. WFP can have an impact on these factors, for example helping to create positive attitudes through efforts to build and maintain its partnerships and networks. However, because they cannot fully be programmed for, they imply risks and opportunities which can negatively or positively affect the outcome.

172. The ER project aligns very well with WFP's corporate FFA strategies. In fact, the FFA Manual presents Bangladesh as a country case study (see Appendix I, Module A). The case study very well depicts the country's vulnerability related to disasters and climate change and links the FFA to programming. The case study mentions that with three activities (school feeding, nutrition and FFA); the WFP-CO has targeted to attain a 'triangle of opportunity of mutually reinforcing

interventions'. The evaluation validates this conclusion and further suggests that the clear linkages made in the manual facilitated efforts by the WFP-CO to include the ER in its CP, and later on to expand the programme (the so-called Enhancing Resilience +).

173. From early 2013, significant changes have already been adopted in the Enhancing Resilience + approach, intended to improve the longer term food security and reduce poverty of the ultra-poor women and their families. These include a two year work and training period, complemented by cash grants and a monthly allowance for one further year. The cash grants element of the new project could be an important factor to offset the actual low wages of the FCFA activity in terms of enabling investment and diversifying income opportunities that could lead to sustainability of livelihood impacts. Future robust evaluation of this significant innovation is warranted.

4.2 Recommendations

174. The following recommendations aim to complement actions already being undertaken. The first recommendation encourages continuation of support for FCFA activities due to the promising results seen in this evaluation. The network model proved to be very important and should be further institutionalized. Asset maintenance should be better addressed. Finally, careful attention should be paid to ensuring that data is collected to enable eventual assessment of the impacts of the new approach mentioned above, particularly in terms of food security, livelihoods and empowerment.

175. The office should continue to provide the Government with support in disaster risk reduction, building on the experience of the ER component in future programmes. Lessons should be well documented and widely disseminated to guide the adoption of good practice and address continuing challenges. Since the activity is well aligned with WFP's disaster risk reduction policy and FFA Guidelines, WFP Headquarters should also draw lessons to support replication in FFA programmes in other WFP countries. (WFP country office)

176. The office should work with its partners to elaborate and institutionalize the network management model for FCFA, refining it to facilitate synergies among different actors, to enhance access to complementary services that lead to improved household income and food security for the ultra-poor. (WFP country office)

177. Feasible asset management plans should become an integral feature of the FCFA intervention approach. An asset maintenance committee, comprising representatives of the local community including opinion leaders, local government representatives and officials generally involved in decision making regarding maintenance activities should be established for each asset constructed. Participants Committees could function as social accountability mechanisms and advocates for

access to appropriate local government funds. (WFP country office, its NGO/government partners and WFP worldwide).

178. More robust monitoring systems should be developed to ensure that major intended outcomes can be measured. These systems should include the collection of baseline and endline data, and specific analyses to deepen understanding of the contributing factors and processes by which impacts are achieved. In particular, additional data about the impacts of FCFA on women's health, nutrition, and empowerment and on the sustainability of expected longer-term changes in food security should be collected and analysed. (WFP country office and NGOs)

Annexes

Annex 1: Evaluation Methodology

For this evaluation report, impact is defined as the "lasting and/or significant effects of the intervention: social, economic, environmental or technical on individuals, gender and age-groups, households, communities and institutions. Impact can be intended or unintended, positive and negative, macro (sector) and micro (household)."[51] The evaluation focussed on the creation or recovery of natural resource assets (soil, water, agricultural and forests) and recognized the contributions of infrastructure and access assets to livelihoods resilience. The evaluation also considered the corresponding training associated with specific project activity.

The geographic areas covered by the evaluation included Patharghata upazila in Barguna, Dacope in Khulna, Dewanganj in Jamalpur, Kajipur in Sirajgonj, and Fulchhori in Gaibandha. These districts (and one upazila in each district) were selected considering geographical coverage of ER and the types of assets created under FFA. According to Table 1.1 below, 22% of the FFA projects in the CP were undertaken in Kurigram district, followed by Sirajganj (21%), Gaibandha and Jamalpur with 19% respectively. Those particular districts were prioritized because they included concentrations of highly food-insecure communities, living on unstable marginal lands near the main rivers of Bangladesh (chars), and thus highly susceptible to flooding. Most poor households were functionally landless sharecroppers. Because of this high concentration of activities, the top four districts were included and Khulna was included to introduce greater geographical diversity in coastal areas.

Table 1.1: Total Number of FFA Projects by Area of Intervention (2008-2011)

District	Access Infrastructure	Flood Protection	Training	Water Management	Total	(%)
Kurigram	44	55		4	103	22%
Sirajganj	38	60			98	21%
Jamalpur	26	63			89	19%
Gaibandha	28	56	1	3	88	19%
Bogra	1	14			15	3%
Khulna	4	4		4	12	3%
Pabna	5	6			11	2%
Patukhali	2	6		3	11	2%
Barguna	1	4		5	10	2%
Lalmonirhat	5	4		1	10	2%
Bhola	2	7			9	2%

[51] Based on definitions used by ALNAP, OECD/DAC and INTRAC

Satkhira	2	4		2	8	2%
Bagerhat		4		3	7	1%
Total Projects	158	287	1	25	471	
%	34%	61%	0%	5%	100%	

Identifying *Union Parishads* (UP) and villages were the next critical tasks in data collection for this evaluation. Based on the information from the WFP regional offices and records kept at PNGOs, the UPs were ranked based on the intensity of ER interventions. The most intensive UP was selected to represent the intervention communities and the least intensive UP (i.e. UPs without any ER intervention so far) was selected as comparison. In each UP, five villages were randomly selected for the survey. In each intervention village, 20 participants were selected from the list of workers (i.e. members of user's committees) preserved at PNGO offices. From these same villages, 20 non-participants were selected based on the information on eligible households who did not participate in FFA work. In the comparison villages, participatory rural appraisals were conducted to identify extreme poor households who could potentially participate in FFA works had there been such works in these village. Therefore, in each upazila/UP, the survey included 300 households equally divided between participants, non-participants and comparison groups (see table below). Replacement households were taken if a sampled participant household was found to have been dropped out from the programme after initial selection. Similarly if a non-participant was discovered to have been a participant, a replacement household was selected from the same neighbourhood.

Besides this household survey, in each upazila, focus group discussions (FGD) were conducted with the user's committees, Upazila Disaster Management Committees (UDMC) and local elites. Key informant interviews were conducted with some of the beneficiaries, UNO, PNGO staffs and local LGED representatives. Finally, in each UP some of the assets created in FFA were assessed based on the objectives/purposes behind the assets and the current functionality of these assets to meet those objectives.

Table 1.2: Sample description

Upazila	Union	Assets	Survey respondent	Qualitative [FGD, PRA, KII, Community Profile]
Patharghata	I=Patharghata Sadar C=Nasnapara	Embankment Canal H/S raising Pond	300	29
Dacope	I=Tildanga C=Lawdob	Canal Road Ground raising	300	21
Dewanganj	I=Chikajani C=Bahadurabad	H/S raising Reconstruction of road Earth filling Ground raising	300	27
Kajipur	I=Kajipur sadar C=Chalitadanga	H/S raising Ground raising Earth filling of road Reconstruction of road	300	25
Fulchhori	I=Udakhali C=Kanjipara	H/S raising Ground raising Road	300	25

Annex 2: Overview of WFP's FCFA Activities in Bangladesh

	CP 10059.0	CP 10410.0
Title	Country Programme 2001-2006	Country Programme 2007-2010
FCFA Time Frame	2001-2006	2009-2011
FCFA	Food wage was provided to participants	Food and cash wages were provided in combination to participants
FCFA objectives	Programme activity: Integrated Food Security (IFS) i) enable ultra-poor and food-insecure households and communities to enhance their income-earning capacity and disaster preparedness by creating human and physical assets Programme activity: Rural Development (RD) i) provide food and employment to the ultra-poor and food insecure in highly food-insecure areas at times of critical need and to enhance their human development potential; ii) create rural infrastructure and community assets for disaster mitigation in order to sustain development gains for the hungry poor.	Enhance resilience of vulnerable households and communities to natural disasters Improve food and nutrition security of ultra-poor households
FCFA Areas of intervention	Water management Infrastructure Access infrastructure Flood protection Training	Water management Access infrastructure Flood protection Training emphasizing on disaster preparedness, local level planning, IGAs, life skills
Outputs	Integrated Food Security: fish-ponds, raised homesteads, small drainage canals and irrigation systems, village connecting rural roads, river embankments and dykes (to create assets that serve income-generation and disaster-preparedness purposes) Rural Development: i. water schemes (to protect communities from floods and cyclones) and roads schemes; ii. Backbone infrastructure (embankments and roads) to protect communities from disasters and enhance economic development	Raised homesteads, flood and cyclone shelters, protected drinking-water sources, rural roads, embankments, canals for drainage and irrigation
Geographical Coverage (Districts)	Panchagarh, Nilphamari, Rangpur, Lalmonirhat, Kurigram, Sherpur, Netrakona, Mymensingh, Kishoreganj, Pabna, Kushtia , Meherpur, Chuadanga, Rajbari, Shariatpur, Barisal, Jhalokati, Patukhali, Bhola, Barging	Bagherat, Barguna, Bhola, Bogra, Gaibandha, Jamalpur, Khulna, Kurigram, Lalmonirhat, Pabna, Patukhali, Satkhira, Sirajganj

Sources: Project Documents, SPRs, CO

Annex 3. Findings from Asset Assessment

Upazila	Type of asset	Number	Completion (%)?	Maintenance?	Status
Patharghata	Embankment	1	94%	Union Parishad	Functional
	Canal	1	100%	Union Parishad	Functional
	Homestead raising (Cluster)	2	99%	Individual	Functional
	Ground raising	2	80%	Individual	Functional
	Pond	2	100%	Individual	Partially
Dewanganj	Homestead raising	100	100%	by respective HH	Functional
	Reconstruction of road	6	100%	1 road maintained by Union Parishad	Functional
	Embankment	1	100%	No one	Partially
	Ground raising	7	100%	No one	Functional
Fulchhori	Homestead raising	58	30%	Individual	Functional
	Ground raising	1	80%	Individual	Functional
	Road	19	70%	Union Parishad	Functional
Dacope	Canal	4	90%	Union Parishad	Functional
	Road	1	80%	Union Parishad	Functional
	Homestead raising	1	100%	Individual	Functional
Kajipur	Earth filling of roads	31	78%	Union Parishad & LGED	Functional
	Ground raising	5	84%	Individual	Functional
	Homestead raising	75	90%	Individual	Functional
	Reconstruction of road	13	84%	Union Parishad & LGED	Functional

Annex 4.1: Impact Estimates on Employment and Financial Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Household income (Tk)			Number of IGA of respondent			Migration for work		
	All	Coastal	Char	All	Coastal	Char	All	Coastal	Char
Participant	5,216.16	-3,736.01	11,437.48	0.39	0.68	0.16	0.22	0.54	-0.01
	(2.25)**	(0.82)	(4.59)***	(7.11)***	(8.73)***	(2.12)**	(4.90)***	(7.23)***	(0.24)
Non-participant	990.87	-4,512.66	4,889.15	-0.01	0.06	-0.07	0.15	0.29	0.05
	(0.53)	(1.34)	(2.67)***	(0.28)	(1.04)	(1.04)	(3.83)***	(4.16)***	(1.18)
HH size	4,574.38	3,945.69	4,656.45	-0.09	-0.10	-0.09	0.04	0.03	0.05
	(7.61)***	(4.27)***	(6.29)***	(5.50)***	(3.98)***	(3.85)***	(3.00)***	(1.44)	(2.79)***
Female head	-8,841.74	-9,063.93	-7,710.13	0.61	0.77	0.52	-0.12	-0.35	0.01
	(4.74)***	(3.63)***	(3.07)***	(8.15)***	(6.50)***	(5.59)***	(2.46)**	(3.98)***	(0.09)
Head's age	37.73	146.27	59.84	-0.00	-0.00	-0.00	0.00	0.00	-0.00
	(0.74)	(1.51)	(0.91)	(0.98)	(0.06)	(1.71)*	(1.32)	(0.34)	(0.54)
Number of earners	13,214.45	10,712.46	14,909.89	0.41	0.37	0.44	0.27	0.24	0.29
	(9.45)***	(4.99)***	(8.30)***	(13.46)***	(8.43)***	(10.50)***	(8.75)***	(4.75)***	(8.45)***
Head's education	-35.03	-402.94	608.12	-0.01	-0.01	-0.01	-0.01	-0.02	0.01
	(0.10)	(0.89)	(1.19)	(1.25)	(0.84)	(0.62)	(0.92)	(2.07)**	(1.04)
Upazila	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	3,801.19	11,622.95	-5,279.57	0.33	0.21	0.84	0.37	0.40	-0.10
	(0.97)	(2.03)**	(-1.10)	(3.28)***	(1.49)	(6.55)***	(4.12)***	(2.71)***	(-1.13)
Observations	1,500	600	900	1,500	600	900	1,500	600	900
R-squared	0.256	0.151	0.376	0.301	0.381	0.202	0.242	0.275	0.192

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1;
Dependent variables: for column 1-3 is total household income last year in Taka, column 4-6 is number of income generating activities (IGAs) the respondent has been engaged in the last one year, column 7-9 is number of household members migrated for work, column 9-12 is whether the household has cash savings, and column 13-15 is the amount of cash savings in Taka.

Annex 4.1:Impact Estimates on Employment and Financial Outcomes (cont)

	(9)	(10)	(12)	(13)	(14)	(15)
	Have cash savings			Amount of savings (Tk)		
	All	Coastal	Char	All	Coastal	Char
Participant	0.26	0.52	0.07	1,062.30	979.81	1,205.55
	(8.89)***	(13.68)***	(1.70)*	(4.30)***	(2.45)**	(3.81)***
Non-participant	0.02	0.02	0.00	76.82	124.40	6.71
	(0.48)	(0.46)	(0.03)	(0.39)	(0.28)	(0.05)
HH size	0.00	0.00	0.00	63.80	91.30	53.78
	(0.28)	(0.35)	(0.19)	(0.90)	(0.85)	(0.55)
Female head	-0.11	-0.10	-0.13	-445.70	-591.68	-429.23
	(3.04)***	(2.09)**	(2.66)***	(1.77)*	(2.51)**	(1.14)
Head's age	0.00	-0.00	-0.00	-12.34	-25.11	-5.66
	(1.01)	(0.72)	(0.50)	-1.90)*	(2.76)***	(0.66)
Number of earners	0.04	0.04	0.05	293.21	250.46	352.15
	(2.10)**	(1.56)	(1.85)*	(1.83)*	(1.36)	(1.45)
Head's education	0.00	0.01	-0.00	70.09	79.92	42.79
	(0.76)	(1.50)	(0.27)	(1.37)	(1.09)	(0.84)
Upazila	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.41	0.38	0.30	1,091.29	1,562.80	-89.11
	(6.53)***	(4.45)***	(4.27)***	(2.48)**	(2.83)***	(-0.17)
Observations	1,499	600	899	1,494	595	899
R-squared	0.133	0.270	0.075	0.044	0.025	0.062

Annex 4.2: Impact Estimates on Asset Ownership

	(1)	(2)	(3)	(4)	(5)
	Access to cultivable land	Whether own any land	Whether own any livestock	Whether own fishing net	Total value of assets (in Tk)
Participant	0.04	0.10	0.09	0.08	10,807.43
	(1.48)	(3.26)***	(2.94)***	(3.56)***	(2.13)**
Non-participant	0.00	0.09	-0.00	0.05	300.29
	(0.01)	(3.08)***	(0.06)	(2.35)**	(0.07)
HH size	0.02	-0.00	-0.01	0.01	2,688.41
	(2.76)***	(0.27)	(0.93)	(1.07)	(1.68)*
Female head	-0.06	-0.09	-0.04	-0.13	-14,771.97
	(2.21)**	(2.31)**	(0.96)	(5.48)***	(2.56)**
Head's age	0.00	0.00	0.00	0.00	219.07
	(3.14)***	(0.38)	(1.10)	(1.72)*	(1.49)
Number of earners	0.02	0.04	0.15	-0.00	11,710.99
	(1.54)	(2.21)**	(8.67)***	(0.29)	(3.78)***
Head's education	0.02	0.01	0.00	-0.00	3,061.63
	(4.87)***	(1.91)*	(0.79)	(0.96)	(3.32)***
Upazila	Yes	Yes	Yes	Yes	Yes
Constant	-0.00	0.64	0.56	0.11	34,337.34
	(0.02)	(10.26)***	(9.64)***	(2.30)**	(3.36)***
Observations	1,500	1,494	1,500	1,496	1,500
R-squared	0.138	0.078	0.096	0.154	0.095

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1;

Annex 4.3: Impact Estimates on Food, Nutrition and Health

	(1)	(2)	(3)	(4)	(5)	(6)
	Food security last year	Dietary diversity	FCS	Knows vegetable cooking	Use sanitary latrine	Safe drinking water
Participant	0.00	-0.01	-0.85	0.16	0.17	-0.02
	(0.09)	(0.13)	(1.03)	(5.19)***	(5.59)***	(1.15)
Non-participant	0.07	-0.09	0.87	0.01	0.03	-0.03
	(2.63)***	(1.70)*	(1.19)	(0.44)	(1.11)	(1.79)*
HH size	-0.01	-0.02	-0.11	0.00	0.00	0.00
	(1.02)	(1.03)	(0.40)	(0.34)	(0.11)	(0.60)
Female head	-0.19	-0.49	-4.50	-0.07	-0.08	0.01
	(5.12)***	(6.82)***	(5.25)***	(1.85)*	(2.22)**	(0.26)
Head's age	-0.00	-0.00	0.02	-0.00	0.00	0.00
	(0.31)	(0.21)	(0.71)	(0.07)	(2.91)***	(0.03)
Number of earners	0.07	0.11	1.92	0.02	0.02	-0.00
	(4.33)***	(3.02)***	(3.69)***	(0.92)	(1.10)	(0.03)
Head's education	0.01	-0.00	0.19	0.01	0.01	0.01
	(2.13)**	(0.09)	(1.43)	(3.04)***	(3.16)***	(3.25)***
Upazila	Yes	Yes	-6.28	Yes	Yes	Yes
Constant	0.60	6.51	(5.38)***	0.55	0.34	0.26
	(9.95)***	(52.82)***	-2.89	(8.85)***	(5.41)***	(6.08)***
Observations	1,500	1,492	1,500	1,500	1,500	1,500
R-squared	0.181	0.077	0.081	0.119	0.190	0.517

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1;
Dependent variables: Column 1= whether could manage three meals a day all year round last year, Column 2= Number of food items consumed in the last week [scale 0 to 9], Column 3= Food consumption score [scale 0-112], Column 4=Knows how to prepare cook and clean vegetables, Column 5= Whether owns and uses sanitary latrine, and Column 6 = Whether have access to safe drinking water

Annex 4.4: Descriptive of participation in construction works

Participation indicators	Ground raising	H/S raising	Embank-ment	Road	Canal	All Assets
Worked in asset creation	18.8	74.4	15.60	65.60	27.20	99.8
Number of days worked (mean)[a]	82	116	30	87	76	128
Months received food (mean)[a]	3.3	4.6	1.9	3.6	2.76	7.5
Quality of food received[a]						
Better than they usually eat (%)	16.0	10.8	22.8	16.2	50.7	24.1
Same as they usually eat (%)	13.8	38.3	43.0	33.0	33.3	36.0
Worse than they usually eat (%)	70.2	50.9	34.2	50.5	15.9	39.7
Frequency of receiving food[a]						
Every other week (%)	6.3	12.7	65.4	11.9	15.4	13.9
Monthly (%)	74.7	71.2	1.3	74.0	42.8	64.9
Occasionally/no set frequency (%)	19.0	15.1	33.3	12.8	41.3	20.3
Received food during crisis months (%)[a]	88.4	87.1	96.1	85.3	64.5	79.8
Used food for HH consumption (%) [a]	98.9	92.0	100	91.1	98.5	93.2
Used food for sales (%) [a]	1.1	7.7	0	8.6	1.5	6.4
Had to pay to get allocated food (%)[a]	87.2	29.4	37.2	25.5	69.5	43.1
Had to pay for transportation (%)[b]	100	100	96.3	98.8	84.4	91.7
Paid to NGO staff (%)[b]	45.8	38.5	3.5	39.8	3.1	21.3
Paid to user's committee (%)[b]	54.2	61.5	96.5	60.2	96.9	78.7
Could send someone as replacement (%) [a]	93.9	78.8	58.2	80.3	87.2	81.4
Sent a replacement (%)[c]	61.5	61.6	75.5	56.6	54.0	60.6
Reported adequate facilities[a]						
Toilet (%)	6.3	13.8	55.7	13.5	72.3	32.0
Drinking water (%)	12.6	19.7	49.4	20.9	73.7	35.4
Shed for resting (%)	4.2	12.4	46.8	10.2	71.5	28.6
Child care (%)	10.5	15.7	51.9	12.0	55.5	26.4
Union Parishad was involved in supervising work (%)[d]	92.8	89.9	81.5	94.0	95.9	93.4

[a] Of those who worked; [b] Among those who had to pay; [c] If could send a replacement;

[d] Among those who reported working and any responsible person. There are 213 participants who did not answer to this question

Annex 4.5: Descriptive of access to social services

	Participant	Non-participant	Comparison
Number of services aware of [mean out of 20 services]	5.4	5.5	5.2
Number of service providers approached their household [mean of 20 services]	1.7	1.4	1.4
Number of places household member(s) went for accessing services [mean of 20 services]	2.4	2.1	2.0
Number of services accessed [mean of 20 services]	2.4	2.2	2.0
Household accessed any services (%)	91.0	89.8	85.4
Major services accessed by household (%)			
Govt. family planning services	34.6	43.8	38.2
Govt. immunization services	29.8	24.2	25.0
Union parishad services	27.6	25.8	20.8
NGO services	38.0	26.8	26.0
Union health services	33.4	29.6	31.6
Sub-district health services	34.2	39.8	27.0
Veterinary services	5.8	3.8	6.8
Services satisfied with [% if availed]	97.0	97.3	99.3

Annex 4.6: Impact Estimates on Vulnerability and Preparedness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Faced any crisis last year	Faced any crisis in 3 months	Loss/expenses due to crisis last year	Loss/expense due to crisis in 3 months	Disaster preparedness score	Inadequate money for food last week	Coping strategy index total
Participant	0.03	-0.05	399.69	-58.49	1.05	0.00	-0.30
	(1.61)	(1.77)*	(1.40)	(0.93)	(11.68)***	(0.05)	(0.51)
Non-participant	0.01	0.03	319.84	18.94	0.05	-0.07	0.09
	(0.42)	(1.09)	(0.83)	(0.26)	(0.63)	(2.30)**	(0.15)
HH size	0.01	0.01	281.28	33.99	0.03	0.02	1.31
	(1.53)	(1.09)	(3.31)***	(1.10)	(1.34)	(2.18)**	(6.71)***
Female head	-0.00	0.06	-381.72	127.32	-0.17	0.23	3.19
	(0.02)	(1.83)*	(1.12)	(0.87)	(1.54)	(6.33)***	(4.25)***
Head's age	-0.00	-0.00	3.88	0.28	0.00	0.00	-0.02
	(1.97)**	(0.54)	(0.31)	(0.16)	(1.61)	(0.38)	(1.43)
Number of earners	0.01	-0.00	-150.94	34.32	-0.07	-0.10	-1.41
	(0.54)	(0.21)	(0.83)	(0.67)	(1.41)	(5.63)***	(4.00)***
Head's education	0.00	0.00	56.37	10.25	0.01	-0.00	-0.06
	(1.39)	(0.65)	(0.79)	(1.29)	(0.55)	(0.92)	(0.67)
Upazila	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Constant	0.87	0.81	-986.09	-96.78	0.86	0.50	10.56
	(22.65)***	(15.36)***	(1.95)*	(0.51)	(5.26)***	(7.99)***	(7.88)***
Observations	1,500	1,500	1,492	1,492	1,492	1,498	751
R-squared	0.041	0.370	0.074	0.005	0.495	0.156	0.196

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1;
Dependent variables: Column 1= whether faced any of the shocks in the last one year; Column 2= whether faced any of the shocks in the last 3 months; Column 3=total amount (in Taka) lost/spent due to crises in the last one year; Column 4= total amount (in Taka) lost/spent due to crises in the last 3 months; Column 5 = Disaster preparedness score (ranging between 0 and 11), Column 6=Whether suffered food shortage or inadequate money to buy food, Column 7= Coping strategy index total ranging between 1 and 36, with higher score meaning worse off..

Annex 5: List of people consulted in qualitative interviews/group discussions

District: Sirajganj; Upazila: Kajipur

SL	Name	Age	Education	Gender	Designation	Occupation	Tools
01.	Md.Mozammel Hoque			Male	President, UDMC, Kazipur	Upazila Chairman,Kajipur	FGD
02.	Md.safiul Islam			Male	Vice President, UDMC, Kazipur	UNO,Kjipur	FGD
03.	Most.Rehena Khatun			Female	Member, UDMC, Kazipur	Upazila Vice Chairman	FGD
04.	Jahangir Alam			Male	Member, UDMC, Kazipur	Chairman, Maijbari UP	FGD
05.	Md.Atiqur Rahman Mukul			Male	Member, UDMC, Kazipur	Chairman,Calitadanga UP	FGD
06.	ammel Hoque			Male	Member, UDMC, Kazipur	Chairman,Natuapara UP	FGD
07.	Gaji Majharul Anowar			Male	Member, UDMC, Kazipur	Chairman,Tekani UP	FGD
08.	Md.Anamul Hoque			Male	Member, UDMC, Kazipur	Chairman,Khasrajbari UP	FGD
09.	SM Jiaul Hoque			Male	Member, UDMC, Kazipur	Chairman,Chargiris UP	FGD
10	Md. Maruf hossain			Male	Member, UDMC, Kazipur	Upazila Co Operative Officer	FGD
11	Md.Abul Kalam Azad			Male	Secretary, UDMC, Kazipur	PIO,Kajipur Upazila	FGD
12	Md.Tojammel Hossain			Male	Member, UDMC, Kazipur	Station Officer, Fire service & Civil Defence	FGD
13	Minu Pervin			Female	Member, UDMC, Kazipur	Incharge of Upazila Women affairs Office	FGD
14	Alhaj Somser Ali			Male	Member, UDMC, Kazipur	President, Meghai Business Association	FGD
15	Md.Selim Jahangir			Male	Member, UDMC, Kazipur	Upazila Animal Husbandry officer	FGD
16	Most.Hasna Hena			Female	Member, UDMC, Kazipur	Female Member, Monsunnagar UP	FGD
17	Most.Rehena Pervin			Female	Member, UDMC, Kazipur	Female Member,Gandhail UP	FGD
18	Md.Ismail Hossain			Male	Member, UDMC, Kazipur	Upazila Youth Develpoment Officer	FGD
19	Most.Sapla khatun			Female	Member, UDMC, Kazipur	Female Member, Sonamukhi UP	FGD
20	Abdul Barik			Male	Member, UDMC, Kazipur	Chairman, Gandhail UP	FGD
21	Md.Abdul Mannan			Male	Member, UDMC, Kazipur	Principal, Tengrahata College	FGD
22	Md.Shahadat Hossain	48	BA pass	Male	Member, UDMC, Kazipur Sadar UP	Secretary,Kajipur Up	FGD
23	Abdur Rashid Sarkar	47	SSC	Male	Member, UDMC, Kazipur Sadar UP	6 No ward Member, Kajipur Sadar UP	FGD
24	Rofiqul Islam Babul	65	SSC	Male	Member, UDMC, Kazipur Sadar UP	3 No ward Member, Kajipur Sadar UP	FGD
25	Solayman Hossain	57	Class Five	Male	Member, UDMC, Kazipur Sadar UP	7 No ward Member, Kajipur Sadar UP	FGD
26	Md. Haydar Ali	45	SSC	Male	Member, UDMC, Kazipur Sadar UP	9 No ward Member, Kajipur Sadar UP	FGD
27	M.Oniruddho Ajad	43	HSC	Male	Member, UDMC, Kazipur Sadar UP	1 No ward Member, Kajipur Sadar UP	FGD
28	Md.Alamgir	35	BA	Male	Member, UDMC, Kazipur Sadar UP	4 No ward Member, Kajipur Sadar UP	FGD
29	Md.Rofiqul Islam	78	Illiterate	Male	Member, UDMC, Kazipur Sadar UP	Imam, Meghai Notun Bazar Mosque	FGD
30	Abdur Razzak	46	BA	Male	Member, UDMC, Kazipur Sadar UP	Teacher, Meghai High School	FGD
31	Md.Atqur Rahman Mukul	37	MBA	Male	President, UDMC, Chalitadanga UP	UP Chairman	FGD
32	Md.Mostafzar Rahman	32	HSC	Male	Member, UDMC, Chalitadanga UP	Member	FGD
33	Abdur Razzak	35	BSS	Male	Member, UDMC, Chalitadanga UP	Teacher	FGD
34	Abdul Munaf	40	HSC	Male	Member, UDMC, Chalitadanga UP	Member	FGD
35	Abul Kalam	40	class 8	Male	Member, UDMC, Chalitadanga UP	Member	FGD
36	Achiya	35	HSC	Male	Member, UDMC, Chalitadanga UP	Member (Reserved)	FGD
37	Anisur	32	HSC	Male	Member, UDMC, Chalitadanga UP	Member	FGD

SL	Name	Age	Education	Gender	Designation	Occupation	Tools
38	Md.Abdul Mannan	33	BSS, MA	Male	Member, UDMC, Chalitadanga UP	Lecturer	FGD
39	Enamul	45	Master's	Male	Local elite	Lecturer, Calitadanga Mohila College	FGD
40	Md.Rafiqul Islam	78	Religious	Male	Local elite	Imam, Meghai Notun Bazar Mosque	FGD
41	Rofiqul Islam Babul	65	SSC	Male	Local elite	3 No ward Member, Kajipur Sadar UP	FGD
42	Abdur Rashid Sarkar	48	SSC	Male	Local elite	6 No ward Member, Kajipur Sadar UP	FGD
43	Md.Azahar Ali	55	Class Eight	Male	Local elite	Business	FGD
44	T.M Atikur Rahman	47	B.A	Male	Local elite	Teacher, Former UP Chairman	FGD
45	Abdur Razzak	46	B.A	Male	Local elite	Teacher, meghai High school	FGD
46	Ismail Hossain	52	Illiterate	Male	Local elite	Business	FGD
47	Abu Said	48	Illiterate	Male	Local elite	Farmer	FGD
48	Md.Idris Ali	85	Class 1	Male	Local residents	Rtd. Commander	FGD
49	Rajab Ali	65	Illiterate	Male	Local residents	Farmer	FGD
50	Jahir Uddin	60	Class 1	Male	Local residents	Farmer	FGD
51	Md.Saokat Ali	50	Class 3	Male	Local residents	Farmer	FGD
52	Md.Monoyarul	45	Class 5	Male	Local residents	Farmer	FGD
53	Amir Hossain Dilar	71	Class 8	Male	Local residents	Diller	FGD
54	Md.Alim Uddin	55	Illiterate	Male	Local residents	Farmer	FGD
55	Md.Rafiqul Islam	45	SSC	Male	Local residents	Farmer	FGD
56	Mafij Uddin	65	Illiterate	Male	Local residents	Farmer	FGD
57	Md.Robiul Islam	35	BSS	Male	DDRRC	PNGO Staff MMS	FGD
58	Md.Golam Sarwar Talukdar	31	Engineer	Male	UDRRC	PNGO Staff MMS	FGD
59	Md.Abdul Momin	30	Master's	Male	Field Trainer	PNGO Staff MMS	FGD
60	Md.Khalequzzaman	33	BSS	Male	Field Trainer	PNGO Staff MMS	FGD
61	Maolana Omer Faruk	43	Daora	Male	Non beneficiary	Imam	FGD
62	Md.Abdur Rashid	46	Class 9	Male	Non beneficiary	Farmer	FGD
63	Md.Faridul Islam	34	Master's	Male	Non beneficiary	Teacher	FGD
64	Md.Tariqul Islam	25	MA	Male	Non beneficiary	Teacher	FGD
65	Md.Abul Kalam Azad	45	HSC	Male	Non beneficiary	Government Employee	FGD
66	Lutfar Rahman	42	Daora	Male	Non beneficiary	Teacher	FGD
67	Md.Mizanur Rahman	22	Honor's	Male	Non beneficiary	Student	FGD
68	Md.Abdul Mannan	38	SSC	Male	Non beneficiary	Employee	FGD
69	Md.Nur Islam	40	Class 5	Male	Non beneficiary	Farmer	FGD
70	Sanoyara Begum	35	Illiterate	Female	President, UC-1	House Wife	FGD
71	Rubia Begum	36	Class 5	Female	Secretary, UC-1	Day labor	FGD
72	Sahana	25	Nine Pass	Female	President, UC-2	House wife	FGD
73	Most.Rohima Khatun	35	Five pass	Female	Secretary, UC-2	House wife	FGD
74	Saheda	35	Two pass	Female	Secretary, UC-2	House wife	FGD
75	Someda Khatun	45	Illiterate	Female	Secretary, UC-2	House wife	FGD
76	Md.Sirajul Islam	49		Male	Upazila Engineer		KII

SL	Name	Age	Education	Gender	Designation	Occupation	Tools
77	S.M Shahdat Hossain	46		Male	Sub Assistant Engineer		KII
78	Samsul Bari	48		Male	Sub Assistant Engineer		KII
79	Most.Helena Khatun	35		Female	President		KII
80	AbulKalam Azad	43		Male	PIO, Kjipur Upazila		KII

District: Bargona; Upazila: Patherghata

Sl	Name	Age	Education	Occupation	Designation	Address	Tools
1	MD. Shain	29	SSC Passed	Small Bussines	Group Leader Kopotakho	Padma	FGD
2	Mrs Asma Begum	28	Class eight Passed	Housewife	Group Leader Borigonga	Padma	FGD
3	Mrs Aklima Begum	22	Class Six Passed	Housewife	Chairman User's Committee & Group Leader korotoa	Padma	FGD
4	Mizanur Rahaman	26	Class Five Passed	Fisherman	User's committee Secretary & Group Leader Shitalakha	Padma	FGD
5	Jafar Sarder	35	Class Three Passed	Fisherman	User's committee Vice- chairman & Group Leader Surma	Padma	FGD
5	Md. Ruhul Amin	32	None	Daily Labor	Local Resident	Padma	FGD
6	Md. Hanif	42	Class Five Passed	Farmer	Local Resident	Padma	FGD
7	Sabika	25	Class Five Passed	Housewife	Local Resident	Padma	FGD
8	Josna	30	Class Five Passed	Housewife	Local Resident	Padma	FGD
9	Bidhan Mistri	30	Class Nine Passed	Daily Labor	Local Resident	Padma	FGD
10	Silpi	30	Class Nine Passed	Housewife	Local Resident	Padma	FGD
11	Md. Chan Mia Kha	50	Class Nine Passed	Van Driver	Local Resident	Padma	FGD
12	Robindro Mitro	40	Class Ten Passed	Farmer	Local Resident	Padma	FGD
13	Md. Sahin Akand	29	-	-	Non beneficiaries	Nanchnapara	FGD
14	Mohadeb Chandra Shill	55	-	Berber	Non beneficiaries	Nanchnapara	FGD
15	Jogodis Chandra	65	-	Farmer	Non beneficiaries	Nanchnapara	FGD
16	Anowar Akand	40	-	Farmer	Non beneficiaries	Nanchnapara	FGD
17	Md Haroun Mridha	28	-	Farmer	Non beneficiaries	Nanchnapara	FGD
18	Dr. Dilip	52	-	Doctor	Non beneficiaries	Nanchnapara	FGD
19	Sohag Akand	25	-	-	Non beneficiaries	Nanchnapara	FGD
20	Ruhul Amin Hawlader	54	-	Farmer	Non beneficiaries	Nanchnapara	FGD
21	Rahima	35	Class Five Passed	Tailor	Chairman, UC	Ruhita	FGD
22	Kohinor	40	Class Five Passed	Housewife	Vice-Chairman, UC	Ruhita	FGD
23	Altaf	45	Class Five Passed	Grosary Shop	Secretary, UC	Ruhita	FGD

24	Anoara	43	Class Three Passed	Housewife	Group Leader, UC	Ruhita	FGD
25	Honufa	43	Class Five Passed	Housewife	Group Leader, UC	Ruhita	FGD
26	Pankoj	46	Class Nine	Day Labor	Chairman, UC	Haritana	FGD
27	Abdur Rahim	28	SSC	Farmer	Team Leader Seuli, UC	Haritana	FGD
28	Beauty Begum	40	Class Five	Housewife	Team Leader Rajonigondha, UC	Haritana	FGD
29	Hanufa Begum	35	Class Four	Housewife	Team Leader Kamini Group, UC	Haritana	FGD
30	Sefali Begum	45	Class Five	Housewife	Team Leader Padma, UC	Haritana	FGD
31	Md.Ibrahim	23	-	Day Labor	Team Leader Sefali, UC	Haritana	FGD
32	Rafikul Islam Ripon	32	-	contractor	Chairman Nachnapara Union (UDMC)	Nachnapara	FGD
33	Nadira Parvin	45	-	Teacher	UP Member Nachnapara Union (UDMC)	Nachnapara	FGD
34	Golam Mahfuz	36	-	Health Assistant	Union DMC Risqué Member	Nachnapara	FGD
35	Zahagir Alom	48	-	Farmer	UP Member & Union DMC Member	Nachnapara	FGD
36	Lal Mia	43	-	Farmer	UP Member & Union DMC Member	Nachnapara	FGD
37	Faizul Kabir	27	HSC	Fish Business	UP Member & Union DMC Member	Patherghata Sadar	FGD
38	Md. Shalom Khan	32	HSC	Farmer	UP Member & Union DMC Member	Patherghata Sadar	FGD
39	Masuda Duli	44	HSC	Housewife	UP Member & Union DMC Member	Patherghata Sadar	FGD
40	MD. Shain Molla	33	HSC	Politics	UP Member & Union DMC Member	Patherghata Sadar	FGD
41	Sarowar Hossain Montu	33	HSC	Union information centre	Union DMC Member	Patherghata Sadar	FGD
42	Ziaur Rahaman Shain	30	-	-	Union DMC Member	Patherghata Sadar	FGD
43	Mahabubur Rahman	40	Class Nine Passed	Business	Local elite	Patherghata Sadar	FGD
44	Md. Rezaul Islam	35	SSC Passed	Postmaster	Local elite	Patherghata Sadar	FGD
45	Md. Ibrahim	40	Class Five Passed	Business	Local elite	Patherghata Sadar	FGD
46	Abdul Halim	55	Class Five Passed	Farmer	Local elite	Patherghata Sadar	FGD
47	Md. Sekendar Mollik	58	SSC Passed	Army Person (Rt.)	Local elite	Patherghata Sadar	FGD
48	Angon Dakua	26	BA, BD	-	Sud-assistant food inspector	Patherghata Sadar	KII
49	Moajjam	33	-	-	Security,Food Storage	Patherghata Sadar	KII
50	Md. Habibure Rahaman	45	Class eight Passed	-	Labor leader,Food Storage	Patherghata Sadar	KII
51	Sekh Mosidul Islam	-	-	-	TNO	Patherghata Sadar	KII
52	Sha-alom Chowdhory	50	-	-	Sub Engineer,LGED	Patherghata Sadar	KII
53	Md. Sultanuzzaman	55	MSS	-	Distract Co-coordinator, PNGO	Patharghata Sadar	IDI
54	Dilip Kumar Mondal	29	Diploma engineer	-	Upzialla coordinator, PNGO	Patharghata Sadar	IDI
55	Sarmin Mollick	29	MSC	-	Monitoring & reporting officer, PNGO	Patharghata Sadar	IDI
56	Md. Raju Ahmed	26	BA	-	CO, PNGO	Patharghata Sadar	IDI
57	Shariful Islam	26	MA	-	CO, PNGO	Patharghata Sadar	IDI
58	Runa Khatun	26	BA	-	CO, PNGO	Patharghata Sadar	IDI
59	Md. Mizanur Rahaman	25	MA	-	Assistant Upzilla coordinator, PNGO	Patharghata Sadar	IDI
60	SM.Mahabob Hossain	30	-	-	PIO	Pathorghata,Sadar	KII

District: Jamalpur, Upazilla: Dewangonj

Sl	Respondents' name	Age	Gender	main occupation	Adress	Activity
01.	Md. Jahirul Islam	43	Male	Madrasha Teacher	Kazlapara, Mondolbazar, Chikajani union	Case study
02.	Aminul Islam	60	Male	Farmer	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
03.	Md. Samad Ali	65	Male	Farmer+Business	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
04.	Md. Jahirul	40	Male	Business	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
05.	Abdul Jalil	55	Male	VDP commandar	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
06.	Akkas	50	Male	Member, ICS committee of Shouhardo-II, Leader of Razmistri	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
07.	Faruque	30	Male	Social worker and LSP trainer	Takimari, Chikajani	FGD (local elite)
08.	Saju Mia	40	Male	Businessman and farmer	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
09.	Abdus Sattar	48	Male	Businessman and Publicity secretary of Union Awami League	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
10	Jahirul Islam	43	Male	Madrasha Teacher	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
11	Suruz Ali	60	Male	Member of Jamayet Islami	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
12	Mominul Haque Talukdar	63	Male	Commander of Freedom Fighter	Kazlapara, Mondolbazar, Chikajani union	FGD (local elite)
13	Ashful(President)	25	Female	H/W	Borkhal	FGD(users committee)-1
14	Khatune Jannat(Secretary)	27	Female	H/W	Dighirpar	FGD(users committee)-1
15						FGD(users committee)-1
16	Rashida(president)	23	Female	Housewife	Kazlapara	FGD(users committee)-2
17	Nasima(vice-president)	25	Female	Housewife	West Kazlapara	FGD(users committee)-2
18	Rozina(secretary)	26	Female	Housewife	Char Dakatia	FGD(users committee)-2
19	Gopal	45	Male	Fisherman	Borkhal	FGD with Local Resident (Intervention union)
20	Md, Bachir Uddin	70	Male	Richshaw Pullar	Takimari	FGD with Local Resident (Intervention union)
21	Md. Sahabuddin	54	Male	Wood business	Chuniapara	FGD with Local Resident (Intervention union)
22	Md. Musa	34	Male	Richshaw Pullar	Takimari	FGD with Local Resident (Intervention union)
23	Banaz Uddin	38	Male	Hotel	Dighirpar	FGD with Local Resident (Intervention union)
24	Sheikh Farid	38	Male	Day laborer	Borkhal	FGD with Local Resident (Intervention union)

Sl	Respondents' name	Age	Gender	main occupation	Adress	Activity
25	Md. Dulal Hossain	32	Male	Crokaries business	Kholabari	FGD with Local Resident (Intervention union)
26	Md. Omil Haque	37	Male	Shopkeeper	Takimari	FGD with Local Resident (Intervention union)
27	Md. Abul Hasem	28	Male	Driver	Borkhal	FGD with Local Resident (Intervention union)
28	Maolana Shahidul Islam	27	Male	Madrasha Teacher	Char magurihat	FGD with Local Resident (Comparison union)
29	Abdur Razzak	55	Male	Business	Char Bahadurabad	FGD with Local Resident (Comparison union)
30	Idris Ali	56	Male	Farmer	Monnepara	FGD with Local Resident (Comparison union)
31	Dulu Mia	60	Male	Local Leader	Monnepara	FGD with Local Resident (Comparison union)
32	Moksed Ali	62	Male	Farmer	Monnepara	FGD with Local Resident (Comparison union)
33	Md. Babor Ali	58	Male	Farmer	Beparipara	FGD with Local Resident (Comparison union)
34	Modhu Sheikh	51	Male	Farmer	Monnepara	FGD with Local Resident (Comparison union)
35	Fazlul Bepari	47	Male	Farmer	Monnepara	FGD with Local Resident (Comparison union)
36	Chan Mia	45	Male	Cantin boy	Monnepara	FGD with Local Resident (Comparison union)
37	Enamul Haque	50	Male	Day Laborer	Char Bahadurabad	FGD with Local Resident (Comparison union)
38	Samad	40	Male	Farmer	Monnepara	FGD with Local Resident (Comparison union)
39	Md. Shakil	30	Male	Madrasha Teacher	Char Dakatia	FGD with Local Resident (Comparison union)
40	Md. Dulu Mia	56	Male	Jobless	Beparipara	FGD with Local Resident (Comparison union)
41	Md. Sohel Rana	27	Male	Upazila Coordinator	ESDO, Dewangonj, Jamalpur	FGD with PNGO staff
42	Md. Shahidullah	25	Male	Field Trainer	ESDO, Dewangonj, Jamalpur	FGD with PNGO staff
43	Md. Badiul Alam	33	Male	Field Trainer	ESDO, Dewangonj, Jamalpur	FGD with PNGO staff
44	Md. Belal Hossain	35	Male	Field Trainer	ESDO, Dewangonj, Jamalpur	FGD with PNGO staff
45	Momtaz Uddin Ahmed		Male	UP Chairman	Takimari	FGD with UDMC(intervention union)
46	Rezia Akter		Female	UP Member	ward 1,2,3	FGD with UDMC(intervention union)
47	Jahanara Akter		Female	UP Member	ward 4,5,6	FGD with UDMC(intervention union)
48	Anzuara Begum		Female	UP Member	ward 7,8,9	FGD with UDMC(intervention union)
49	Enamul Haque		Male	UP Member	ward 1,2,3	FGD with UDMC(intervention union)
50	Abdul Mannan		Male	UP Member	ward 2	FGD with UDMC(intervention union)
51	Suruzzamal		Male	UP Member	ward 3	FGD with UDMC(intervention union)
52	Dudhu Mia		Male	UP Member	ward 4	FGD with UDMC(intervention union)
53	Abdur Razzak		Male	UP Member	ward 5	FGD with UDMC(intervention union)
54	Abdus Salam		Male	UP Member	ward 6	FGD with UDMC(intervention union)

Sl	Respondents' name	Age	Gender	main occupation	Adress	Activity
55	Noor Mohammed		Male	UP Member	ward 7	FGD with UDMC(intervention union)
56	Ibrahim		Male	UP Member	ward 8	FGD with UDMC(intervention union)
57	Anowar Hossain		Male	UP Member	ward 9	FGD with UDMC(intervention union)
58	Answer Ali		Male	Member secretary	Chikajani	FGD with UDMC(intervention union)
59	Piyara Begum		Female	VDC member	Borkhal	FGD with UDMC(intervention union)
60	Omar Faruk		Male	VDC member	Takimari	FGD with UDMC(intervention union)
61	Abdul Zolil		Male	Ansar	Takimari	FGD with UDMC(intervention union)
62	Jasim Uddin		Male	Tohshildar	Chikajani	FGD with UDMC(intervention union)
63	Shamsul		Male	Social worker	ward 5	FGD with UDMC(intervention union)
64	Mulluk		Male	Social worker	ward 5	FGD with UDMC(intervention union)
65	Shakiruzzaman Rakhal	32	Male	UP Chairman	Pollakandi	FGD with UDMC(Comparison union)
66	Momtaz	40	Female	UP Member	Kolakanda	FGD with UDMC(Comparison union)
67	Rezia	30	Female	UP Member	Nayagram	FGD with UDMC(Comparison union)
68	Monowara	48	Female	UP Member	Pollakandi	FGD with UDMC(Comparison union)
69	Abdul Khaleque	58	Male	UP Member	Shazatpur	FGD with UDMC(Comparison union)
70	Akbor Hossain	40	Male	UP Member	Akondopara	FGD with UDMC(Comparison union)
71	Answer Hossain	50	Male	UP Member	Kolakanda	FGD with UDMC(Comparison union)
72	Abdul Momin	52	Male	UP Member	Vangarpara	FGD with UDMC(Comparison union)
73	Abdus Salam	42	Male	UP Member	Basedpur	FGD with UDMC(Comparison union)
74	Shukkur Ali	60	Male	UP Member	Char Bahadurabad	FGD with UDMC(Comparison union)
75	Ahammed Ali	52	Male	UP Member	Pollakandi	FGD with UDMC(Comparison union)
76	Shahjahan Ali	48	Male	UP Member	Kutuber Char	FGD with UDMC(Comparison union)
77	Hazrat Ali	36	Male	UP Member	Madarer Char	FGD with UDMC(Comparison union)
78	Sujit Kumar Shaha	42	Male	UP Secretary	Bahadurabad	FGD with UDMC(Comparison union)
79	Omar Faruque	46	Male	Social worker	Vatirpara	FGD with UDMC(Comparison union)
80	Abu zayed	31	Male	SAAO	Vatirpara	FGD with UDMC(Comparison union)
81	Shahidullah	45	Male	SAAO	Doborpara	FGD with UDMC(Comparison union)
82	Farhad Khalil		Male	Social worker	Vatirpara	FGD with UDMC(Comparison union)
83	Liakot Ali	45	Male	Assist officer-land	Bahadurabad	FGD with UDMC(Comparison union)
84	Fazlul Karim	52	Male	Teacher	Bahadurabad	FGD with UDMC(Comparison union)

Sl	Respondents' name	Age	Gender	main occupation	Adress	Activity
85	Nasrin Akter	45	Female	Teacher	Vatirpara	FGD with UDMC(Comparison union)
86	Sufia Begum	48	Female	FPA	Vatirpara	FGD with UDMC(Comparison union)
87	Dr Lutfor Rahman	28	Male	SACMO	Bahadurabad	FGD with UDMC(Comparison union)
88	Abdul Kader	55	Male	Social worker	Pollakandi	FGD with UDMC(Comparison union)
89	Mizazul Haque	66	Male	Freedom fighter	Shazatpur	FGD with UDMC(Comparison union)
90	Aslam	26	Male	Social worker	Vatirpara	FGD with UDMC(Comparison union)
91	Masum	30	Male	Social worker	Vangargram	FGD with UDMC(Comparison union)
92	Rokeya Begum	38	Female	Ultra poor	Vatirpara	FGD with UDMC(Comparison union)
93	Abdul Mazed	34	Male	HA	Kolakanda	FGD with UDMC(Comparison union)
94	Ruhul Amin	28	Male	Social worker	Doborpara	FGD with UDMC(Comparison union)
95	Al Amin Member	42	Male	Social worker	Kolakanda	FGD with UDMC(Comparison union)
96	Mst Amela Begum	42	Female	Housewife	Takimari	In depth Interview
97	Md. Hanif	55	Male	UP Member	Char Dakatia	KII
98	Abdul Kalam	45	Male	UP Member	Borkhal	KII
99	China	30	Female	Field Trainer	Pochabohola, Islampur	KII
100	Md. Aminul Haque	45	Male	UNO	Dewangonj	KII
101	Faridul Islam	38	Male	Upazila Engeneer	Dewangonj	KII
102	Md. Saiful Islam	33	Male	Sub assistant engineer	Dewangonj	KII

District: Gaibandha, Upazila: Fulchori

Sl	Respondents' name	Adress	Age	Gender	marital status	main occupation	Activity
01	Goleza Begum	Uttar Burail	30	Female	Married	House wife	FGD
02	Nazma Begum	Uttar Burail	47	Female	Married	House wife	FGD
03	Monowara Begum	Uttar Burail	32	Female	Married	House wife	FGD
04	Rajena	Uttar Burail	20	Female	Married	House wife	FGD
05	Jelekha Begum	Uttar Burail	32	Female	Married	House wife	FGD
06	Anju Begum	Uttar Burail	20	Female	Married	House wife	FGD
07	Asma Khatun	Uttar Burail	25	Female	Married	House wife	FGD
08	Momota Begum	Uttar Burail	23	Female	Married	House wife	FGD
09	Sada Rani	Uttar Burail	25	Female	Married	House wife	FGD
10	Shova Rani	Uttar Burail	35	Female	Married	House wife	FGD
11	Anwara Begum	Uttar Burail	45	Female	Married	House wife	FGD
12	Maleka **Begum**	Uttar Burail	45	Female	Married	House wife	FGD
13	H,M Solayman Shahid	Kanchipara	50	Male	Married	UP-Member	FGD
14	Abdul Khalek	Kanchipara	50	Male	Married	UP-Member	FGD
15	Liton Mia	Kanchipara	40	Male	Married	UP-Member	FGD
16	Abul Kalam Azad	Kanchipara	45	Male	Married	UP-Member	FGD
17	MD.Rezaul Karim	Kanchipara	45	Male	Married	UP-Member	FGD
18	Shafiqul Islam Saju	Kanchipara	40	Male	Married	UP-Member	FGD
19	MD. Jahangir Alam	Kanchipara	52	Male	Married	UP- Secretary	FGD
20	MD.Dabir Ahammad	Kanchipara	40	Male	Married	UP-Member	FGD
21	Nazrul Islam	Kanchipara	55	Male	Married	UP-Member	FGD
22	MD. Momotaz Ali	Kanchipara	55	Male	Married	UP-Member	FGD
23	Rashida Begum	Kanchipara	45	Female	Married	UP-Member	FGD
24	Monira Begum	Kanchipara	35	Female	Married	UP-Member	FGD
25	Golenur Begum	Kanchipara	50	Female	Married	UP-Member	FGD
26	Abdul Baki Sarker	Udakhali	65	Male	Married	UP-Chairman	FGD
27	Abdul Jalil Sarker	Udakhali	65	Male	Married	UP-Member	FGD
28	Shafiqur Rahman	Udakhali	49	Male	Married	UP-Member	FGD
29	Hobibor Rahman	Udakhali	45	Male	Married	Business	FGD
30	Shahin Sarker	Udakhali	38	Male	Married	Business	FGD
31	MD. Alom Mia	Udakhali	40	Male	Married	UP-Member	FGD
32	MD.Moazzem Hossan	Udakhali	45	Male	Married	UP-Secretary	FGD
33	Ossini Kumar Bormon	Udakhali	59	Male	Married	UP-Member	FGD
34	Sabina Begum	Udakhali	38	Female	Married	UP-Member	FGD
35	MD.Khaza Mondol	Udakhali	48	Male	Married	UP-Member	FGD
36	MD.Jonu Mia	Udakhali	55	Male	Married	UP-Member	FGD

Sl	Respondents' name	Adress	Age	Gender	marital status	main occupation	Activity
37	Nurunnobi Sarker	Udakhali	60	Male	Married	UP-Member	FGD
38	Dula Mia	Udakhali	42	Male	Married	UP-Member	FGD
39	Jobada Begum	Uttar Kathur	31	Female	Divorced	Day Labour	IDI
40	MD.Abul Hossain	Fulchari	38	Male	Married	Service	IDI
41	AKM Akterul Ahsan	Fulchari	51	Male	Married	LEGD-ENG	IDI
42	Nirupoma Rani	Godaunpara	36	Female	Married	Day Labour	IDI
43	Azizul Huque	Gaibandha	42	Male	Married	Service	FGD
44	Loknath Rai	Gaibandha	28	Male	Married	Service	FGD
45	Omar Faruk Sarker	Fulchari	26	Male	Married	Service	FGD
46	Haider Ali	Polashbari	47	Male	Married	Service	FGD
47	Parvin Akter	Gaibandha	27	Female	Married	Service	FGD
48	Rebaka Akter	Polashbari	30	Female	Married	Service	FGD
49	Abdul Ahad Chowdhari	Gojaria	38	Male	Married	Service	FGD
50	Md. Mahadi-ul-shohid	Fulchari	38	Male	Married	UNO	FGD
51	MD.Abdul Motin Mondul	Arandabari	59	Male	Married	UP-Chairman	FGD

District: Khulna, Upazilla: Dacope

SL	Respondents' name	Address	age	Gender	marital status	main occupation	Activity
1	Anamika Roy	Lowdob, Badam tola	26	Female	Married	Housewife	FGD
2	Tara Roy	Lowdob, Badam tola	28	Female	Married	Housewife	FGD
3	Shanti Roy	Lowdob, Badam tola	35	Female	Married	Housewife	FGD
4	Rita Roy	Lowdob, Badam tola	25	Female	Married	NGO worker	FGD
5	Sandha Roy	Lowdob, Badam tola	48	Female	Married	Housewife	FGD
6	Iti Roy	Lowdob, Badam tola	30	Female	Married	Housewife	FGD
7	Sukla Roy	Lowdob, Badam tola	26	Female	Married	UP female Member	FGD
8	Rajendra Sarkar	Lawdop Modhhopara	70	Male	Married	Teacher Retired	FGD
9	Chandita Roy	Lawdop Modhhopara	42	Female	Married	Ward Member	FGD
10	Nimai Chand Das	Lawdop poshordhar	46	Male	Married	Ward Member	FGD
11	Bijon Babu Sarkar	Khutakhali	40	Male	Married	Secretary, policing committee	FGD
12	Sanjit	Lawdop Modhhopara	38	Male	Married	Ward Member	FGD
13	Kalipada Biswas	Lawdop poshordhar	44	Male	Married	Social Worker	FGD
14	Madhab Chandra Bala	Harintana	36	Male	Married	Secretary, Lawdop U.P	FGD
15	Jitendra Biswas	Khutakhali	45	Male	Married	Service holder	FGD
16	Narayan Chandra Roy	Lawdop poshordhar	41	Male	Married	Professor	FGD
17	Kumaresh Chandra Roy	Lawdop Modhhopara	50	Male	Married	Teacher Retired	FGD
18	Babu Tapan Kumar Roy	Khutakhali	35	Male	Married	Ward Member	FGD
19	Babu Debendra Nath Mistri	Burirdabur	32	Male	Married	Business	FGD
20	Gobinda Roy	Pankhali	35	Male	Married	UP Secretary	FGD
21	Bikash Boiragi	Tildanga	50	Male	Married	UP Member	
22	Hossen Ali Gaji	Kakrabunia	55	Male	Married	UP Member	FGD
23	Ronojit roy	Kaminibasia	50	Male	Married	UP Member	FGD
24	Konika Goldar	Tildanga	37	Male	Married	UP Member	FGD
25	Dalil Uddin Gaji	Kakrabunia	60	Male	Married	Techer (retired)	FGD
26	Nil Komol Sardar	Uttar Kaminibasia	52	Male	Married	Techer (retired)	FGD
27	Krisna Bissas	Andharmanik	32	Male	Married	Techer (retired)	FGD
28	Sulekha sana	Kaminibasia	33	Female	Married	Techer (retired)	FGD
29	Bikash Roy	Tildanga	52	Male	Married	Techer (retired)	FGD
30	Mrs. Yesmin Akhter	Naldanga	30	Female	Married	House Wife	Case Study
31	Arun Kumar Mandal	Kaminibasia	48	Male	Married	Teacher	IDI

SL	Respondents' name	Address	age	Gender	marital status	main occupation	Activity
32	Zakir Mollah	Botbunia	37	Male	Married	Involve with social work	IDI
33	Isa	Botbinia	45	Male	Married	Private Job	IDI
34	Mahua	Naldanga	18	Female	Unmarried	Student	Case Study
35	Aumitosh Sardar	Botbunia	70	Male	Married	Farmer	FGD
36	Aurdendu Halder	Botbunia	35	Male	Married	Day Laborer	FGD
37	Gouropodo Sana	Gorkhali	60	Male	Married	Day Laborer	FGD
38	Sohel Rana	Botbunia	25	Male	Married	Day Laborer	FGD
39	Nizam Uddin Sardar	Botbunia	71	Male	Married	Business	FGD
40	Prosanta Kumar Biswas	Botbunia	39	Male	Married	Farmer	FGD
41	Rita Rani Mondol	Botbunia	44	Female	Married	H/A	FGD
42	Abdullah Gazi	Kakrabunia	48	Male	Married	Van puller	FGD
43	Md. Nuruzzaman	Botbunia	35	Male	Married	Tea Stall Owner	FGD
44	Animesh Sardar	Botbunia	31	Male	Married	Farmer	FGD
45	Maruf Hossain	Tildanga	42	Male	Married	Day Laborer	IDI
46	Pakiron	Naldanga	45	Female	Married	House wife	FGD
47	Halima	Naldanga	45	Female	Married	House wife	FGD
48	Taslima	Naldanga	30	Female	Married	House wife	FGD
49	Jesmin Bibi	Naldanga	32	Female	Married	House wife & Day labor	FGD
50	Mozida Bibi	Naldanga	38	Female	Married	House wife	FGD
51	Sharmin Akter	Naldanga	24	Female	Married	House wife	FGD
52	Khadiza	Naldanga	19	Female	Married	House wife	FGD
53	Morium Bibi	Naldanga	35	Female	Married	House wife	FGD
54	Rozina Begum	Naldanga	23	Female	Married	House wife	FGD
55	Mahfuza Begum	Naldanga	44	Female	Married	House wife	FGD
56	Tahmina	Naldanga	38	Female	Married	House wife	FGD

Annex 6: Evaluation Matrix

Sub-Question	Indicator	Methodology	Information sources	Relevant HH survey sections	Relevant Qualitative Source
Key Question 1: What was the FCFA programme in Bangladesh that is the subject of the evaluation?					
1.1 Overview of WFP project CP 10410.0	Objectives: who; what; when; where; with who; for who; etc	Document review and secondary data analysis Key informant interviews	Project documents, Baseline reports and Standard Project Reports; data set provided		Interviews with WFP staff to collect historical view
Key Question 2: What positive or negative impacts have FCFA activities had on individuals within participating households and communities?					
2.1 To what extent are the assets created still functioning to meeting the standards and for the purposes expected?	Asset condition to expected technical standards; use of the asset as compared to its expected use	Asset Assessment site visits FGDs Household survey Key informant interviews	Primary data collected by the team Secondary resources, including reports on assets (before and after visuals)	Household survey: Module K: Q. 8	User's committee Interview: 3) b, c Upazilla/Union DMC FGD: 3) a, PNGO Staff FGD: 2) a,
2.2 What bio-physical outcomes (i.e. erosion, water availability, flooding, tidal surge, and vegetation cover, production from agriculture or forestry) have been associated with the assets developed?	Effective life expectancy/functionality of the asset created Specific indicator of bio-physical outcome to be defined by the technical expert and dependent on the assets	Asset Assessment site visits FGDs Household survey Key informant interviews		Household survey: Module K: Q 9A	FGD with local residents: 3) g FGD with local elite: 2) l User's committee Interview: 3) i FGD with PNGO: Q2b

2.3 To what extent have project outputs contributed to an overall positive or negative impact on the local environment?	A comparison of before and after asset building on local environment	FGD's, Key informant interviews		Module K: Q9A, 9B	User's committee Interview: 3) c
2.4 What effects have these outcomes had on land productivity?	A comparison of before and after land productivity (lands transformed from one crop to two crops) protection of land against flood(before and after) availability of irrigation (before and after)	FGDs Household survey Key informant interviews		Household survey: Module K: Q 9B Module E: Q 5	User's committee Interview: 3) h FGD with local residence: 3) f PNGO Staff FGD: 2) c FGD with local elite: 2) k
2.5 What effects have the bio-physical outcomes had on the food security, health and nutrition (particularly that of workers , resilience, employment, empowerment and livelihoods of participating households and communities?	Condition of housing and number and quality of other assets, income/consumption, coping with shocks/vulnerability, livelihood diversification strategies/activities, food security (access to food and right type of food, etc.), food consumption score, mid-upper arm circumference productivity, HH and community asset score or equivalent	FGDs Household survey Key informant interviews	Food consumption, Nutrition, coping strategies index, empowerment and livelihood modules	Household survey: Module L1: Q 5, 7, 9 Module L2: 9 Module G:Q 1 - 10 Module I: Q 6, 7 module L3:Q 6 Module L5: Q1-9 Module D: Q 1,2	User's committee Interview: 3) i, 4) a,b, c FGD with local residence: 2) k , 4)a PNGO Staff FGD: 2) c FGD with local elite: 2) h, 4) a Upzilla/Union DMC FGD: 3) l Key informant Interview: 2) f

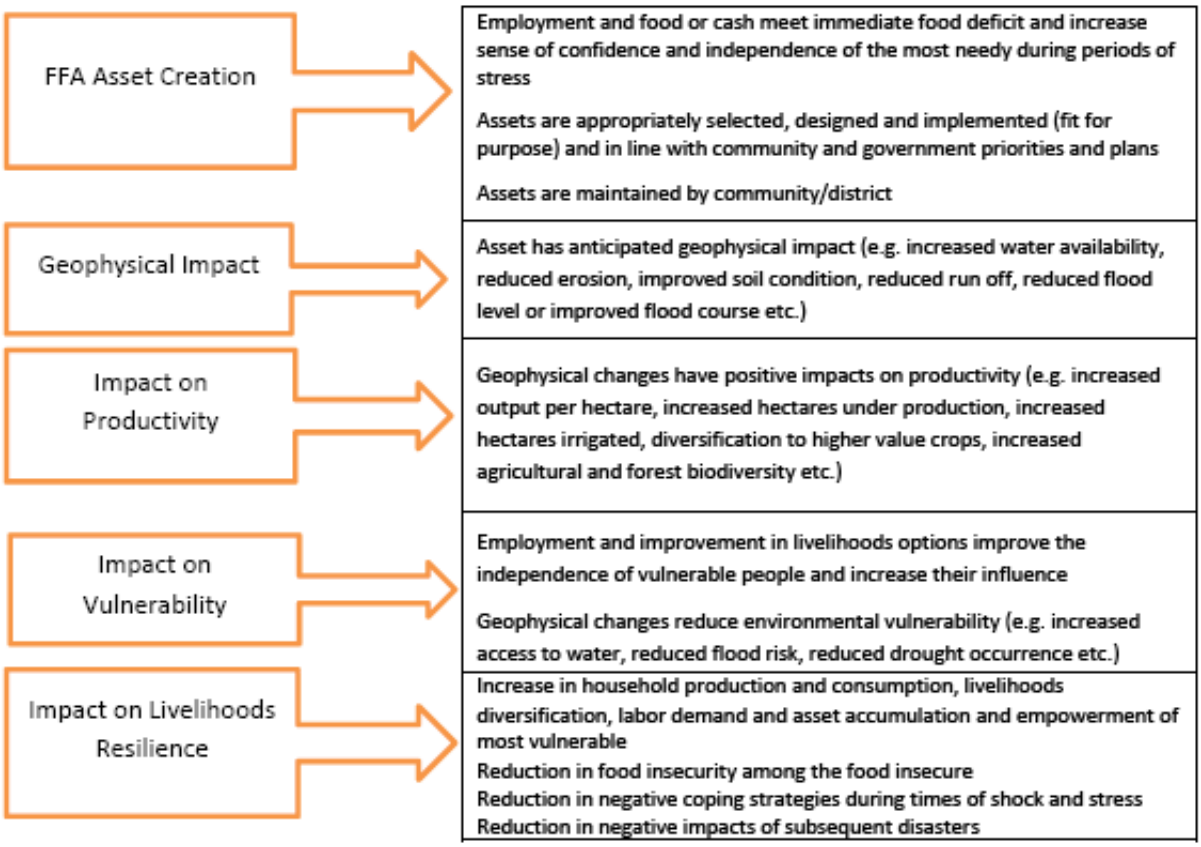
2.6 How were impacts distributed among different wealth categories, and between men and women?	Number, quality of assets, income/consumption, empowerment and power relations, workload, disaggregated by socio-economic status and gender,	FGDs Household survey Key informant interviews		Household survey: Module K: Q14	Key informant Interview: 2) j FGD with local residence: 2) o Union DMC FGD: 3)k FGD with local elite: 2)n User's committee Interview: 3) k,
2.7 What effects did FCFA outcomes and participation in FCFA programmes have on women and girls including distribution of resources, workload and empowerment and status?	Change in resource distribution to women, effects of workload on women, change in level of empowerment	FGDs Household survey Key informant interviews	Gender disaggregated data from survey and FGDs	Household survey: Module L4: Q 1- 7,	
2.8 To what extent did FCFA activities or the assets that were built through FCFA affect the resilience of households or communities in terms of diversifying livelihoods and withstanding subsequent shocks?	Community and Household asset score or equivalent Level of effects of subsequent shock	Community assets profile FGDs Household survey Key informant interviews	Community level disaster and resilience related information	Household survey Module L: Q10, 11, 12, 13	Key informant Interview: 2) h User's committee Interview: 3) k, FGD with local residence: 3) i PNGO Staff FGD: 2) f FGD with local elite: 2)o Union DMC FGD: 3)m
2.9 To what extent did the benefits of FCFA interventions had an impact on other, non-participant communities (spill over effects)?	Number, type and location of assets reported to have been transferred outside of intervention areas Changes in condition of non-participants within the same community	Community assets profile FGDs Household survey Key informant interviews		Household survey Module L4: 11, 12	Union DMC FGD: 3)k User's committee Interview: 3) d, f, j, FGD with local residence: 3) c,e,h

2.10 What were the main costs related with asset development including opportunity costs? Was the asset appropriately designed and sited to minimize maintenance costs? Is maintenance undertaken as needed to maintain effectiveness of the asset? What maintenance is being done by whom and what are the costs in both financial resources and time and maintenance costs?	Asset maintained to adequate level to ensure functionality Actual maintenance costs compared with expected cost Cost of maintenance (monetary and time undertaken) born by which members of community or government	Asset Assessment FGDs Household survey Key informant interviews	Secondary resources, including technical and financial reports	Household survey: Module K: Q 6, 7 Module L4: 8, 9, 10	User's committee Interview: 2) j FGD with local elite: 2) d, FGD with local residence: 2) d
Key Question 3: What factors were critical in affecting outcomes and impact					
3.1 Planning processes: technical appropriateness and quality, food and cash modality, programme category, targeting, participation of women in priority setting, community leadership, appropriateness of assets for disasters faced by communities	Comparison of asset quality, output/outcome results and process findings between different types of project categories Community perceptions Rating of conformance of asset construction to technical guidelines/international good practice Targeting, selection and construction documentation, comparison of food and cash for work versus food and cash for training	Asset Assessment FGDs Household survey Key informant interviews	Secondary resources and documents review	Household survey Module K: Q 1,2,3,4,5 Module I: 1-9	Key informant Interview: 2) b, c User's committee Interview: 2) a, 3) a, FGD with local residence: 2) a, b PNGO Staff FGD: 3) a, FGD with local elite: 2) a, b Union DMC FGD: 3) b, c,

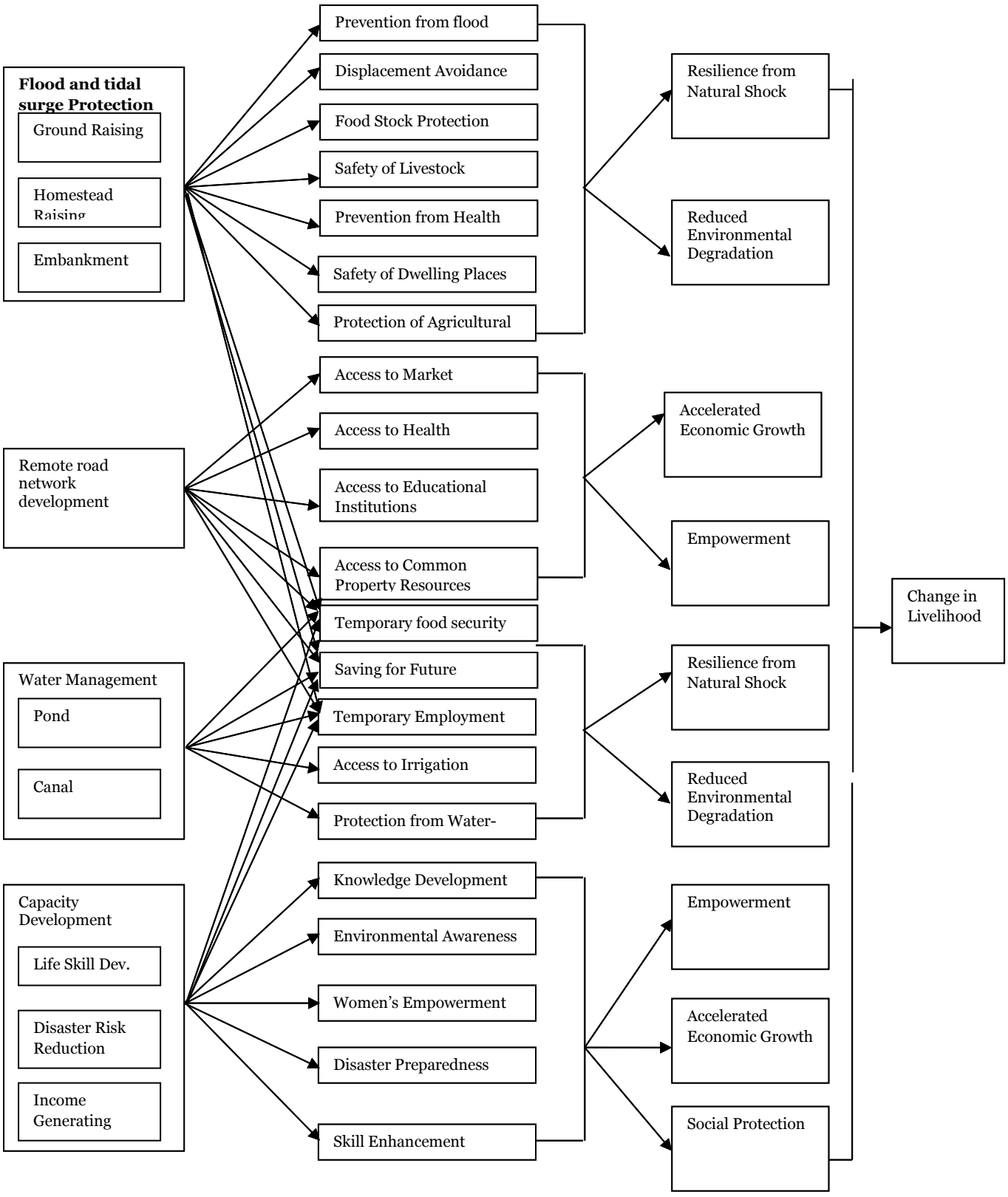
3.2 Contextual factors: socio-economic, political, security, seasonal migration, property-rights, market-related, coherence with government and local level priorities and plans; presence/absence of complementary activities/institutions, range and frequency of disasters and shocks affecting communities	Degree of coherence with plans and priorities Analysis of market and other factors and their likely effect on FCFA in the country context Type and location of complementary activities and institutions	Asset Assessment FGDs Household survey Key informant interviews		Household survey Module B, C, D, E, F, G, H , I,,J	Key informant Interview: 2) b, c User's committee Interview: 2) a, 3) a, FGD with local residence: 2) a, b PNGO Staff FGD: 3) a, FGD with local elite: 2) a, b Union DMC FGD: 3) b, c,
3.3 Implementation issues: food assistance issues including amount of food assistance, duration, timing sharing, provision of appropriate non-food items	Ration size compared to recommended Timing of delivery compared to seasonal calendars Reported degree of sharing of food Duration in weeks, months or years by overall project and by participant within the project Reports of adequacy of non-food items	Asset Assessment FGDs Household survey Key informant interviews		Household survey Module: L1: Q 1-15	PNGO Staff FGD: 3) b Union DMC FGD: 2) a, b, c Non-beneficiaries FGD: 2) a, b, c, d
3.4 Capacity and support: provision of adequate technical support from WFP or partners, contribution of food and cash for training in livelihoods and resilience related topics.	Opinions of communities and other stakeholders Analysis of asset quality for obvious technical problems Training records and community and partner opinions regarding training	Asset Assessment FGDs Household survey Key informant interviews		Household survey L3: Q 1-8	User's committee Interview: 2) g, i FGD with local residence: 2) c FGD with local elite: 2) c

Key Question 4: How could the FCFA activities be improved to address findings emerging from analysis in Key Questions 1 and 2?					
	Consistency with national and local development plans, possibly FCFA national capacity index or equivalent Documentary evidence of other activities and coherence Perceptions of partners	Component 2: HH survey/secondary data Component 3: Focus group discussions; document review Component 4: Semi-structured Interviews			Key informant Interview: 2) i, User's committee Interview: 3) l FGD with local residence: 3) j,k,l,m FGD with local elite: 2) p, Union DMC FGD: 3) g,

Annex 7.1: Simplified Logic Model (as in the main ToR)



Annex 7.2: WFP Interventions in FCFA – FFT Logic Model



Annex 8: Summary of impact estimates on households

Outcomes	Direct impact (on participants)	Spillover effects (on non-participants)
HH annual income (in Taka)	5,216**	990
Number of IGA of the respondent	0.39***	-0.01
Migration for work	0.22***	0.15***
Whether have cash savings	0.26***	0.02
Amount of cash savings	1,062***	77
Access to cultivable land	0.04	0.00
Whether own any land	0.10***	0.09***
Whether own any poultry or livestock	0.09***	0.00
Whether own fishing net	0.08***	0.05**
Total value of assets (in Tk)	10,807.43**	300.29
Food security last year	0.00	0.07***
Dietary diversity	-0.01	-0.09*
Knows vegetable cooking	0.16***	0.01
Use sanitary latrine	0.17***	0.03
Safe drinking water	-0.02	-0.03*
Faced any crisis last year	0.03	0.01
Faced any crisis in 3 months	-0.05*	0.03
Loss/expenses due to crisis last year	399.69	319.84
Loss/expense due to crisis in 3 months	-58.49	18.94
Disaster preparedness score	1.05***	0.05
Inadequate money for food last week	0.00	-0.07**
Coping strategy index total	-0.3	0.09

Source: Household survey – 2013; *** p<0.01, ** p<0.05, * p<0.1

Annex 9: Evaluation Terms of Reference

Evaluation of the Impact of Food for Assets on Livelihood Resilience in Bangladesh

Bangladesh FFA Profile:

FFA projects

(2002-2012):

- 2 Country Programmes

Transfer Modality:

- FFA/CFA

Main FFA Interventions:

- Water management
- Access Infrastructures
- Flood Protection

Geographic Coverage

Between 2008 and 2011, 13 districts and 45 upazillas were assisted by FFA programmes.

Subject and Focus of the Evaluation

Foods for Assets (FFA) programmes form one of WFP's largest areas of investment over time. Measured by food tonnage, and level of direct expenses between 2006-2010, FFA programmes were the second largest of WFP's food distribution modalities, after General Food Distribution.

FFA programmes are intended to restore or build specific assets that contribute to livelihoods improvement, resilience and food security. Typical examples include rebuilding infrastructure, supporting access to markets, restoring the natural resource base, or protecting the environment, and reclaiming marginal or wasted land among others. Many FFA interventions also aim to reduce risk and increase the capacity of households to manage shocks.

Some FFA activities aim to improve impoverished and depleted natural environments by arresting soil erosion, reducing floods, increasing moisture into the soil profile, improving water management, and increasing vegetation cover, thus enhancing the land's capacity to withstand stresses without losing productivity. By improving the environmental base upon which many people depend for agricultural and forestry related livelihoods FFA can help strengthen the ability of food-insecure people to manage future risks and withstand shocks. If applied at a significant scale, FFA may also contribute to reduce climatic risks or foster adaptation of communities to climate change induced effects.

Not all food transfers conditional on work can be considered to be asset building. Some do not create durable productive assets, but rather address the immediate food insecurity of the participants by providing food for a non-asset producing activity.

Some FFA activities may focus on lighter activities or simple repair of assets (such as in the case of low-technology, low-risk interventions). Where higher – technology, higher risk interventions are planned, more sophisticated and integrated approaches are needed that bring in the necessary technical capacity on the ground.

FFA in Bangladesh

WFP has worked in Bangladesh since the 1970s and has implemented Food for Assets activities since 1976. Bangladesh is one of the most disaster-prone countries in the world. Frequent natural disasters, such as cyclones and floods disrupt lives and livelihoods, exacerbate food insecurity and undermine poverty reduction efforts because of extensive damage to crops, homes, and household or community assets.

Between 2002 and 2011, FFA has continued mainly under 2 Country Programmes. The FFA components aimed to protect existing livelihoods assets providing short term employment during the lean seasons and reducing the risk and exposure of vulnerable groups to shocks by building assets that served income-generation and disaster preparedness purposes.

Objectives of the Evaluation

The evaluation serves both accountability and learning purposes. The main objectives are to:

- Evaluate the outcomes and impact achieved so far (intended or unintended) by FFA on livelihood resilience;
- Identify changes needed to enable fulfilment of the potential impact of FFA on livelihoods resilience;
- Provide information about how FFA activities can be better aligned with new policies and guidance.

This evaluation is one in a series of five country evaluations to be carried out from 2012-2014.

The evaluations will assess the medium term impact (impacts seen after 5-7 years) of past WFP operations where Food for Assets activities aimed to maintain or recover livelihoods and build livelihood resilience. In these evaluations *impact* is defined as the "lasting and/or significant effects of the intervention – social, economic, environmental or technical – on individuals, gender and age-groups, households, communities and institutions. Impact can be intended or unintended, positive and negative, macro (sector) and micro (household)." The evaluations will focus on creation or recovery of natural resource assets (soil, water, agricultural and forests) but also recognize the contributions of infrastructure and access assets to livelihoods resilience.

Users of the Evaluation

Key stakeholders include those directly involved in the design and implementation of FFA projects including the FFA participants themselves. The Government of Bangladesh at the national and sub-national level is one of the key partners with WFP in the planning and implementation of FFA interventions. In addition, a large number of cooperating partners, UN agencies, and local NGOs work together with WFP to implement FFA activities, provide inputs and technical assistance. Donor agencies that support FFA activities have a direct interest in the findings of the evaluation.

Evaluation Questions& Methodology

The following three main evaluation questions will be addressed by the evaluations:

Question 1: What positive or negative impacts have FFA activities had on individuals within participating households and communities?

Question 2: What factors were critical in affecting outcomes and impact?

Question 3: How could the FFA activities be improved to address findings emerging from the analysis in Key Questions 1 and 2?

The impact evaluation takes a mixed method approach. The four main components are:

- Quantitative survey of impacts at the household and community level;
- Qualitative assessment of impacts at the household and community level;
- Technical appraisal of assets and associated biophysical changes;
- Social and institutional analysis of networks and linkages.

Secondary data e.g. national household level surveys, census data and WFP monitoring data on inputs and activities will be used where possible to complement primary data collected.

Roles and Responsibilities

The evaluation team, from the firm Baastel includes both internationally and nationally recruited members and has a strong technical background in conducting independent evaluations of this nature. The team is complemented by a local company that will conduct the field surveys.

The evaluation is funded and managed by WFP's Office of Evaluation. Jamie Watts is the WFP evaluation manager.

Timing and Key Milestones

Inception Phase:11th Feb-25rd Mar 2013
Fieldwork Dates:7thApril– 5th May

Reports:

- Draft evaluation report available for comments byJune 2013.
- The Summary Evaluation Report will be presented to WFP's Executive Board inNovember 2013.

Findings will be actively disseminated and the final evaluation report will be publicly available on WFP's website.

Reference:
Full and summary reports of the Evaluation and the Management Response will be available at http://www.wfp.org/evaluation

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Acronyms

CP	Country Programme
CFW	Cash for Work
DFID	Department for International Development
DRR	Disaster Risk Reduction
ECHO	European Commission
ER	The Enhancing Resilience to Disasters and the Effects of Climate Change
ET	Evaluation Team
EU	European Union
FAAD	Food Aid Assisted Development
FAO	Food and Agricultural Organisation
FCFA	Food and Cash for Assets
FCFA	Food for Asset
FFW	Food for Work
FFT	Food for Training
FGD	Focus Group Discussions
GDP	Gross Domestic Product
GoB	Government of Bangladesh
IE	Impact Evaluation
IFS	Integrated Food Security
IGA	Income Generating Activities
IM	Inception Mission
IR	Inception Report
LGED	Local Government Engineering Department
LLP	Local Level Planning
MDGs	Millennium Development Goals
MoEF	Ministry of Environment and Forests
MoLGRD	Ministry of Local Government, Rural Development and Cooperatives
NAPA	National Adaptation Programme of Action
NGO	Non Governmental Organization
OE	Office of Evaluation
PIO	Project Implementation Officer
PNGO	Partner Non Governmental Organization
TOR	Terms of Reference
UP	Union Parishad
UDMC	Upazila Disaster Management Committee
UNO	Upazila Executive Officer
USAID	United States Agency for International Development
WBA	Well-Being Assessment
WFP	World Food Programme

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