

Feasibility Study Report:

Sustainable Water Management through Indigenous Finance and Technology

Submitted by:

United Purpose Bangladesh

Date: 17th April 2018

Table of Contents

List of Abbreviations.....	3
List of Figures	4
Introduction.....	5
Context.....	5
Study Objectives.....	6
Methodology.....	8
Primary Data	8
Secondary Data	10
Study Team.....	10
Limitations of the Study	10
Validation Workshop	11
Feasibility Study: Findings	11
Contextual Analysis	11
Study Findings	17
Water Management Group Organisation.....	17
Disaster Management	Error! Bookmark not defined.
Livelihood and Agriculture.....	18
Water Management and FCDI	19
SWOT Analysis.....	20
Technical Feasibility.....	22
Economic Feasibility	23
Social Feasibility	24
Recommendations	25
WMG Organization.....	25
Disaster Management	Error! Bookmark not defined.
Livelihood and Agriculture.....	26
Water Management and FCDI	26
WMG Organisation.....	28
Disaster Management	Error! Bookmark not defined.
Livelihood and Agriculture.....	28
Water Management and FCDI	29
Sustainable Finance Models	0
Conclusion.....	6

Appendix 1: Photographs of feasibility study data collection	7
Appendix 2: Focus Group Discussion Schedule	10
Appendix 3: Survey Questionnaires	11
Household Survey Questionnaire	13
KII questionnaires with WMG – Executive and General Members.....	15
KII questionnaire with Union Parishad Chairperson and Members.....	17
KII questionnaire with Government Officials	17

List of Abbreviations

BCC	Behavior Change Communication
BGP	Blue Gold Program
BWDB	Bangladesh Water Development Board
CRA	Community Risk Assessment
DAE	Department of Agricultural Extension
DLS	Department of Livestock Services
DMC	Disaster Management Committee
DOF	Department Of Fisheries
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
FCDI	Flood Control, Drainage and Irrigation
FGD	Focus Group Discussions
GO	Government Organization
HHs	Households
IEC	Information, Education and Communication
KII	Key Informant Interview
LSP	Local Service Provider
NGO	Non-Government Organization
O&M	Operation and Maintenance
RRAP	Risk Reduction Action Plan
SMC	School/Shelter Management Committee
SOD	Standing Order on Disaster
SWIFT	Sustainable Water Management through Indigenous Finance and Technology
ToT	Training of trainers
UDMC	Union Disaster Management Committee
UP	United Purpose
UZDMC	Upazila Disaster Management Committee
WDMC	Ward Disaster Management Committee
WMA	Water Management Association
WMG	Water Management Group
WRM	Water Resource Management

List of Figures

Figure 1: District map of Patuakhali district

Figure 2: Polders 43/2A under Patuakhali District, SWIFT project area

Figure 3: Polders 55/2A under Patuakhali District, SWIFT project area

Figure 4: Flow chart of the study process

Figure 5: Hazard ranking by WMG members in polder areas

Figure 6: Status of action plans for WMGs

Figure 7: Capability status of WMGs in implementing action plan

Figure 8: Progress status of WMGs action plan

Figure 9: Progress status of WMGs action plan

Figure 10: WMGs office status

Figure 11: Involvement status of WMGs in preparing constitution

Figure 12: Status of WMG monthly savings

Figure 13: Sustainable finance models for small-scale water management through WMG and government mobilisation

Figure 14: Sustainable finance model for internal fee generation and community loan generation

Introduction

Building on United Purpose's experience of working with and supporting Community Based Organisations (CBOs) and Water Management Groups (WMGs) in polders of southwest Bangladesh, United Purpose's Sustainable Water Management through Indigenous Finance and Technology (SWIFT) project will support communities to implement co-funding mechanisms enabling WMGs to generate funds for ongoing small-scale water management and maintenance works in Patuakhali. The proposed project will work directly with 36 existing Blue Gold Water Management Groups in Bara Beghai, Choto Beghai and Komlapur Union of Patuakhali Sadar Upazila under 43/2A polder and Bokulbaria Union of Galachipa Upazila, Adabaria and Nowmala Union of Baufal Upazila and Betagi Sankipur Union of Dashmina Upazila under 55/2A polder. The project will work to build the capacity of WMGs to be able to continue to generate funds from the community, local government and other NGOs long after the project has ended. The project will also work with farmers' groups to strengthen livelihoods and with disaster management committees (DMC) to ensure that water management activities are in direct response to community needs. The project works to positively influence the mindset of communities and empower them to implement their own plans and invest their own money rather than purely relying upon grants from external donors. The capacity of WMGs, farmers' groups and local governments will be strengthened enabling the community to take the lead in managing climate change and disaster whilst improving their economic and social status, including women at all stages of the project.

In order to ensure the project appropriately and sustainably addresses the existing needs of communities, a feasibility study has been conducted with key stakeholders and project beneficiaries. The findings are intended to present a clear picture of the current context in the project area highlighting the most significant gaps affecting WMGs' access to small-scale infrastructure for water management and the funding required to finance such infrastructure, analysing the feasibility of SWIFT to bridge these gaps.

Context

The lives and livelihoods of people living in the coastal areas of south-central Bangladesh are increasingly affected by climate-related disasters, including cyclones, river erosion, salinity and persistent waterlogging caused by storm surges, siltation – caused by the Ganges, Jamuna and Meghna Rivers – and rising sea levels. The coastal District of Patuakhali is surrounded on three sides by the rivers of Andharmanik, Agunmukha, Payra, Laukathi, Lohalia, Patuakhali and Tentulia, with Laukathi and Lohalia directly connecting with the Bay of Bengal. This exposes the region to a plethora of environmental hazards. Agriculture remains the most predominant source of income in the area accounting for over 57% of income-generating activities for households. The threat imposed by flooding, cyclones, tornadoes and tidal surges therefore, carries with it the risk of crop and asset destruction with significant implications on livelihoods and community resilience. In order to minimise the detrimental impact on communities living in the region, many NGO's are active in the area playing a vital role in supporting the most vulnerable and the most disaster-affected communities and households to increase their resilience to natural disasters.

Water management is a critical issue in Bangladesh. Flood Control, Drainage and Irrigation (FCDI) infrastructure, such as embankments, irrigation and drainage canals are essential to protect the lives and assets of the people living in the Blue Gold project area and to increase agricultural production. In addition to their primary uses, these facilities have multiple added benefits for communities, enabling the land to be utilized in the most efficient way promoting afforestation, income generation and diet diversification through diversified livelihood opportunities.

Since the late 1980s there has been increasing awareness of the need for an integrated, multi-sector approach to surface water management. It is increasingly felt that a new approach to planning, construction, operation and maintenance as well as the management of FCDI schemes is required to address the water issues of the country. Most importantly, participation of all stakeholders is considered to be crucial in order to ensure the long-term integration of social and environmental considerations. The emphasis has therefore been shifted from flood control to water management; from purely structural solutions to combinations of structural and non-structural measures, designed to meet a broader range of water management needs; and from purely consideration-based project development to stakeholder participation in all stages of project development. The participatory water management approach is now considered an effective way to manage the complexity of water management in Bangladesh.

Based on United Purpose's experiences of implementing the proposed finance models in other coastal areas of Bangladesh, including Khulna, Bagerhat, and Jessore, evidence has demonstrated that substantial funding including in-kind and cash contributions can be generated in support of community based organizations and relevant government line departments. In addition to previous experience, the feasibility study team frequently asked questions about co-financing practicalities and constraints during focus group discussions and key informant interviews to all respondents, including Union Parishad Chairperson, members, WMGs, BWDB personnel and all agreed and gave examples of models in terms of implementation. Community cohesion will ensure the finance models will be implemented easily, particularly as community led initiatives are nothing new to the coastal region with water management a prime issue in which communities have been involved and invested in even prior to the polderisation of the area.

Study Objectives

The overall objective of the study was to assess the gaps and needs of targeted WMGs and community members assessing the feasibility of implementing the project in the proposed area. The study focused upon the following areas:

1. Identify current overlaps and gaps between proposed livelihood and market access activities under SWIFT and already implemented activities by the Blue Gold Programme (BGP) or the other stakeholders

2. Identify water resource management (WRM) infrastructure being planned or already implemented by BGP and/or the Bangladesh Water Development Board (BWDB), which does not have to be addressed by SWIFT

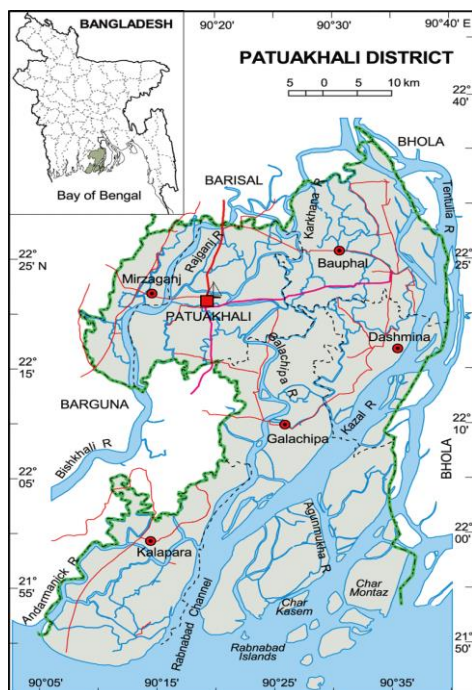


Figure 2: District map of Patuakhali district

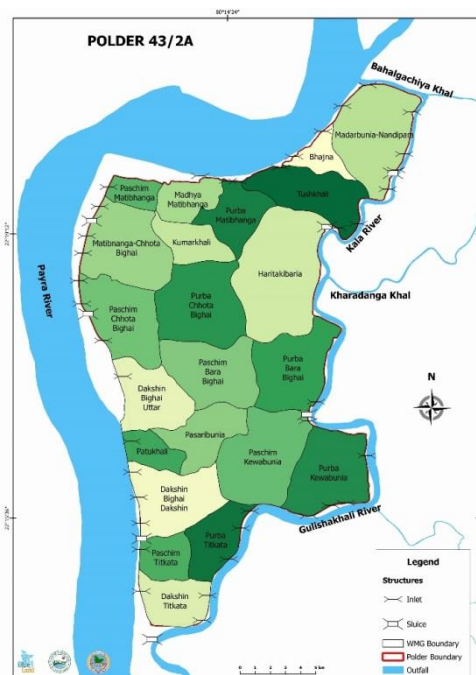


Figure 2: Polders 43/2A under Patuakhali District, SWIFT project area

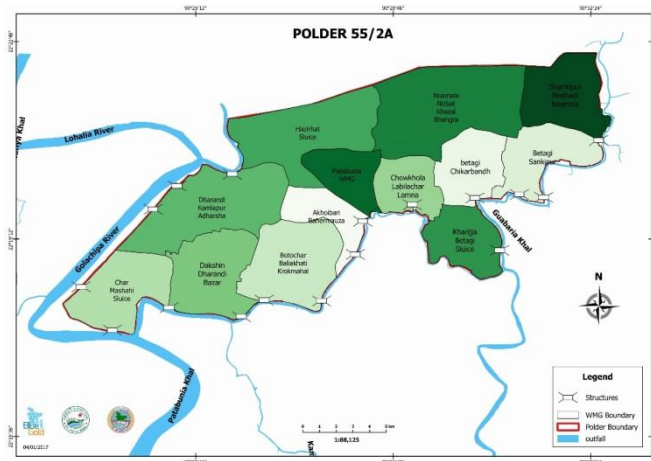


Figure 3: Polders 55/2A under Patuakhali District, SWIFT project area

3. Investigate ways to add value to current operational sluice catchment planning, internal polder water management and O&M activities by BGP
4. Investigate the possibility for sustainable finance model for small-scale water infrastructure/technology to be tested in the pilot including (i) Union Parishad interaction and lobbying; (ii) livelihood activities stimulations, profit sharing and internal fees generation; and, (iii) interaction and lobbying with government departments, including BWDB and the Department of Agricultural Extension (DAE) for support funds

5. Assess the organizational capacity of WMGs, particularly the manners in which WMGs can act as a key vehicle in decision, planning, implementation and monitoring in testing the models

Methodology

The feasibility study was conducted between 7th and 11th April 2018 utilising a range of primary and secondary data collection tools, including qualitative and quantitative approaches to assess the feasibility of implementing the SWIFT project in polders 43/2A and 55/2A, Patuakhali District. A total of 220 research participants between the ages of 19 to 70 years were interviewed through focus group discussions (FGD), key informant interviews (KII) and household surveys. These participants were selected due to their close involvement with Water Management Groups (WMG) and/or their knowledge and involvement with water management in the polder areas, including Blue Gold staff, Bangladesh Water Development Board (BWDB) representatives and local government officials.

Primary Data

The feasibility study gathered primary data using qualitative research tools in the form of FGDs, KIIs and household surveys to gather information on the current context of water management; methods of financing, constructing and maintaining small scale infrastructure; and community experiences from a range of research participants, including Water Management Group members (both men and women), Bangladesh Water Development Board (BWDB) representatives, local government officials, smallholder farmers, landless farmers and Blue Gold staff.

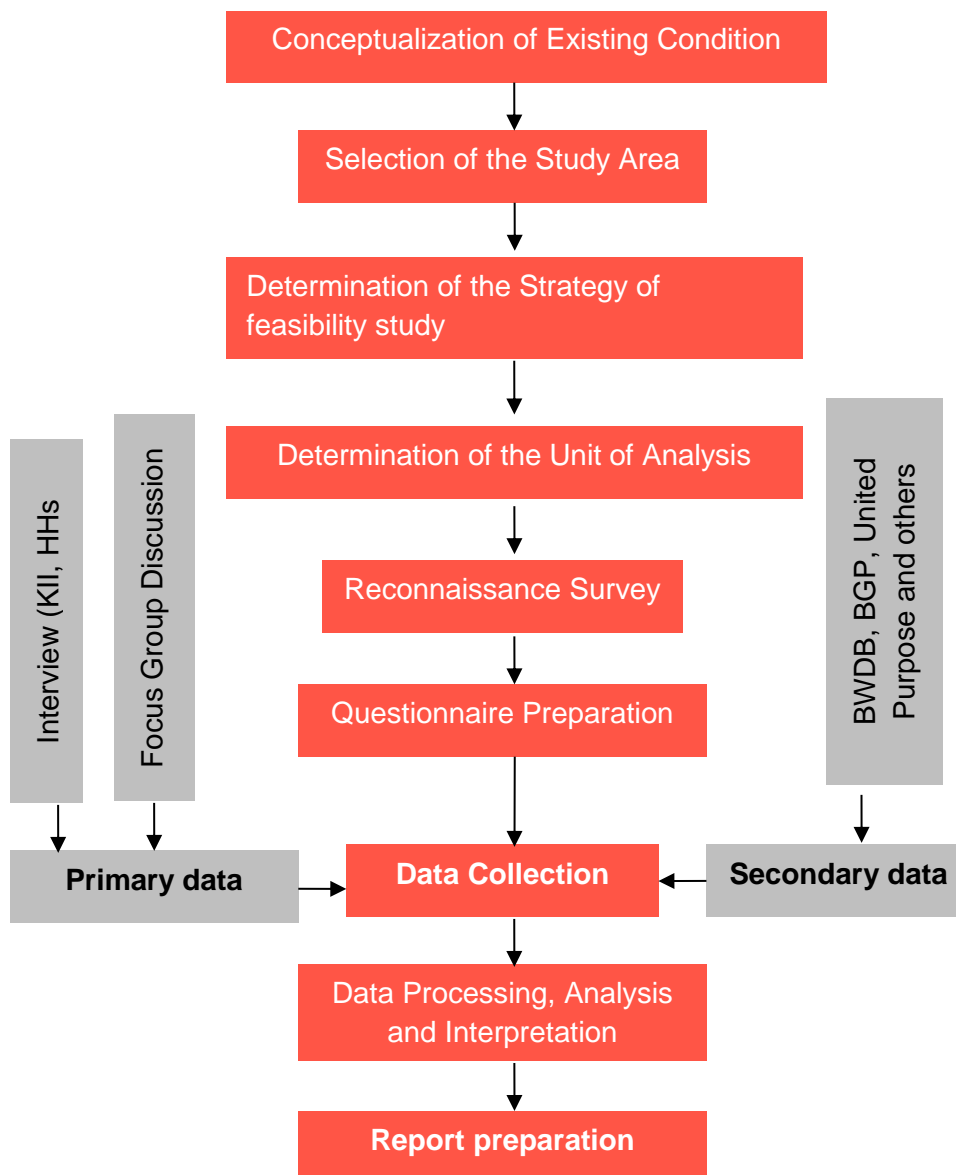
a) Focus Group Discussions

A total of 16 FGDs were conducted in polders 43/2A and 55/2A – 9 FGDs and 7 FGDs respectively. The FGDs were conducted with three groups: 10 FGDs were conducted with mixed-gender groups of WMG members, including both General Committee and Executive Members; four FGDs were conducted with women WMG members, including both General Committee and Executive Members; and two FGDs were conducted with farmers, including smallholder and landless farmers. 15 WMGs out of 36 were involved in total. A total of 179 people participated in the 16 FGDs (27% were women and 73% were men).

b) Key Informant Interviews

A total of 21 Key Informant Interviews (KII) took place with stakeholders and research participants, including 16 KIIs with men (76%) and 5 KIIs with women (24%). Research participants included four WMG General Members, four WMG Committee Members, ten local government representatives (including representatives from the Union Parishad, Department of Agricultural Extension, Department of Fisheries and Department of Livestock), one representative from the BWDB and two Blue Gold staff members.

Figure 4: Flow chart of the study process



c) Household Surveys

A total of 20 household surveys were conducted with smallholder farmers (30%), landless farmers (30%) and WMG members (40%) to collect data on WMGs' engagement with Blue

Gold Programme activities. Surveys sought to understand the overall involvement of WMGs in both polders. A total of 20 people participated in the 20 household surveys (40% were men and 60% were women).

Secondary Data

In addition to primary data collection, the study gathered secondary data from the Bangladesh Water Development Board (BWDB), Blue Gold Programme (BGP), United Purpose and other online and offline sources to inform contextual knowledge about water management in south-central Bangladesh.

Study Team

The feasibility study research team was a combination of Master's Degree students from the Department of Disaster Management, Environmental Science and Forestry of Patuakhali Science and Technology University (PSTU) and Khulna University. The students were activity involved in the data collection process for the feasibility study. To ensure coordination and a common understanding a formal orientation was held on 7th March 2018 with data collection personnel to discuss study objectives, research methodologies, questionnaire development and to define responsibilities. The orientation session was conducted by United Purpose staff with the support of local partner, SMKK. The study team comprised of the following personnel:

Team	Name of Team Members
Team A	1. Tasmia Farhana, Department of Forestry, Khulna University 2. Md. Sohel Hossen, Field Eng. SMKK
Team B	1. Md. Asaduzzaman, Disaster Management, PSTU 2. Tania Akter, Disaster Management, PSTU
Team C	1. Prome Debnath, Disaster Management, PSTU 2. Saddam Hossain, Disaster Management, PSTU

Limitations of the Study

Due to time limitations the study is largely limited to qualitative information. The study has further possibilities to explore other technological and indigenous adaptations in water management. There was also limited information on value chain systems and actors. In order to gather more in-depth information on value chains a separate study is required. The study is limited to prove the existence of practices and barriers in water management and livelihoods and relies upon the experiences and honesty of the research participants. However, through validation workshops and interviews with varied stakeholders the claims and answers have been reinforced.

Validation Workshop

As a part of the Feasibility Study, an assessment validation workshop was conducted on 15th April at the Social Development Agency (SDA) offices in Patuakhali. Various participants attended the workshop, including representatives from BWDB, DAE, DLS, DOF, LGIs, BGP, WMGs, WMA and the community. All participants agreed with the findings and recommendations produced by the feasibility study. There was also appreciation, interest and consensus over the feasibility of the co-financing models to be introduced in the context of 55/2A and 43/2A polders. Additional recommendations were provided by the workshop participants:

- SWIFT should have provision to provide quality seeds for the farmers
- Training on needs assessment to WMGs should be provided
- Adhering to existing bylaws women's participation should be encouraged and increased and executive and general committee members should do more to encourage inclusion and participation to increase the capacity of WMGs

Feasibility Study: Findings

Contextual Analysis

In order to understand more fully the context of existing WMGs in the project area, the findings below outline important information on the status of the groups. As part of the focus group discussions, a hazard ranking analysis was conducted in both polders. According to study participants, WMGs face a number of significant environment-related challenges, including cyclones, droughts, storm surges, waterlogging, air and water-borne diseases, agricultural pests, tornados and flooding; all of which have detrimental impacts on the livelihoods of communities due to asset damage, crop destruction and health-related issues. It was found that waterlogging was of utmost concern (22%). Cyclones and droughts were also listed as common occurrences (19% and 21% respectively) that pose significant hazards for WMG members and farmers.

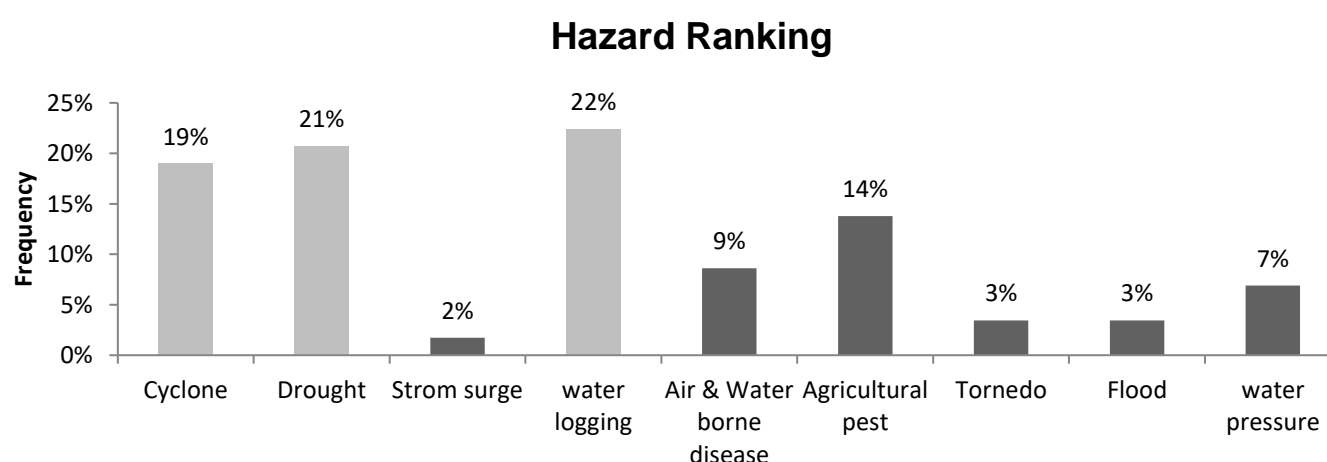


Figure 5: Hazard ranking by WMG members in polder areas

Action planning is a central component to WMGs sustainability. In order to address issues, problems and concerns within their hydrological unit, WMGs form and implement a Water Management Group Action Plan (WAP) as part of polder development planning.

Percentage of WMGs with an Action Plan

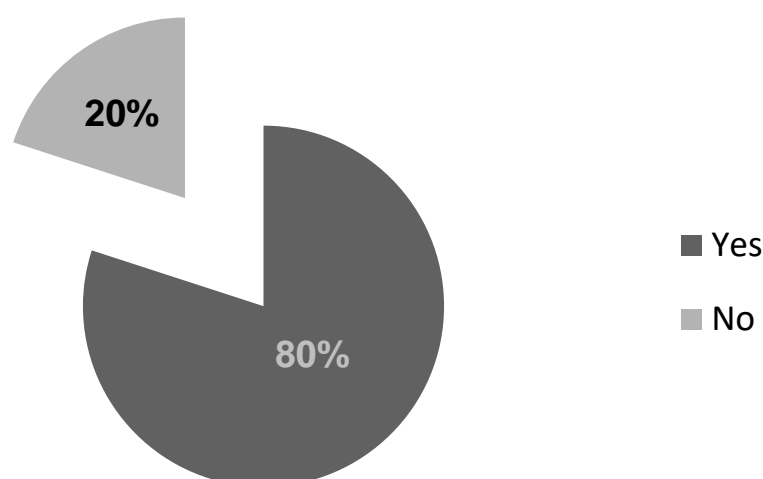


Figure 6: Status of action plans for WMGs

“I was general members of executive committee in WMG in before, now I’m Chairperson in the executive committee of newly reformed WMG from December 2017. Action plan of my WMG is not yet prepared even I don’t know where the previous action plan exist”

Md. Monir, Chairperson: Chikarbag WMG, 55/2A Polder, Betagi Sankipur Union, Cell Phone- 01740910195.

“I’ve been holding the position of Chairperson in executive committee of WMG since 2012 to till date. This WMG have been reformed last in 2015 where as the duration of committee have over 3 months ago. Now this WMG is running through adhock committee from last 3 months to onward. We prepared an action plan in resolution book at the beginning of committee was formed in 2012 though it was not prepared/developed in a separate sheet/brown paper. Now we don’t have any action plan in written, we had repaired only a sluice gate within my whole period as Chairperson in this WMG”

Abdus Sattar Dakua: Chairperson, Hazirhat WMG, 55/2A Polder, Adabaria Union, Cell Phone- 01721295284.

“I’ve been holding the position of Chairperson in executive committee of WMG since 2015 to till date. The duration of committee has over 3 months ago but due to have clash within many groups, it is not being possible to reform this WMG. I don’t have any information of action plan even I don’t know where it exist and to whom it belongs. We did not implement

any activity within my period as Chairperson in this WMG”

Md. Masum Billah: Chairperson, Dakshin Behgai Uttar WMG, 43/2A Polder, Barobegai Union, Cell Phone- 01759526285.

“I’ve been holding the position of Chairperson in executive committee of WMG since 2015 to till date. The duration of committee has over 4 months ago but due to have allegation in the legal court, it is not being possible to reform this WMG. We had prepared an action plan in 2015 which we only have in our WMG. Therefore, we didn’t prepare any action plan to till date.”

Md. Harun Doctor: Chairperson, Nondipara Madarbunia WMG, 43/2A Polder, Chatobeghai Union, Cell Phone- 01724918527.

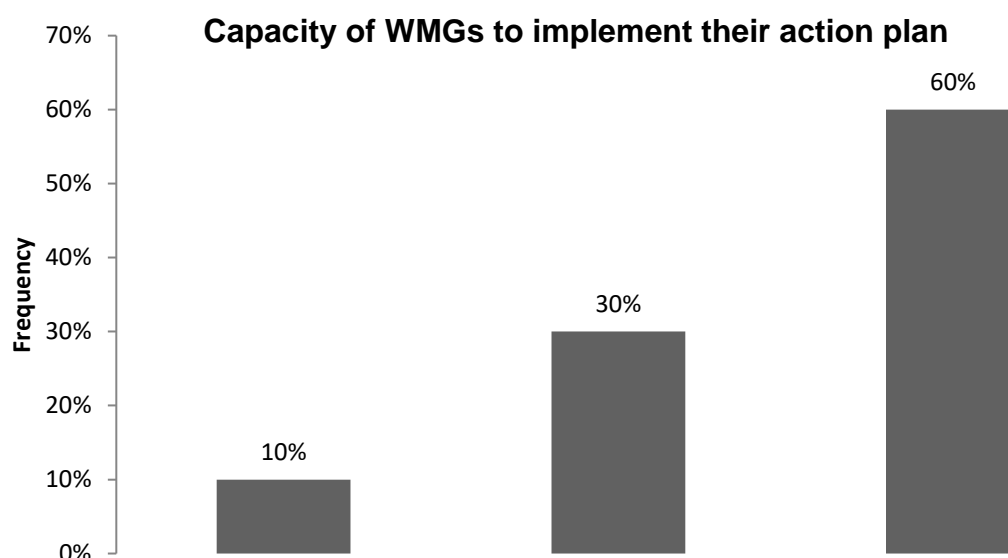


Figure 7: Capability status of WMGs in implementing action plan

Despite the high proportion of WMGs that have developed an action plan, WMGs were found to be incapable of implementing most of the activities in their action plans independently or without varied levels of external support. The degree of capability varied between WMGs: 60% of WMGs reported a lack of capacity to implement their action plan independently; 30% reported to be capable of implementing 50% of their action plan without external support; and 10% of WMGs reported to be capable of implementing 25% of their action plan independently, requiring 75% support from external actors, including technical and financial support from LGIs, BWDB, DAE, DLS, BGP and other NGOs.

Between July 2017 and June 2018, it is expected that approximately 34% of the activities outlined in 10 WMG action plans reviewed in the feasibility study will be achieved. It is assumed that over the coming two months (May-June) the activities will increase, however the current trend shows limited scope to reach a satisfactory level considering the given timeframe and current rate of achievement.

WMG Action Plan Progress

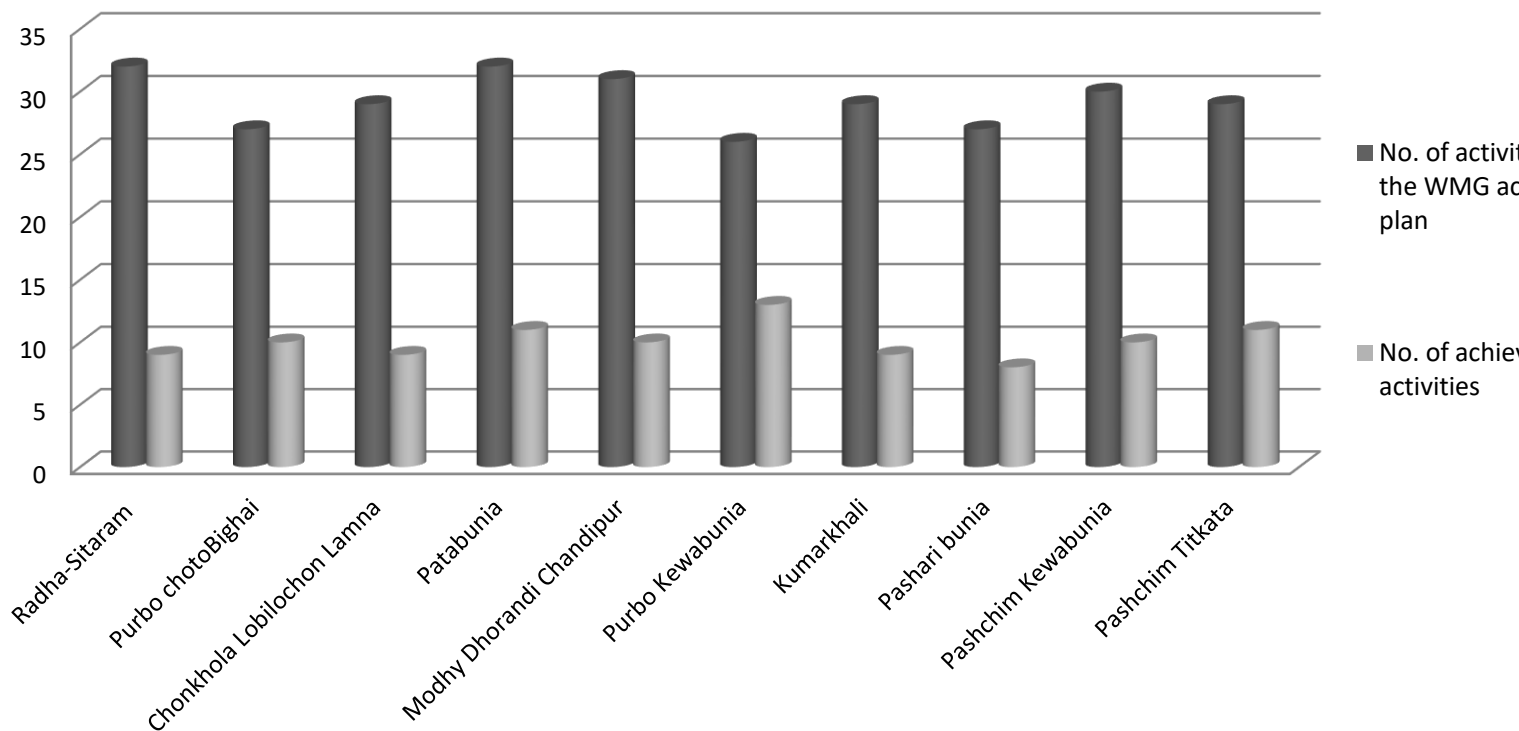


Figure 8: Progress status of WMGs action plan

Percentage of Activities Completed in Action Plan
July 2017-June 2018

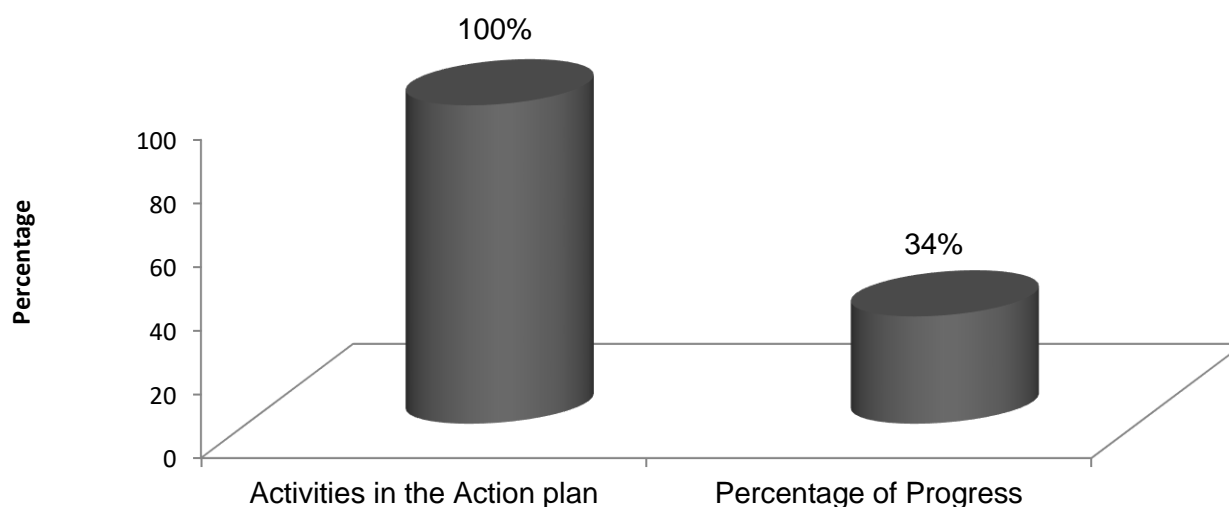


Figure 9: Progress status of WMGs action plan

The majority of WMGs have no office space. WMG members generally sit for monthly meetings in the home yard, school premises, Union Parisad premises or even in open spaces/fields. Of the 15 WMGs interviewed through FGDs and KIIs, only 20% had a designated space to use as an office or gathering place for monthly meetings and other activities. The remaining 80% are operating without a designated office reporting that this lack of space is having a negative impact on their capacity and coordination as a WMG to operate effectively and efficiently (figure 10).

Percentage of WMGs with a designated space to operate

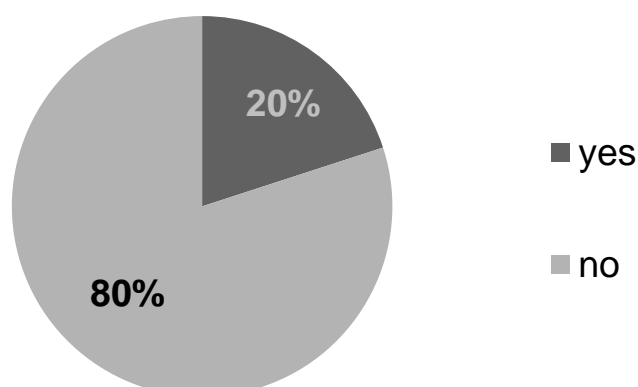


Figure 10: WMGs office status

To assess the understanding and ownership level of WMGs over the bylaws, it was found that 40% of WMG members reported to have no involvement in the preparation of their

WMG bylaw/constitution. 20% of members reported that WMG constitutions were prepared by WMG Executive Members and Blue Gold Programme personnel. 10% of members reported that WMG constitutions were prepared by a combination of WMG Executive Committee members, general members and Blue Gold Programme personnel. The remaining 10% reported that constitutions were a joint effort between WMG general members and Blue Gold Programme personnel.

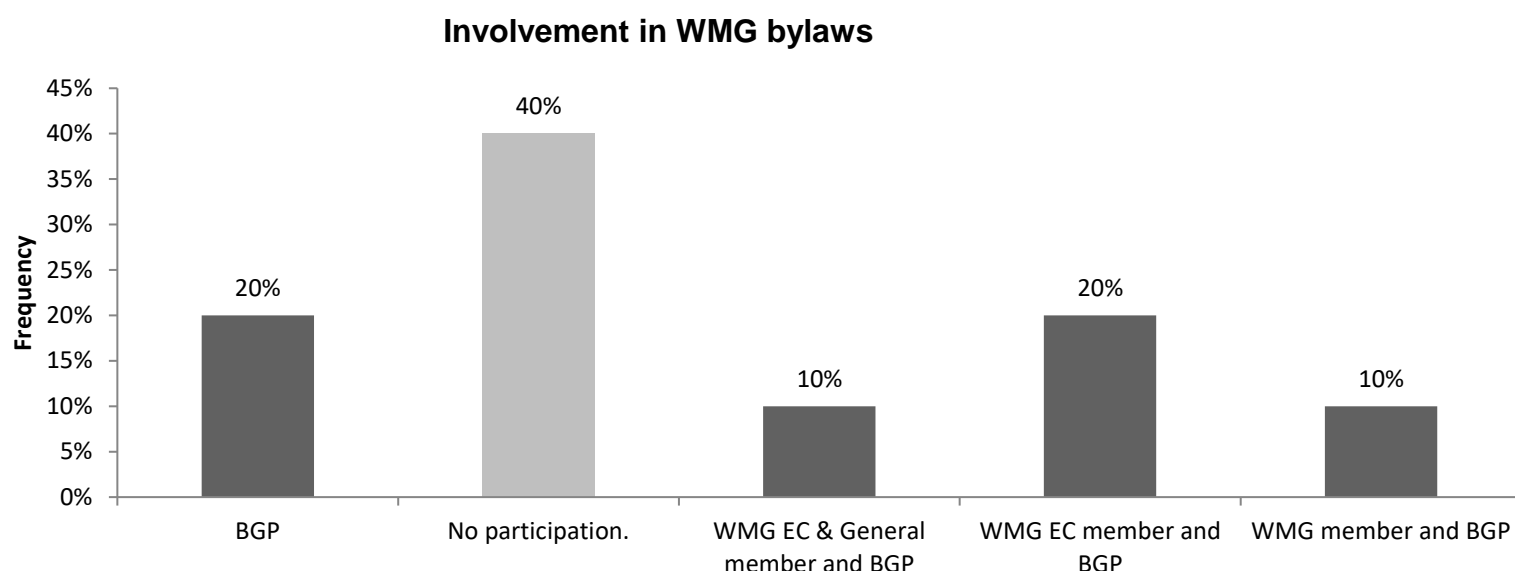


Figure 11: Involvement status of WMGs in preparing constitution

Water Management Groups have option of savings through monthly subscription provided by each member. Due to social cohesion, trust and a common understanding between WMG members, a small portion of these savings can be mobilised for emergency maintenance and repair of FCDI and other small-scale infrastructure through mutual understanding and group's decision to protect the local community. It was found that of the 15 WMGs interviewed, 60% currently have access to savings generated through community investment, whilst 40% of WMGs lack financial security.

Percentage of WMGs with monthly savings

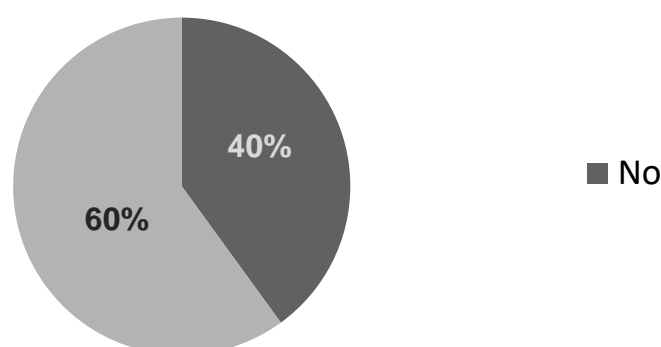


Figure 12: Status of WMG monthly savings

Study Findings

The findings of this report have been presented using three categories: i) Water Management Group (WMG) Organisation, ii) Livelihoods, and iii) Water Management and Flood Control, Drainage and Irrigation Infrastructure (FCDI). The findings have been taken from detailed discussions held with general and executive members of the WMGs, women representatives of the WMGs and producer groups through FGDs. Observations, results and recommendations were also taken from KIIs with Union Parishad Chairperson and members; WMG general Executive Committee and members; BWDB representatives; and government personnel from the DAE, DoF and DLS.

Water Management Group Organisation

This section reflects upon water management organizational strength in terms of the Organisational contribution and capacity for managing and operating infrastructure through participatory water management approaches. The overall findings of the feasibility study highlighted issues with coordination, cohesion and organisation of the WMGs. A lack of equal participation of WMG members, particularly women, was found to be a significant challenge. Women's participation in terms of equity in the WMG was found to be unsatisfactory as it is common in most organizational structures in Bangladesh. In many instances, women reported that their husbands spoke on their behalf during WMG meetings with women's voices not being equally represented or heard. WMG members were often not involved in planning, decision-making and action plan preparation with individuals in positions of power taking ownership over these activities. Whilst 60% of WMG were found to have savings generated through monthly membership fees, there appeared to be a lack of clarity, cohesion and participation around where this money should be invested, with approximately 20-30% of members giving monthly membership fees regularly but with reluctance to do so as the benefits have not been directly felt by the community. Accountability and transparency were therefore reported as central to improving WMG functioning. A summary of the results are as follows:

- Democracy is rarely being practiced in decision making, planning and implementation within WMGs
- Power dynamics influence the operation of the WMGs
- WMG members are often not fully involved in action plan preparation
- Records are not being properly maintained, including action plans, bookkeeping, constitution and accounts
- Majority of WMG members have limited access to these documents
- Monthly meetings are often not scheduled in a timely manner and lack structure
- WMGs lack capacity to establish networks and form linkages with other stakeholders, including LGIs
- Some WMGs have provision of savings but this is not applied to every WMG
- Some WMG members lack clear information about the objectives of these savings
- 100% of WMGs are operating without a business plan which causes inefficiency when allocating funds to certain activities

- Members reported feelings of reluctance to pay monthly membership fees as they are uncertain of the benefits, with approximately 70-80% not providing membership fees due to drop-out
- WMGs lack the capacity to identify and mobilise resources
- Accountability and transparency of WMGs is below a satisfactory level
- Women's' participation in the WMG monthly meeting is below a satisfactory level with husbands often attending the meetings in their place
- Women's' voices are rarely heard in terms of decision making and planning due to sociocultural norms restricting landless and extreme poor women from openly participating
- WMGs lack capacity to develop effective action plans
- Relationship between WMGs and Union Parishad, Department of Agricultural Extension, Bangladesh Water Development Board, Department of Fisheries and Department of Livestock is unsatisfactory in terms of resource mobilization
- Member selection procedures of WMGs are not up to the mark to achieve the objectives of WMGs.

Livelihood:

This section sought to identify livelihood and agricultural practices linked to water management, exploring the seasonality of waterlogging and its impact on cultivation practices. Patterns of crop cultivation, crop diversification and climate change were focal areas in order to gain an understanding of the context and current practices. It was revealed that some communities have begun adapting their livelihoods and agricultural practices on a small scale in response to the changing climate however, further adaptation interventions based on their experiences, needs and requests must be introduced. The feasibility study also aimed to identify what existing services are currently being offered by government institutions, non-governmental organisations and private sector actors to avoid duplication and to identify gaps. A summary of the results are as follows:

- Insufficient knowledge of pest and disease management amongst farmers
- Technology and training from the DAE is not reaching rural farmers to the extent required due to limited manpower of DAE personnel
- Lack of supply and accessibility of quality agricultural inputs hampers production levels
- Farmers lack access to markets across all value chains which reduces their income-generating capacity and motivation
- Due to sociocultural norms and customs women's movement and access to markets is restricted, selling produce directly from their farm or homestead instead of the local market, limiting their income-generation capacity and confidence
- Lack of knowledge on sustainable and modernised cultivation techniques
- Farmers possess insufficient knowledge and awareness of post-harvest techniques
- Lack of innovative, low-cost, simple, space-saving technology and crop variety for the landlessVegetables are not produced largely/commercially due to lack of technology and initiatives

Water Management and FCDI

This section presents an overview of the findings on the current context of and issues with FCDI; inland water management schemes; constraints and conflicts in water and land sharing; management and maintenance; and, fee generation and the scope of group support funds to facilitate small-scale water management works and maintenance to protect people, their assets and public facilities. It also reflects on the feasibility of co-funding mechanisms as a method of fund acquisition for WMGs to continue ongoing, small-scale and sustainable water management and maintenance works, generating funds from the community, local government and other NGOs long after support from the project has ended. A summary of the results are as follows:

- Inadequate small-scale FCDI schemes in the project area hampers utilisation of agricultural land
- Unplanned establishment of water infrastructures. Root level people/farmers and actors were not consulted during designing and establishment period.
- Some canals are encroached by the influential
- Most of the culverts are un-rehabilitated for a longer period of time
- Some portion of embankments and other forms of FCDI infrastructure are un-rehabilitated and not properly maintained
- The design of the outlets are not considered the future water level and presently silted up
- Low land is vulnerable to flooding and waterlogging due to insufficient micro-dams and irrigation infrastructure
- Abundance of idle land due to a lack of adequate irrigation infrastructure
- Social conflict over water management between local farmers and BWDB
- Sluice gates operated by WMGs are in good condition but lack consistency regarding levels of inlet and outlet water
- Maintenance of FCDI including sluice gates, culverts and embankments is inadequate in most areas assessed due to lack of determined roles and responsibilities, regular monitoring and follow-up by WMGs and BWDB
- Water management disrupted by power-holding groups
- Arable land is subject to waterlogging during monsoon season due to a lack of FCDI initiatives and a lack of maintenance
- WMG members are currently generating funds for small-scale water management through membership fees
- WMGs were found to be largely dependent upon external financial support
- WMG members were found to be enthusiastic about diversifying income sources through alternative finance models
- LGIs, BWDB and DAE were found willing to provide economic and technical support to implement small scale water management activities by WMGs
- A portion of funds deposited/generated by WMGs through membership fees can be used to operate and maintain FCDI infrastructures.

SWOT Analysis

The project team analysed the feasibility of the SWIFT project through a SWOT analysis conducted to identify the strengths and weaknesses of current WMG organisation, disaster management, water management, and livelihood and agricultural practices, as well as identifying potential threats and possible opportunities that could be supported through the project.

	S Strengths	W Weaknesses	O Opportunities	T Threats
WMG organisation	<ul style="list-style-type: none"> ➤ WMGs already established ➤ WMG constitutions approved ➤ WMGs have received registration from the BWDB 	<ul style="list-style-type: none"> ➤ Limited financial resources ➤ Lack of cohesion reducing capability for WMG to run smoothly and effectively ➤ Lack of knowledge of WMG members around resource mobilisation techniques ➤ Lack of effective action plans ➤ Lack of business plans ➤ Reduced community mobilisation ➤ Ineffective networking and strategic linkages ➤ Low fund generation capacity 	<ul style="list-style-type: none"> ➤ Availability of people power through community mobilisation ➤ Members are willing to participate and contribute to community water management ➤ Some WMGs are generating income and savings already through membership fees ➤ With improved transparency WMG members could improve community cohesion and trust in the WMGs and therefore generate more income ➤ Capacity building for WMG members to lobby to local government (including Union Parishad and 	<ul style="list-style-type: none"> ➤ Political influence ➤ Community loses interest

		➤ Inability to initiate emergency response effectively	other governmental departments like BWDB and DAE) to generate funds	
Water Management and FCDI	<ul style="list-style-type: none"> ➤ Polder areas already established ➤ Major portion of embankments and other forms of FCDI infrastructure rehabilitated ➤ WMGs already established 	<ul style="list-style-type: none"> ➤ Improper and inadequate maintenance and management of existing water management infrastructure. ➤ For example: The existing embankment at Vajna village of Sotobeghai Union under 43/2A Polder is very weak somewhere the thickness is about only 1-1.5 feet anytime it can be broken. ➤ A portion of embankment at 43/2A & 55/2A is also very weak which requires strengthening works to protect country side inhabitants from waterlogging in coming monsoon 	<ul style="list-style-type: none"> ➤ Available indigenous knowledge and expertise for FCDI ➤ Available technologies through BGP and other NGO interventions ➤ Commitment of communities in terms of participation and contribution ➤ Available water bodies for irrigation ➤ Available local resource (manpower, earth) 	<ul style="list-style-type: none"> ➤ Political power ➤ Climatic hazards
Livelihood	<ul style="list-style-type: none"> ➤ Indigenous technology available ➤ Available agricultural land ➤ Motivated community, 	<ul style="list-style-type: none"> ➤ Lack of knowledge on new and sustainable technologies ➤ Quality agricultural inputs are 	<ul style="list-style-type: none"> ➤ Farmers are willing to accept new technologies and crop varieties ➤ Willingness of the community 	<ul style="list-style-type: none"> ➤ Persistent waterlogging ➤ Drought ➤ Natural climatic events risk destruction of

	<p>particularly women</p> <ul style="list-style-type: none"> ➤ Presence of Govt. departments and officials in the project area, including DOF, DAE, DLS 	<p>unavailable</p> <ul style="list-style-type: none"> ➤ Limited market access ➤ Inadequate support from the government ➤ Lack of irrigation facilities ➤ Lack of knowledge on sustainable pest and disease management 	<p>to diversify livelihoods</p>	<p>crops</p>
--	--	---	---------------------------------	--------------

Technical Feasibility

Technical support provided to the WMGs by the BWDB and DAE will continue to ensure sustainability beyond the life cycle of the project with BWDB and DAE representatives demonstrating full cooperation and an alliance with the WMGs. Training provided by the project as well as operation and maintenance modules provided by the BWDB will guide WMGs to operate and maintain sluice gates and other FCDI infrastructure. In addition to the BWDB, other government departments including Union Parishad, Department of Agricultural Extension (DAE) and Department of Fisheries (DoF) and the Department of Livestock (DoL) are equipped with technologies, skills, expertise and a commitment to support the WMGs. The Sub-Assistant Agriculture Officer (SAAO) at the Union Parishad level and Sub-Assistant Engineer (SAE) at the polder level expressed willingness to participate in future WMG meetings to provide technical support and feedback WMG requests and activities to the Union Parishad regarding livelihoods, agricultural initiatives and small-scale infrastructure:

I will provide all sorts of technical support as required for small scale infrastructure like small canal, drainage, micro dam etc. initiated by WMGs.

Shakil Mahmud, Sub-Assistant Engineer (SAE), BWDB, Patuakhali.

Through networking and linkage establishment delivered through the project, government departments can extend support and cooperation according to the needs of the WMGs and communities. As well as technical support provided by governmental and non-governmental organisations and agencies, WMGs and the local community possess indigenous knowledge

of the land and an ability to adopt and adapt local technology in water management. Through Local Service Providers (LSPs) – rural change agents selected by the local community and trained by the project in various value chain activities – the gap between supply and demand can be bridged. Linking rural farmers and households with other service providers, agricultural-based modern technologies, services and quality agricultural inputs will become accessible to a wider community of marginal farmers, with LSPs acting as the gateway to such services.

We have very little manpower to cover the whole area and it is very difficult to reach farmers frequently. In this regards, if Local Service Providers (LSP) can be introduced here under SWIFT then it will be very helpful to us in terms of exploring technologies, knowledge and expertise to the farmers.

Suvash Chandra Howlader, SAAO, DAE, Patuakhali.

Economic Feasibility

Water Management Groups' capacities, or lack thereof, to generate and access sustainable finance is central to the economic feasibility of the SWIFT project. Members pay monthly subscription as savings to the WMGs, which is then invested back into the community for small-scale water management and FCDI works based on community needs (see figure 14). These needs are identified, mapped out and scheduled in a community action plan. Although the majority of WMG members interviewed reported a willingness to make a financial contribution to the groups through monthly subscription, there appeared to be a lack of clarity, cohesion and participation around where the money should be invested and who holds the decision-making power, with members reluctant to give monthly savings as the benefits are not being directly felt by the community. Through community consultations, capacity building and technical training, the project will promote and integrate sustainable finance models into the WMG as a method of lobbying for funds from LGIs as well as developing an internal fee-generating and profit sharing model for small business loans (see figure 13). On 10th April, WMGs were consulted to assess community interest and feasibility of introducing and promoting these financial models for income generation, with a positive response. Using a two-pronged mechanism, membership fees will be used for both small-scale FCDI infrastructure and to generate loans with low interest rates, whereby WMG members and smallholder/landless farmers will be able to take a loan to invest in irrigation pumps, for example, for their homestead. Increased access to fertile and functioning land will increase crop production and yields for rural farmers, raising income levels to support farmers to improve their livelihood opportunities and re-invest into the WMGs to continue building the capacity and resilience of the community.

In addition, WMGs showed a willingness to provide non-financial resources including labour, earth, bamboo and their time for small-scale FCDI demonstrating a sense of community commitment to water management. Interviews with Union Parishad Chairpersons showed a willingness to cooperate with WMGs to initiate water management activities. Union Parishad

has schemes in place for water management which, with capacity building and training provided through the SWIFT project, could be re-directed and adopted for WMG activities. All four Union Parishad Chairpersons interviewed expressed an interest to conduct sharing meetings with the WMG members to identify areas of need and expressed a willingness to cover transportation costs for members as an example of their cooperation.

I am willing to contribute all sorts of small scale activities initiated by the WMGs from my Union Parishad. If WMG come to me I will support them in any way I can to achieve their goals. It is noted that Altaf Hossain, WMG member and Chairman of Kazir hat sluice WMA in Polder 43/2A and he is also UP chairman of Choto Bighai UP.

Md. Altaf Hossain Howlader, Union Parishad Chairman, Chotobighai Union, Patuakhali

As WMGs are registered organisations there is also scope to submit formal letters to request government and non-governmental support.

Social Feasibility

As well as economic sustainability, social acceptance of WMGs and community-led water management is central to the success and feasibility of the project. Without community motivation, cooperation and initiative the project will not function sustainably. Focus group discussions and key informant interviews revealed a strong sense of enthusiasm for the WMGs with communities motivated to scale-up capacity building activities to boost people power, resolve social conflicts over water and increase initiatives for FCDI and small-scale water management infrastructure. WMG members expressed concern over a lack of equal participation and decision-making capacity for water management but demonstrated a willingness to increase participation and engage in the development and implementation of action plans to represent the needs of all community members.

If accountability, transparency and effective sharing are in practice within WMGs, then the power held by key position holders in WMG will be reduced and equal participation will increase.

Md. Oyahiduzzaman, Chairman, Borobighai Union Parishad, Patuakhali Sadar, Patuakhali

Capacity building, on-site exchange visits and training for WMGs on leadership and communication, resource mobilisation and networking and linkages will be conducted in Phase II to capacitate WMG members, farmers groups and local service providers to have the skills and coordination required to enable them to serve their demands.

Women's' involvement and participation in the WMGs is essential for the success of the project. Both men and women were involved in the planning process prior to WMG formation. Water Management Associations (WMA) consists of one female and one male

member from each WMG in the polders. Representation and gender considerations are therefore central to sustainable, relevant and inclusive water management. The feasibility study found that whilst female Executive Committee members of the WMGs are in practice of participating in monthly meetings and decision making processes, female WMG members are disproportionately represented with husbands sometimes attending meetings on behalf of their wives. Women's involvement in the WMGs is widely accepted and encouraged however, in practice more needs to be done to ensure inclusion. The existing bylaws should be revised and amendment to address women's empowerment, inclusion and participation issues to increase the capacity of WMGs to involve more women in the committee and in decisions. Youth volunteer groups are also an affective but currently underutilised group to ensure generational behaviour change, encourage community participation and increase the capacities of community members to respond appropriately during emergencies.

Recommendations

Considering the findings of the feasibility study this section presents some recommendations based on the needs and gaps identified by the WMG members, smallholder and landless farmers and relevant stakeholders, including Union Parishad Chairpersons, BWDB, DAE, DOF, DLS and BGP personnel.

WMG Organization

- Involvement of maximum members in WMGs should be ensured, including action plan preparation, decision making, implementation, benefit sharing and other activities through community mobilisation
- Community mobilisation activities should be conducted in an organised way to reduce dependency on external support
- Pragmatic activities should be incorporated into action plans based on thorough and relevant risk assessments
- Transparency and accountability of WMGs should be improved through capacity-building to ensure all documentation, including passbook, cashbook and ledgers are in place, up-to-date and accessible for members
- In polder 55/2A, additional WMGs or sub-groups should be formed as they have sub-committee provision. There are currently large numbers of households under each WMG making inclusion and coverage difficult.
- Enhance the capacity of WMGs on effective action plan preparation
- Capacitate WMGs to better identify and mobilise resources through networking and linkages
- Effective members should be selected/ elected by WMG's general committee through proper application of its bylaw.
- Knowledge transfer mechanisms should be in place within WMGs to enrich newly formed groups and members.
- Each WMGs should have a business plan in place with a clear income, expenditure and investment profile

- Capacitate WMGs to maintain enthusiasm for the WMGs and to carry forward the provision of monthly membership fees
- Capacity enhancement of male and female WMG members on gender, women's empowerment, inclusion and leadership
- Strengthen networking, advocacy and lobbying skills through capacity building training and demonstrations

Livelihood

- WMGs should take initiative and be supported to prepare needs-based livelihood strategic planning
- WMGs should follow a sustainable livelihood framework in terms of selecting and implementing livelihood-related activities
- Value chain assessment should be conducted to gain a clearer understanding of livelihoods and community needs in the project area
- Based on the findings of the value chain assessment, the Local Service Provider (LSP) model should be introduced to increase accessibility and availability of agricultural technologies and markets, increase production levels and improve market value of produce, raising income levels of rural farmers. Based on United Purpose's prior success of using the LSP model across Bangladesh, LSPs would contribute to sustainable well-being and resilience through economic empowerment of poor and extreme poor households living in polders 43/2A and 55/2A. Advanced level farmers will be selected as LSPs from WMGs/communities to act as technical advisors providing input supplies and market support on a demand basis and for a reasonable fee.
- Increased access to inputs through LSPs will support farmers to diversify livelihoods, leading to more opportunities, high productivity, reduced costs through improved and informed agricultural practices, and increased resilience through the introduction of improved farming practices and flood-resilient and saline-resistant crops
- Capacity building for LSPs
- Introduction of on-farm and off-farm trials conducted by LSPs to demonstrate technology use and improved production practices
- Capacity building for LSPs on effective networking with related Governmental departments and agricultural input/private retailers to enable knowledge and technology transfer to marginalised farmers
- Farmer group formation based on value chains with training provided alongside necessary technical support from LSPs
- Innovative low cost easy to operate WISH (water and fish) ponds technology can be tested for the landless

Water Management and FCDI

- Initiatives should be taken to strengthen embankments
- Initiatives should be taken to clear and repair sluice gates
- Initiatives should be taken for excavation or re-excavation of small drainage channels (SWIFT finance model will ensure that WMOs are involved in terms of participation)

and contribution for small scale water management activities. SWIFT will only provide back-stop support whilst WMO will take part in a large level of mobilising resources

- Installation of deep tube-wells (locally called boring for block) linked with drainage channels could be another option for irrigation and for the integration of livelihood and water management. According to a statement from Sohel Rana, Deputy Engineer of Department of Public Health, Patuakhali and Sarder Shamsul Islam, Executive Engineer of DPHE, Patuakhali, deep tube well installation will increase feasibility of irrigation as according to the DAE, 99% of deep tube wells are successful in providing sweet water to polders 43/2A and 55/2A. SWIFT wants to establish a co-financing model by providing combining efforts in a specific cropping field as demos where irrigation will be ensured year-round to encourage other WMGs to take the initiative
- Low lift pump can play a major role for the utilisation of surface water for irrigation.
- Micro-dam construction initiatives should be taken
- U-shape irrigation line could be introduced which will balance the water movement between low land and high land
- WMG capacity building for advocacy and lobbying to demand canal clearance and equitable water distribution through proper operation of sluice gate from government
- Additional small-scale activities for water management, including construction of pipe culvert, box culvert, gate culvert (inlet, outlet) necessary (SWIFT finance model will ensure that WMOs are involved in terms of participation and contribution for small scale water management activities. In this regard, SWIFT will only provide back stop support sometime very small amount of financing where WMO will take part in a large level of mobilising resources)
- Community should be supported to take initiative to conduct maintenance works, including canal clearance, for example clearing Water Hyacinths

Proposed Activities: Avoiding Overlaps

Considering the findings of the feasibility study and the recommendations presented above, the following section presents a list of proposed activities to be conducted by the SWIFT project to complement and strengthen pre-existing activities currently under WMGs and through the Blue Gold Programme. It should be reiterated here that of the proposed activities currently in place under the Blue Gold Programme and the WMGs, only 34% of activities are being implemented (see figure 8: Progress status of WMGs action plan). These activities have been conducted over a ten month period with 66% of activities in the WMG action plans incomplete or unaddressed. The SWIFT project therefore aims to strengthen WMGs' capacities to conduct outstanding activities; identify additional activities based on WMG-led risk assessments; and, to strengthen existing activities being carried out by Blue Gold Programme and the WMGs.

Avoiding Overlaps and Strengthening Existing Activities	
Blue Gold Programme and WMGs Current action plan activities (34% complete)	SWIFT Proposed and strengthened activities
WMG Organisation	
<ul style="list-style-type: none"> • WMG monthly meetings conducted • Formation/reformation of WMGs • Training on Organisational development for WMGs • Training on account keeping and documentation • Training on finance and procurement • Exposure visits • Training on gender, empowerment and leadership to female members of WMGs 	<ul style="list-style-type: none"> • Preparation of business plans • Orientation on business plans • Training on resource mobilisation • Training on action plan preparation • Orientation on WMGs constitution/guidelines • Workshops to share lessons learnt and best practice • Training on advocacy, networking, linkage and leadership
Livelihood	
<ul style="list-style-type: none"> • Capacity building training on fish, vegetable and livestock to LSPs • Demonstration on poultry and agriculture farming 	<ul style="list-style-type: none"> • Value chain study • Formation of LSPs • Exposure visit for LSPs • Needs-based area specific livelihood strategic plan • Training on networking, linkage and leadership to LSPs • Training of trainers (TOT) to LSPs • Formation of trade-wise farmers' groups • Trade-based capacity building training session to farmers' groups by LSPs • On-farm trials on high yield/high market value varieties of rice (aromatic), spices, vegetables, livestock and fishes • On-farm trials on vegetable production for homestead production and for commercial purposes • On-farm trials on fishes • On-farm trials on horticulture with high market value (Malta, watermelon, Vietnam coconut etc. as Malta is proved as climate resilient variety of horticulture. In Dumuria Upazila of Khulna District and Sarankhola Upazila of Bagerhat District it is successful. DAE, Patuakhali also suggested to introduce this variety).

	<ul style="list-style-type: none"> • Trial on handicrafts (block and batik, bamboo and soil made products, hand fan etc.) with commercial expansion • Demonstration on small entrepreneurship • Provide training on tailoring with logistic support
Water Management and FCDI	
<ul style="list-style-type: none"> • Canal excavation and re-excavation • Construction, re-construction and repair of sluice gates • Clearing sluice gates • Construction and renovation of culvert • Construction and renovation of box/ring/inlets/outlets/pipe culvert • Excavation and re-excavation of field channel • Strengthening of embankments • Construction, re-construction and repair of gate culvert (inlet, outlet) • Cleaning of water Hyacinth (kocuripona) from canal • Orientation on sluice gate maintenance and management 	<ul style="list-style-type: none"> • Installation of irrigation (locally called boring for block) pump (In the cropping field distant from surface water source, installation of deep tube well with pump could be the way forward of irrigation. SWIFT want to establish a co-financing model by providing combining efforts in a specific cropping field as demo where irrigation will be ensured round the year to encourage the rest of WMGs to initiate like this by themselves) or LLP for surface water irrigation • Excavation and re-excavation of drainage channel • Excavation of u-shaped drainage channel for irrigation • Excavation of small channel in the irrigation field • Provision of shallow machine to inlet surface water for irrigation to be rented out by the WMG • Heightening of roads • Construction, re-construction and repair of micro-dams • Capacity building for WMG and community advocacy and lobbying to relevant authorities and other stakeholders for FCDI and water management maintenance • Integration through compartmentalization for irrigation (SWIFT finance model will address it)

Proposed Outputs & Project Activities

Based on the above SWOT analysis, recommendation and based on the assessment of BGP existing interventions the team have designed and prioritised the below activities which are designed to test three finance models. Justification for the proposed activities is provided below.

B. Code	Activities (prioritised)	# Unit	Justification	Targeted WMGs	Feasible Finance Model	Remarks
C.6	Proposed Activities under Output 1: WMGs are capacitated to sustainably implement and maintain flood control drainage infrastructure					
C.6.1	Orientation on SWIFT project and finance models	2	Aiming to sensitise & motivate WMGs and other service providers on finance models, one day orientation will be held separately in two batches. In each batch, 30 participants from 18 WMGs, representative from Union Parishad, DAE and BWDB will participate. This orientation will help to have common understanding on finance models as well as specify the type and source of resources are expected to be mobilised.	36 WMGs (22 WMGs-43/2A Polder & 14 WMGs-55/2A Polder)	It will contribute for the implementation of targeted all finance models	
C.6.2	Small scale infrastructure (Small pipe or ring culvert with wooden gate/ excavation/re-excavation of drainage channel/ irrigation pump installation/	Lump sum	Based on the requirement of WMGs after further consultation, the number of each activity will be selected where priority and context will be considered. In this regard, SWIFT will partially finance infrastructure using resources which are available in the locally and provide comprehensive backstop support to WMGs in order to ensure that, WMGs is participating and providing free labor, nonfinancial resource like bamboo, wood, earth, space etc., WMG will lobby to Union	36 WMGs (22 WMGs-43/2A Polder & 14 WMGs-55/2A)	Finance Model- 1 & 2 Lobbying and interaction with Union Parishad & BWDB will cover finance model-1. The percentage of resource share	There will be flexibility to interchange the finance models based on the interaction and context.

B. Code	Activities (prioritised)	# Unit	Justification	Targeted WMGs	Feasible Finance Model	Remarks
	concrete drain for irrigation/Micro dam construction)		Parishad for tapping into resources from the Union Parishad regular programme e.g. forty days programme, test relief and relevant resources while BWDB will provide technical support in designing and preparing scheme and DAE is providing technologies, agro inputs, irrigation related support etc.		among WMG, UP/BWDB and SWIFT will be finalised based on scheme modality and reality. But	SWIFT will provide resources maximum 40% for piloting the finance models. SWIFT will develop tools to calculate and monitor the resource sharing and WMG action plan implementation progress.
C.7	Output 2: WMGs capacitated to network with local authorities and NGOs for information sharing and better access to official resources and funding sources					
C.7.1	Staff Refreshers Training (3 days)	1	3 Days Staff Refreshers Training (1 batch for Phase ii) will be organised to orient the staffs so that all staffs are effectively able to carry out the project activities and empowered to provide technical support to project stakeholders mainly to execute the finance models properly.	N/A	All	
C.7.4	Coordination Meetings with LGIs and Other Service Providing	2	Aiming to ensure accountability and transparency as well as continuous support from actors, two coordination meetings will be separately organised at two different times within the duration	15 representative from WMGs (8	All	

B. Code	Activities (prioritised)	# Unit	Justification	Targeted WMGs	Feasible Finance Model	Remarks
	Organizations		of phase II where a total of 30 participants will attend. In the meeting, representative from relevant LGIs, BWDB, DAE, DPHE and other service providing organisation will participate to discuss regular activities, progress and plan for next period. The project will thereby advocate for the relevant institution to mobilise their own resources and include the agreed actions in their internal budget cycle as well as in their plan.	WMGs from 43/2A and 7 WMGs from 55/2A polders) 3 Represent ative from WMA of both Polders		
C.7.5	Training to WMGs on Resource Mobilization and Networking and Linkages	2	One day training through two separate batches will be organised to capacitate WMGs in mobilising resources, establishing effective networking and linkages with service providing organisations. In consultation with Polder Coordinator and selected through WMG monthly meetings, 30 participants from 18 WMGs in each batch will participate i.e. total 60 participants from 36 WMGs will attend in 02 separate batches. In this training, participants will have common understanding on activity wise required resources, source of resources and the way or technique of mobilisation resources from various services providing organisation.	All 36 WMGs in two polders	All	
C.7.6	Leadership and Communication Training for resource mobilisation and	1	Aiming to capacitate WMGs in formal communication with LGIs and Authorities, mobilising resources and mutual advocacy through building leadership, 2 day-long training sessions will be organised attended by 30	27 WMGs from 43/2A and 55/2A polders.	All	

B. Code	Activities (prioritised)	# Unit	Justification	Targeted WMGs	Feasible Finance Model	Remarks
	advocacy		participants - 27 WMGs and 3 WMA . The training will include session on effective communication (both formal and informal way), importance of communication for resource mobilisation and the way of initiating advocacy task to reduce social conflicts in terms of water sharing, O&M of FCDI infrastructure and small scale water management activities.	03 members from 03 WMA		
C.7.7	On site exchange visits of LSPs and WMGs for horizontal learning	1 trip	Aiming to motivate and encourage and promote LSPs and WMGs with horizontal learning, on site exchange visits will be organised. In this regard, a team consisting 20 LSPs and 5 Executive members of WMGs will visit Rajshahi Zone (Northern part of Bangladesh) where LSPs are completely established and effectively contributing to quality agro inputs, production and marketing through delivering knowledge, skills, expertise, technologies to the farmers as a wings of DAE, DoF & DLS. Besides, visitors will have idea to mobilise resource from DAE and from their own community of initiating agro business in a commercial way through applying finance model 2 and 3.	3 Represent atives from 3 WMGs of 43/2A polder and 2 Represent atives from 2 WMGs of 55/2A polder	All	15 LSPs (Agro crops and fisheries trade) will provide service to all 36 WMGs of both 55/2A and 43/2A polders
C.7.8	Workshop at Upazila level for other WMGs to engage in the programme for horizontal learning	1	In order to ensure participation, contribution and creating ownership among WMGs as well as establishing wide network, a workshop at Upazila level will be organised. 36 participants from 36 WMGs will be participating in one day long workshop. This will ensure that SWIFT can be scaled beyond the immediate reach of the project. The workshop will include discussion on regular activities, learning, successes and challenges.	Executive members of 36 WMGs in both 43/2A and 55/2A polders	All	

B. Code	Activities (prioritised)	# Unit	Justification	Targeted WMGs	Feasible Finance Model	Remarks
			The successes and challenges of SWIFT finance models will be discussed. Finally, the workshop will come up with common understanding and way forward to deal with challenged would be encountered.			
C.8	Output 3: Diversified and improved livelihoods of WMG members are achieved through collective water management, on-farm climate change adaptation trials and market access by Farmer Groups and local service providers					
C.8.1	Training of LSPs	2	Aiming to capacitate LSPs on agro crops, fisheries, water management machinery and business management 3 day-long training through 2 separate batches will be organised. The training will be facilitated by experts of DAE and DoF of GoB. This training will help LSPs to open a path of networking and communication with DAE and DoF of GoB.. DAE and DoF will be encouraged to provide support to the farmers through the LSPs trained by them (DAE & DoF). LSPs will support other water management members increase incomes through improved production but also provide access to a range of equipment and machinery as a local agent of private sector companies.	36 WMGs of both 43/2A and 55/2A polders	Finance model 2	
C.8.2	Contribution to LSP Fees	105	Each LSP will form 3 farmers groups consisting 20 farmers (also WMG members) in each group (Total 60 farmers in 3 groups under the supervision of each LSP). Contribution to LSP Fees will be subsidised by 100 BDT per successful farmer sessions. After being selected and trained, the LSPs will train their farmer groups and extend other services, such as the procurement of inputs and marketing support. In this connection, each LSP will organise and facilitate 7 sessions. These	36 WMGs of both 43/2A and 55/2A polders	LSP will contribute to finance model- 2 & 3	

B. Code	Activities (prioritised)	# Unit	Justification	Targeted WMGs	Feasible Finance Model	Remarks
			subsidies will slowly be withdrawn once farmers are able to see the benefit of the training and have an appetite to invest in these valuable services.			
C.8.3	Capacity building of SPAs	1	LSPs will be stimulated to form Service Provider Associations (SPAs) consisting 18 members (All 15 LSPs, 3 representatives from both local market and agro based private sectors will be there in SPA) those will receive two days long capacity building training focused on market development, supplying quality agro inputs through establishing effective networking and linkages with DAE, DoF and agro based private sectors. Later on after the training, SPAs will act as a mechanism for peer-support and control and to expand LSP networks. The SPAs will also facilitate the establishment of linkages with GoB and private sector entities, and monitor the activities of service providers and provide necessary guidance. SPA will contribute to finance model 3 to be materialized.	36 WMGs of both 43/2A and 55/2A polders	SPA will contribute to finance model- 2 & 3	
C.8.4	Developing and printing product on improved cultivation and technologies for orientation and distribution to farmers by LSPs	500	Aiming to capacitate farmers with knowledge and visual information on improved cultivation and technologies for diversified production, development and printing product will be carried out. In this regard, festoon, leaflet etc. will be developed acknowledged by DAE and DoF and printed out accordingly to empower the farmers with knowledge and information. Therefore, these materials will also be used as training materials. Indirectly, these materials will make the farmers confident with knowledge and information as well as encourage for monthly savings and to take loan from WMGs for commercial agro business which	36 WMGs of both 43/2A and 55/2A polders	Finance model- 2 & 3	

B. Code	Activities (prioritised)	# Unit	Justification	Targeted WMGs	Feasible Finance Model	Remarks
			will be indirectly complied with finance model 3.			
C.8.5	Orientation and Preparation of Business Plan for LSPs and WMGs	2	A one day workshop will be organised in two times through 2 separate batches to prepare business plan. 20 representatives from SPA, WMG, WMA, DAE and DoF will be participating in each batch. According to the feasibility and real context of 43/2A and 55/2A polder 2 separate business plan will be developed where cropping pattern, variety of agriculture, quality agro inputs, market need and expected production will be clarified. Therefore, this BP will also have a financial projection of income and expenditure which will insist finance model 3 and 2. This plan will encourage farmers to initiate risk free agro business and farming even by taking loan from WMG's savings fund.	36 WMGs of both 43/2A and 55/2A polders	Finance model 2 & 3	
C.8.6	On Farm Trials relevant for finance model 2 (Fisheries/horticulture/rice)	lump sum	On Farm Trials Fisheries and Shrimp (Sweet water variety), On Farm Trials Horticulture, On Farm Trials Rice will be assisted with the implementation of innovative trials. The trials will be demonstrated within the area of implemented small scale infrastructure schemes. The project will thereby focus on interventions that are related to active management of water in areas affected by waterlogging. Most often such trials will include an element of earthworks and pumping to create a confined water management unit that is inundated for fish or shrimp cultivation or de-watered to allow arable agriculture. The project will negotiate matching grants on a case by case basis. As a rule of thumb the project will pay for	4 trails at 4 WMGs of 43/2A polders and 4 trails at 4 WMGs of 55/2A polders	Finance model- 2 & 3 Based on the business plan, SWIFT will provide support to WMGs for the utilization of their funds through providing loans to WMG members for establishment of trials. The	

B. Code	Activities (prioritised)	# Unit	Justification	Targeted WMGs	Feasible Finance Model	Remarks
			cash investments (planting material, fertiliser, fingerlings, fish feed, netting) whereas farmer groups will supply the labour for earthworks and cultivation. In this regard, finance model 2 will help this trial to have technologies, quality agro inputs and expertise from DAE as well as the success of trails will inspire rest of the farmers to replicate this innovations in a wider scale by own investment sometimes having loan from savings fund of WMGs in accordance of finance model 3.		loan will be refunded including some portion of interest (which will be lower than existing interest of microfinance programme)	

Project Team

The table below outlines the roles and responsibilities of the project team.

Budget/ Code	Position	Time allocation	Roles and responsibilities
A.1	Programme Coordinator -UP	50%	<p>The Programme Coordinator will act as Team Leader for this project and will be responsible for:</p> <ul style="list-style-type: none"> - Overall program management in consultation with United Purpose and BGP zonal team as well as central team - Provide technical support and guidance to SMKK and project team. - Manage capacity building program for the project team - Manage LSPs training and exchange visit program - Coaching and mentoring project team - Periodic field monitoring and provide feed-back to the project team, SMKK and UP - Coordinate with project team, SMKK, technical trainers/experts, BGP and other stakeholders - Ensure gender mainstreaming into this project - Reporting/documentation and overall responsibilities for M&E for the project
A.2	Project Officer-UP	100%	<p>The Project Officer (PO) will be responsible for:</p> <ul style="list-style-type: none"> - All field level activities in Patuakhali district - Guidance and capacity support to the PNGO staff for smooth running the project - Conduct inception meeting at Union Parishad, WMG's and WMA's level (number to be decided in consultation with BGP, SPA and GMGs) - Maintain liaison with UP and all stakeholders including community members - Final selection of LSPs and Farmers group in consultation with UP's PC, BGP team, project team, community leaders/members and other stakeholders - Regular communication with technical trainers and ensure their availability during different training - Assist PNGO staffs to resolve any problem arise in the field and community - Maintain database of all stakeholders, LSPs, possible local employers, financial institutions - Regular monitoring of field activities - Organise field visit for the visitors from BGP, UP or others

			institution - Reporting
A.3	Finance and Admin. Officer-UP	20%	- Manage all accounts and finance related activities for the project - Capacity building of SMK K finance person - Manage procurement related issues - Payment made for partners - Reporting
A.4	Project Manager-SMK K	100%	The Project Manager (PM) will be responsible for: - All field level activities in the project - Guidance and capacity supports to the FOs for smooth running the project - Conduct inception meeting at Union Parishad, WMG's and WMA's level - Maintain liaison with UP and all stakeholders including community members - Final selection of LSPs and Farmers group in consultation with UP's PC, BGP team, project team, community leaders/members and other stakeholders - Organise training for the project team - Regular communication with technical trainers and ensure their availability during different training and classes for the farmers - Assist FOs to resolve any problem arise in the field and community - Maintain database of all stakeholders, LSPs, possible local employers, financial institutions - Networking with local stakeholders/actors - Regular monitoring of field activities - Budget management - Reporting
A.5	Field Officer Engineer-SMK K	100%	The Field Engineer will work in close collaboration with Water Resource Management team as well as BWDB and will be responsible for: - All field level FCDI related activities in the project - Guidance and capacity supports to the FOs for smooth implementation of FCDI activity - Conduct inception meeting with masons - Assist FOs to resolve any problem arise in the FCDI related matter - Maintain database of all FCDI work - Networking with local stakeholders/actors - Regular monitoring of field activities - Drawing and design of FCDI activity

			<ul style="list-style-type: none"> - Budget management and calculation of FCDI - Reporting
A.6	Field Officer – 2-SMKK	100%	<p>Each FO will be responsible for:</p> <ul style="list-style-type: none"> - All program related activities at Union Parishad level for resource mobilisation - Mobilization of the community - Organise inception meeting - Selection of stakeholders - Visit each WMGs and WMAs twice in a week - Conduct quarterly meeting with the local communities - Manage complaint box - Field level reporting - Maintain documents of payment to the stakeholders - Resolve any problems related to the program in consultation with his/her line manager.
A.7	Accounts and Admin. Officer-SMKK	50%	<p>The AAO will be responsible for:</p> <ul style="list-style-type: none"> - Maintain day-to-day accounts - Oversee administration of field office - Preserve all bill and vouchers for the project - Manage procurement related issues - Payment made for stakeholders

The table below provides a breakdown expected roles of partners UP and SMKK for the project:

Organisation	Expected roles for the project
United Purpose	As the lead agency for this project, UP will provide overall M&E and other technical supports, orientation to project staff, capacity development of SMKK project staff, guidance for training module development, ensure gender mainstreaming into the project, financial management, market analysis study, process documentation, monthly reporting, final reporting. Oversight will be provided by Country Director and Finance and Admin Manager of UP.
SMKK	<p>Overall responsible for conducting field level activities including:</p> <ul style="list-style-type: none"> - Community mobilization - Organise and conduct inception meeting at Union Parishad, WMG and WMA level - Selection of LSPs - Organise different training - Involve technical trainers into different training - Agreement with WMG and WMA - Place learners to the WMG and WMA - Regular monitoring of WMG and WMA activity and LSPs and check overall performance - Organise and conduct technical session and combine training classes through LSP's - Organise Local fund raising session and technic - Take care of FCDI related activity

	<ul style="list-style-type: none"> - Provide modern variety/high quality seeds and trade specific tools to the farmers for trials - Reporting
--	---

Sustainable Finance Models

The recommendations and additional activities presented above are in response to the needs and gaps of the WMGs identified through FGDs, KIIs and household surveys. Whilst the SWIFT project will provide an element of financial support, to ensure sustainability, additional sources of sustainable funding and resource mobilisation will need to be introduced into the community. The study investigated how feasible these models would be in consultation with WMG members.

At present, WMGs are collecting monthly savings from the member's. These savings have limited capacity to meet the demand to finance planned and emergency water management activities including O&M. Those WMGs operating through a loan scheme initiated by the group (see figure 14) are doing so without an established business plan making the feasibility of the finance model questionable and reducing transparency between WMG Executive Committee members and general members. The study found WMGs to be largely dependent upon external funding support with a lack of capacity to self-initiate and self-finance. Co-funding mechanisms will therefore support WMGs to generate funds for on-going small-scale water management and maintenance works reducing the dependency on foreign aid. Members were motivated and interested to receive capacity building training to advocate for local authorities and institutions to release funds and resources and local government institutions (LGIs) were willing to cooperate with and contribute to the proposed finance models (see figure 13). Union Parishad Chairpersons interviewed were engaged and assured the project team that support would be extended for small-scale water management activities to be implemented together with the WMGs. In order to establish these finance models, the project must work with farmers' groups to strengthen livelihoods and with Disaster Management Committees (DMC) to ensure water management activities are in direct response to community needs with the most urgent needs prioritised. The project works to shift community dependence on grants from external donors that are often focused on short term outputs and outcomes rather than long term solutions. Instead, sustainable finance models will empower WMGs to invest their own money and implement their own plans based on the local context and community needs. This will be ensured through effective business and action planning to devise a clear, sustainable strategy to ensure all stakeholders, including both the community members and LGIs, are engaged. The following models are based on previous experiences of working with community-led organisations. Input from WMG members and expertise from United Purpose developed these models in consultation with community members.

Three models have been selected and will be applied in different geographic areas with different WMGs determined by the activity. Irrigation-related activities will therefore require finance model 3 (figure 14) whilst drainage channel excavation will indicate finance model 1 and 2 to be more appropriate (figure 13).

Finance model 1 and 2: Lobbying to local authorities and institutions (Union Parishad and BWDB) to release funds and resources:

Figure 13: Sustainable finance models (finance model 1 and finance model 2) for small-scale water management through WMG and government mobilisation

Sustainable Finance Model: Internal fee generation, livelihood activities and pro

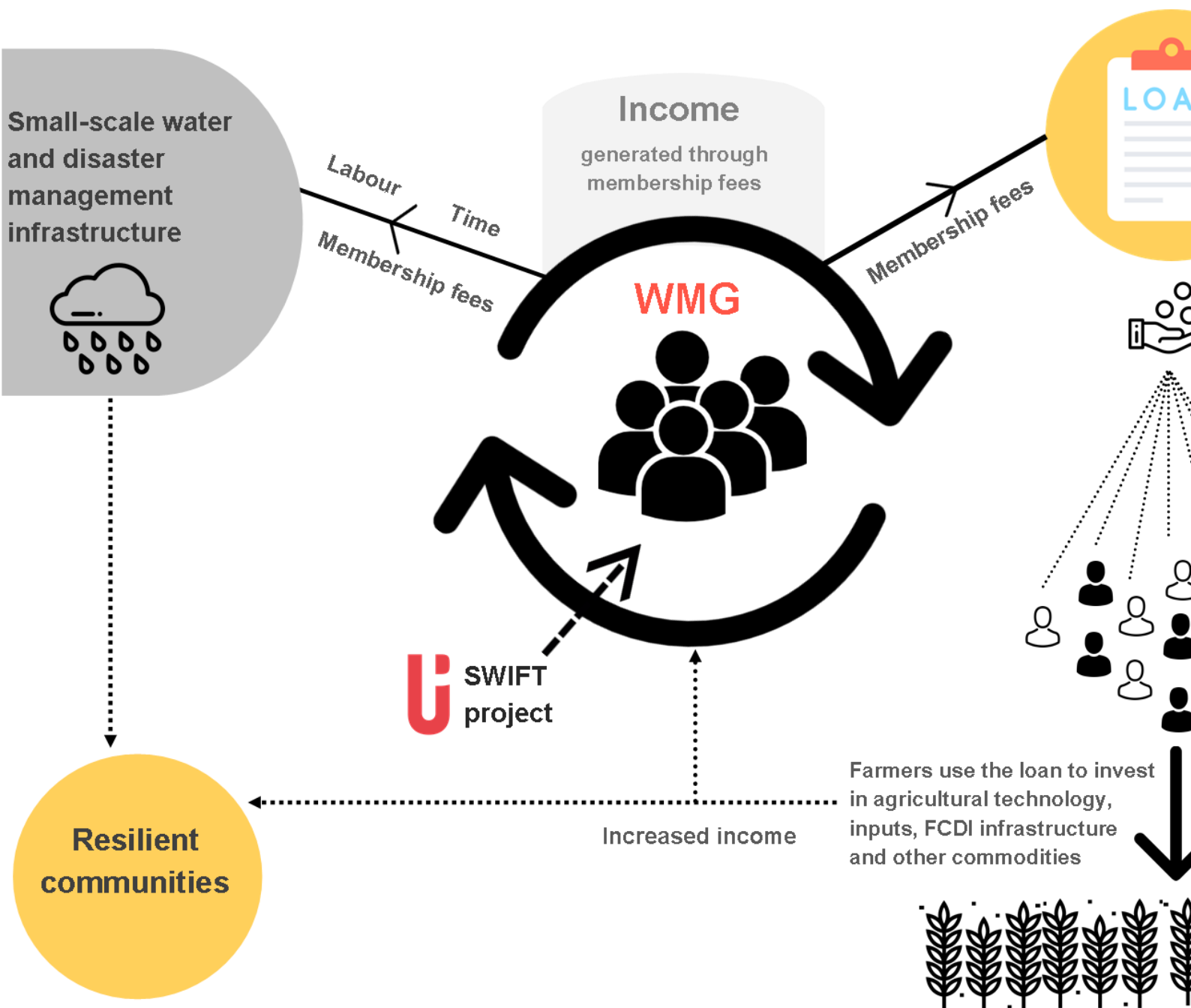


Figure 14: Sustainable finance model (model 3) for internal fee generation and community loan generation

Lobbying to local authorities and institutions, such as the Union Parishad and BWDB demonstrated in finance models 1 and 2 (figure 13) to release funds and resources is feasible as the Union Parishad have existing programmes to improve water management e.g. 40 days and other TR funds. During Kils, the Union Parishad chairman and members

committed to allocate funds, deploy labour and mandays for the small scale schemes proposed by the WMGs, while the BWDB is also keen to provide design support at no cost. Furthermore, finance model 3 (figure 14) includes raising the production and income of farmers for increased household investment, internal fee generation, increased lobbying for support from DAE, and community loan access, which will directly benefit the community by further increasing income levels and community investment. United Purpose will provide technical support including technology for crops diversification together with DAE.

One of the main difficulties is around resource mobilisation techniques and long-term community behaviour and attitude change as communities currently rely upon external financial and technical support. United Purpose is experienced in providing capacity building initiatives to strengthen and motivate communities. Three financial models have been selected and will be applied separately in different geographic areas with different WMGs. The project team will select finance models and seek out the best possible technique to mobilise resources mainly to implement WMG's action plans. These models will then be evaluated and monitored to ensure the context and needs of the groups are met.

Conclusion

The feasibility study aimed to explore the status of existing water management activities in two polders of Patuakhali District, 43/2A and 55/2A. Blue Gold and the Bangladesh Water Development Board (BWDB) have delivered numerous large-scale water management activities, including embankment construction, canal excavation and sluice gate construction. In order to ensure this infrastructure is sustainable, a number of small-scale activities must be initiated and maintained to ensure appropriate management, use and maintenance. Results from the Feasibility Study found that Water Management Groups (WMGs) are currently inadequately placed for sustainable, participatory water management due to a lack of capacity to build linkages with Government departments and other stakeholders; a lack of capacity to implement small-scale FCDI activities; a lack of capacity to operate and maintain existing FCDI infrastructure; and limited market access. Despite clear gaps in current WMG activities and operation, WMG members – both general members and members of the Executive Committee – expressed their interest for a more coordinated approach through training; community mobilisation; improved networking and advocacy with authorities/LGIs; formation of trade-wise Local Service Providers (LSPs) for promoting access to inputs and income-generating livelihoods opportunities; and, the need to implement additional small-scale water management infrastructure, including micro-dams, U-shaped irrigation lines, excavation and/or re-excavation of small drainage channels. Based on the study findings the SWIFT project is suitably placed to implement capacity building training and promote co-financing models for small-scale water management and maintenance to enable WMGs to identify risks and mobilise resources to protect people, assets and public facilities from the adverse effects of waterlogging, flooding, cyclones and tidal surges prone in the project area. Strengthening the livelihoods of some of the most vulnerable communities in Bangladesh, the project will support LSPs to provide training, inputs and demonstrations to local producers to promote improved production techniques and market access, increasing the income and overall resilience of rural farmers to better cope with the detrimental impacts of climate change.

Appendix 1: Photographs of feasibility study data collection

Photo 1: Focus Group Discussion



Photo 2: Focus Group Discussion with women



Photo 3: Key Informant Interview with UP Chairman



Photo 4: Sluice gate inland side view



Photo 5: Focus Group Discussion



Photo 6: Key Informant Interview with UP Chairman





Photo 7: Water path blocked by culvert



Photo 8: Unplanned gate



Photo 9: Disused sluice gate



Photo 10: Silted drainage



Photo 11: Disused sluice gate



Photo 12: Water hyacinth blocking canal

Appendix 2: Focus Group Discussion Schedule

SL	Polder no.	Upazila	Union	Group name	Type of group	date
1	43/2A	Patuakhali sadar	Borobighai	Pashchim Kewabunia	WMG	08.03.18
2	55/2A	Golachipa	Bokulbaria	Chonkhola Lobilochon Lamna	WMG	10.03.18
3	55/2A	Baufal	Adabaria	Hazir hat	WMG	10.03.18
4	55/2A	Patuakhali Sadar	Komlapur	Botchar Boloikathi	WMG	10.03.18
5	55/2 A	Baufal	Nowmala	Bot Kazol Vangra	WMG	10.03.18
6	43/2A	Patuakhali sadar	Borobighai	Purbo Borobighai	WMG	11.01.18
7	43/2A	Patuakhali sadar	Chotobigai	Hortoki Baria	WMG	11.03.18
8	43/2A	Patuakhali sadar	Borobighai	Patukhali	WMG	11.03.18
9	55/2A	Galachipa	Bokulbaria	Chonkhola Lobilochon Lamna	Farmer group	12.03.18
10	43/2 A	Patuakhali sadar	Borobighai	Pashim Borobighai	women group	12.03.18
11	55/2A	Dashmina	Betagi Sankipur	Radha-Sitaram	women group	12.03.18
12	43/2A	Patuakhali sadar	Chotobigai	Tushkhali	WMG	13.03.18
13	43/2A	Patuakhali sadar	Borobighai	Dokhin Bighai Dokhin	WMG	13.03.18
14	43/2A	Patuakhali sadar	Chotobigai	Purbo chotoBighai	Farmer group	13.03.18
15	43/2A	Patuakhali sadar	Chotobigai	Kumarkhali	women group	09.04.18
16	55/2A	Patuakhali Sadar	Komlapur	Akhoibaria Bahermor	women group	10.04.18

Appendix 3: Survey Questionnaires

United Purpose, Bangladesh

Questionnaire on Focus Group Discussion with WMG

Date:

Place:

Union:

Upazila:

District:

General Information of WMG:

1. Polder No:
2. WMG Name: Chairperson's Name: Cell:
3. No. of Total Households/Population under this WMG:
4. No. of Executive Committee Member: Male: Female:
Total:
5. No. of General members in the Committee : Male: Female:
Total:

Major Hazards and Vulnerabilities:

6. What are the main hazards community people usually face? Which part of your community is the most vulnerable and why?
7. How many occupational groups you have at your community (Specify the occupation)? Which occupational groups are most vulnerable to which hazards and why?
8. What are the three main problems/hazards that your community/WMG is facing? What are the measures you take to cope up or reduce the risks/loss of lives and livelihoods during emergency/hazardous period?
9. What are the traditional/indigenous methods you apply to cope with hazards? Are these methods effective?

Organizational Strength:

10. Does the WMG have any Office of its own? If yes, where it is and if no, where they sit for meeting or other official activities?
11. Does the WMG have any By-law? If yes, who prepared this or how general and executive committee members are involved in preparing By-law?
12. Does this WMG registered by any department of Govt.? If yes, mention the name of department and registration number?
13. How frequent you conduct WMG executive committee meeting? How many meeting held in last year?
14. Does the percentage of meeting attendance exist at satisfactory level or feel quorum? Please mention the attendance percentage? What is the percentage of women attendance in the executive committee meeting?
15. What are the major issues been discussed in monthly meeting? Specify some major agenda/issues?
16. Who takes decisions in executive committee meeting? How women are involved in taking decisions?

17. What are the procedures being maintained officially to conduct monthly meeting? Please specify the procedural steps of monthly meeting conduction?
18. Do you have any resolution book in WMG? If yes, who write/maintain/update this and how?
19. Do you have any bank account in the name of WMG? If yes, who are the signatory and how they have been selected? What are the cash withdrawn procedures?
20. Do you have any provision of savings or generating income in your WMG? If yes, specify the source of fund?
21. What are the procedures of accounts keeping being applied in this WMG? How accountability and transparency is being practiced?
22. Do you have any action plan? How this plan has prepared? When you prepared the last action plan? Is this reviewed annually?
23. What is the progress of Action Plan? Fill up the table below:

Sl	No. of Total Activities	Target Unit	Achieved Unit	Total Value- BDT	Status of Financing from different sources				Resources
					WMG contribution	BGP Contribution	BWDB	UP	

24. Do you have any responsible members in your WMG for networking/lobbying/linkage in terms of building rapport or mobilizing funds? If yes, please mention the name and designation and how he/she does this?

Capacity of WMG:

25. Have your WMG received any training? If yes, can you please mention some training?
26. How the training skills/knowledge is being maximized or used in WMG's activities? Please give 1/2 examples?
27. What type of training you need more to build your capacity to initiate activities independently?
28. How capable you are to implement your action plan independently without external support? If you are capable enough then give 1/2 examples and if you are not, why? Where improvements requires? Please specify?

Livelihood and Agriculture:

29. Which sector of agriculture is good here at your community? Why you think it is good?
30. Which sector of agriculture is most vulnerable to hazards? Please mention the sector's name and why these sectors are vulnerable?
31. How these sectors are being affected by which hazards? What are the measures being taken by you/WMG?
32. Do you get supports or technologies from the related department of govt.? If yes, please specify the type of supports?
33. Who seeks for the support or how this support comes from the related department of govt.?
34. Do you have any innovations in agriculture to adapt or cope up with the adverse effect of climate change? If you have, please specify it.

35. Do you have any success or failures example of innovations in agriculture? If you have, please describe why and how for both cases?
36. Do you have any suggestion/recommendation for new innovation? If you have then please mention what are the suggestions and why it is worthy?
37. What activities are done by BGP related to livelihood and market access?
38. Do you think those are enough for the improvement of livelihood of local people? If not, what are the other activities can be done?

Water Management and FCDI:

39. Which WRM infrastructures have been implemented by BGP/ BWDB?
40. How these WRM infrastructures are being financing at present?
41. How LGIs are involved in financing WRM infrastructures? If they are not involved, how they could take part in the finance for WRM infrastructures?
42. How to increase the support from Govt.?
43. Do you (WMG) take part in financing WRM infrastructures? If you do, then why and how?
44. Do you have funds in your WMG to construct new WRM infrastructures or maintain existing infrastructures? If you have, how you generated fund? Is this enough? If not, what could be the way forward?
45. What could be the sustainable financial system for small scale water infrastructure/technology?
46. How UP can be closely involved in establishing sustainable finance system?
47. Do you think that existing WRM infrastructures are enough for your community? If you do, why? And if you don't think so then what new WRM infrastructures both in small and broader scale are needed and why?
48. Who operate and maintain the existing WRM infrastructures like sluice gates, culverts, inlet and outlet etc.? Are these WRM infrastructures well operated and maintained? If yes, how? If not, why?
49. How operation and maintenance works of existing WRM infrastructures could be more effective?

Do you have any question to us? If you have, please ask?

Household Survey Questionnaire

Date:
 Name:
 Position:
 Union:
 Village:
 Name of WMG:
 Cell:

1. How you involved with BGP?

2. What are the activities of BGP?
3. What was your role in those activities?
4. Do you get any support from BGP?
5. Do you savings money in WMG? If yes, why?
6. What is the financial system of savings?
7. Do you know how this money withdraws from bank?
8. What activities are done by BGP related to livelihood and market access?
9. Do you think those are enough for the improvement of livelihood of local people? If not, what are the other activities can be done?
10. What are agricultural crops usually practice in this area?
11. What kind of problem you face during cultivating those crops?
12. What are the supports you need to overcome those problems?
13. What are the possible new crops can be introduced in your area? Why?
14. Which WRM infrastructures have been implemented by BGP/ BWDB?
15. Improvement area

Activity name:

Way forward:

Activity name:

Way forward: (add more if required)

16. What are the activities related to WRM infrastructures mostly required?
17. How livelihood activities could be more profitable and sustainable?
18. How to increase the support from Govt.?

Role of Gender

1. In what kind of economic/income generating activities women are involved which is determined by the project?
2. Are women involved in any kind of new economic/income generating activities beyond the project?
3. In what kind of social/political activities women are involved which is determined by the project?
4. Are women involved in any kind of new social/political activities beyond the project? If yes, what are those activities?
5. Does the project insist male to support women for their in-house level activities? If yes, in which activities they support?

Access of women to the resources

6. Does the project empowered women to create access to the resources? If yes, please specify the resources where women got access.
7. Do the women involved in decision making on land, water and fuel related issues? If yes, what are their roles in decision making?

8. What kind of access to which services has been created for women by the support of project?
9. What kind of control in service has been created for women?
10. Do the women participate in different committees to initiate social activities? If yes, which committees' women are involved with?
11. Do the women take part in decision making in committees? What kind of decision they take?
12. Is women leadership established by the interference of project?

KII questionnaires with WMG – Executive and General Members

Date:

Name:

Position:

Union:

Village:

Name of WMG:

Cell:

19. Do you know about BGP or WMGs? If yes, how you are involved in WMGs?
20. Do you know the name of Chairperson/Secretary/Treasurer? If yes, please mention.
21. What are the activities of BGP/WMGs?
22. What is your role in those activities?
23. Do you savings money in WMG? If yes, why?
24. What is the financial system of savings?
25. How WMG withdraw money from bank?
26. Who write the resolution?
27. How any decision is made in a meeting?
28. Do you have any stake/access of making decision in WMG?
29. What activities are done by BGP related to livelihood and market access?
30. Have you received any support from BGP/WMG? If yes, what are those supports? If no, why?
31. Do you think those are enough for the improvement of livelihood of local people? If not, what are the other activities can be done?
32. What are agricultural crops usually practice in this area?
33. What kind of problem you face during cultivating those crops?
34. What are the supports you need to overcome those problems?
35. What are the possible new crops can be introduced in your area? Why?
36. Which WRM infrastructures have been implemented by BGP/ BWDB?
37. Improvement area
Activity name:

Way forward:

Activity name:

Way forward:

Activity name:

Way forward:

(add more if required)

38. What are the activities related to WRM infrastructures mostly required?

39. Are those activities in the plan of BGP/BWDB?

☒ Yes

No ☐

40. How the exiting local resources could be the for small scale water infrastructure/technology?

41. How UP can be closely involved in this project?

42. How livelihood activities could be more profitable and sustainable?

43. How to increase the support from Govt.?

Role of Gender

13. In what kind of economic/income generating activities women are involved which is determined by the project?

14. Are women involved in any kind of new economic/income generating activities beyond the project?

15. In what kind of social/political activities women are involved which is determined by the project?

16. Are women involved in any kind of new social/political activities beyond the project? If yes, what are those activities?

17. Does the project insist male to support women for their in-house level activities? If yes, in which activities they support?

Access of women to the resources

18. Does the project empowered women to create access to the resources? If yes, please specify the resources where women got access?

19. Do the women involved in decision making on land, water and fuel related issues? If yes, what are their roles in decision making?

20. What kind of access to which services has been created for women by the support of project?

21. What kind of control in service has been created for women?

22. Do the women participate in different committees to initiate social activities? If yes, which committees' women are involved with?

23. Do the women take part in decision making in committees? What kind of decision they take?

24. Is women leadership established by the interference of project?

KII questionnaire with Union Parishad Chairperson and Members

Date:

Name:

Position:

Union:

Village:

Cell:

1. Do you know about BGP or WMGs? If yes, what are the activities of BGP/WMGs?
2. Are you involved in BGP/WMA/WMGs? If you are, what is position and role?
3. Are you satisfied enough with the activities of BGP/WMA/WMGs? If yes/no why?
4. Do you know about the action plan of WMGs? If yes, do you think it has covered the entire necessary task as appropriate?
5. How you contribute to WMGs Action plan to be implemented?
6. Do they communicate with Union Parishad? If yes what type of services/resources they asked for?
7. What sorts of services available in your Union Parishad at this area related with BGP activities?
8. How the services of Union Parishad being delivered?
9. Do you think the existing networking and communication status of BGP/WMGs are enough? If not, how this could be improved?
10. Do you have updated and structured UDMC in your parishad?
11. How frequent you conduct UDMC meeting? What are the key/major agendas usually being discussed?
12. Do you have Risk and resource map, CRA, RRAP and contingency plan in your UDMC?
13. Do you know about SOD? How it is being practicing /applying in UDMC activities?
14. What are the activities usually being initiated by UDMC in terms of awareness, preparedness, emergency response and post emergency measure?
15. What are the areas you recommend to strengthen UDMC?
16. Do you have any suggestion or recommendation in regards of maximizing the supports among BGP, WMGs and Union Parishad

KII questionnaire with Government Officials

Date:

Name:

Designation:

Department:

Cell:

1. Do you know about BGP or WMGs? If yes, what are the activities of BGP/WMGs?

2. Do they communicate with you/your department? If yes what type of services they asked for?
3. What sorts of services available in your department at this area related with BGP activities?
4. How the services of your department being delivered?
5. Do you think the existing networking and communication status of BGP/WMGs are enough? If not, how this could be improved?
6. What are the supports available in your department can contribute to BGP/WMGs?
7. What is your recommendation in terms of exploring effective services between your department and BGP/WMGs?