Government of the People's Republic of Bangladesh
Ministry of Local Government, Rural Development and Cooperatives
Local Government Division
Local Government Engineering Department

Guidelines for
Small Scale Water Resources Development Project

G3 Participatory Rural Appraisal of Subproject

November 2017

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Document Architecture of the New Sets of Guidelines for SSWRD Project

[Small Scale Water Resources Development (SSWRD) means, from physical points of view, implementing appropriate water management subprojects of small sizes, not exceeding 1000 hectare benefit area by the current definition, to resolve existing water management constraints to agriculture that in turn enhance rural employment leading to reduction of rural poverty. Implementation of SSWR subprojects involve long process from proposal of a subproject from Local Government institutions (Union Parishad and Upazila Parishad) to its final selection, study of feasibility from different considerations (social, environmental, technical, economical), preparing detailed design and costing, constructing required physical works to standard quality and finally its operation and maintenance by its beneficiaries. The process has multiple facets too. It needs to be comprehensively beneficiaries' and other stakeholders' participatory, acceptable to people of widely varying social and socio-economic conditions, friendly to the surrounding environment, etc. Thus, Guidelines for SSWR Development is, of necessity, complex.

The long and complex process has been divided into major distinguishable steps and separate Guidelines for works and activities involved in those major steps have been developed. Environmental study applies to the subproject as whole and is of different nature. So, Guidelines for Environmental Assessment is made a separate document. Following this principle, the Ten (10) Guidelines with Alpha-numeric ID Numbers and Names as below constitute the Documentation of Guidelines for SSWR Development.

This list will appear in all the individual Guideline Documents with highlight of the current Document name for the user to refer when necessary]

The List of New Sets of Guidelines for SSWRD Project

G1	Policy and Development Process
G2	Identification of Subprojects
G3	**Participatory Rural Appraisal of Subproject**
G4	Feasibility Study of Subprojects
G5	Environmental Assessment of Subprojects
G6	Detail Design of Subproject Structures
G7	Construction of Subproject Structures
G8	Operation and Maintenance
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G10	Integrated Rural Development Plan between SSWR and Rural Road/Market

AMENDMENT AND UPGRADATION RECORDS

This document **"Guidelines for SSWR Development: G3 Participatory Rural Appraisal of Subprojects"** has been issued following amendments and up-gradations as outlined below:

Revision	Description	Date
	Guidelines for Conducting Participatory Rural Appraisal of Small Scale Water Resources Development Subprojects - initially developed for ADB-supported SSWRD Sector Project (1995-2002) was used in two consecutive ADB-supported Projects – SSWRDSP (1995-2002) and Second SSWRDSP (2002-2009).	1995-96
A	The same document Guidelines for Conducting Participatory Rural Appraisal of Small Scale Water Resources Development Subprojects was adopted for use in the JICA-supported SSWRDP (2009-2015) by only nominal modifications in respect of project area and supporting agency attributes.	April 2009
B	This Document **"Guidelines for SSWR Development: G3 Participatory Rural Appraisal of Subprojects"** is the ***Third*** Document of the series of Guidelines for SSWR Development finalized and approved by a Working Group of LGED Professionals with proven experience in SSWR development with assistance from Specialist WRD Consultants under a JICA-LGED Technical Co-operation Project. The Document builds upon the "Guidelines for Conducting Participatory Rural Appraisal of Small Scale Water Resources Development Subprojects (April 2009)" along with incorporation of more extensive coverage of appraisal programs and lessons learned over the time.	August 2017

GLOSSARY

Aman	Rice grown during the wet season (Kharif), and harvested late (Nov-December). Yields: (i) Broadcast, deep water 1.5t/ha; (ii) Transplanted, local variety 2.2t/ha; (iii) Transplanted, high yielding variety, 3.25t/ha
Aus	Rice grown during the wet season (Kharif), and harvested early (July-August). Yields: (i) Broadcast 1.25t/ha; (ii) Transplanted, high yielding variety, 2.5t/ha
Beel	Saucer shaped low-lying area with pond of static water as opposed to moving water in rivers and canals.
Boro	Irrigated rice grown in the early dry season (Rabi). Transplanted in December-January and harvested in April-May. Yield: Transplanted, high yielding variety, 4.25t/ha
District	Second administrative unit of the government comprising 6-9 Upazilas. There are 64 districts in Bangladesh.
Haor	Haor is a wetland ecosystem in the north eastern part of Bangladesh. Physically a bowl or saucer shaped shallow depression, also known as a back-swamp
Integrated Water Resources Management Unit	Unit comprising two sections: (i) planning & design, and (ii) operation & maintenance, with a mandate to guide LGED's activities in the water sector with specific responsibility to assist in enunciation of policies, formulation of strategies and plans, preparation of new projects, inter-agency coordination and with external agencies, undertake studies and to provide long term support to the completed projects
Khal	Natural or man-made water channel (canal)
Kharif	Wet (monsoon) season
Local Stakeholder	Local Stakeholders are inhabitants of an area directly or indirectly affected by water management, be it as beneficiaries or as "project affected people".
Project Affected People	People negatively impacted by investment in water management projects and / or subprojects or by the manner in which water regulating infrastructure is managed.
Project Consultants	Project implementation consultants working with the PMO
Project Management Office	A unit comprising LGED staff appointed to manage implementation of a Project
Rabi	Dry / winter cropping season (November to March)
Stakeholder Groups	Stakeholder groups are collections of individuals who have similar interests concerning water. Among others, such stakeholder groups are men and women, farmers (low, medium low, medium high and high land farmers), fishers, boatmen, landless, elected representatives, LGED employees, BWDB employees, employees of other government departments, contractors, consultants, and development partners.
Union	Subdivision of Upazila and the lowest governance institution in the country.
Union Parishad	Local government institution at Union level. The Union Parishad consists of an elected council & chairman, and is the oldest government institution in Bangladesh
Upazila	Administrative unit, sub-division of District and lowest administrative tier of the government.
Upazila Parishad	2nd tier of local government institution at Upazila. According to the Upazila Parishad Act 2009, Upazila Parishad consists one elected Chairman and two Vice-chairmen, Chairmen of UPs and Mayor of Municipality within each Upazila including representatives from line agencies with an Upazila Nirbhai Officer as the Secretary. The election of the Upazila Parishad was held on 22 January 2009. Upazila Parishad runs the local administration.

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AE	Assistant Engineer
BWDB	Bangladesh Water Development Board
CA	Community Assistant (Project Based – Subproject Level)
CO	Community Organizer
CPO	Community Participation Officer (Project based, District level)
CS	Construction Supervisor (Project Based – Upazila Level)
DAE	Department of Agricultural Extension
DDM	Detailed Design Meeting
DLIAPEC	District Level Inter-Agency Project Evaluation Committee
DOC	Department of Cooperatives
DOF	Department of Fisheries
DWRA	District Water Resources Assessment
EIA	Environmental Impact Assessment
EMP	Environmental Mitigation Plan
FMC	First Management Committee (of WMCA)
FSDD	Feasibility Study and Detailed Design
GoB	Government of Bangladesh
IEE	Initial Environmental Examination
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
ICM	Integrated Crop Management
IWRMU	Integrated Water Resources Management Unit (of LGED)
LCS	Labour Contracting Society
LGED	Local Government Engineering Department
MC	Management Committee (of WMCA)
MEP	Member Education Program
MIS	Management Information System
MLGRDC	Ministry of Local Government, Rural Development and Cooperatives
NGO	Non-Governmental Organization
O&M	Operation and Maintenance
PAP	Project Affected Person
PE	Performance Enhancement
PEA	Performance Enhancement Appraisal
PM	Planning Meeting
PMO	Project Management Office
PRA	Participatory Rural Appraisal
QC	Quality Control
SAE	Sub-Assistant Engineer
SAPROF	Special Assistance for Project Formulation
SP	Subproject
SSWR	Small Scale Water Resources
SSW-1	SSWR Development Project Phase I (ADB), 1996-2002
SSW-2	SSWR Development Project Phase II (ADB), 2002-2009
SSW-3	SSWR Development Project (JBIC), 2009-2016
SSW-4	Participatory SSWR Project (ADB) 2010-2017
TA	Technical Assistance
UDCC	Union Development Coordination Committee
UE	Upazila Engineer
UP	Union Parishad (local council)
UzP	Upazila Parishad
WMCA	Water Management Cooperative Association
XEN	Executive Engineer (usually used in LGED)

FARM, LAND AND SUBPROJECT CATEGORIES

FARM CATEGORIES

Land Holding		Farm Category
(ac)	(ha)	
<0.51	< 0.21	Landless
0.51 – 1.00	0.21 - 0.40	Marginal Farmer
1.01 – 2.49	0.41 – 1.00	Small Farmer
2.50 – 7.49	1.01 – 3.03	Medium Farmer
>7.50	>3.03	Large Farmer

LAND CATEGORIES

Depth of Average Monsoon Flooding		Land Category
(m)	(ft)	
<0.3	<1.0	Highland
0.3-0.9	1.0-3.0	Medium Highland
0.9-1.8	3.0-5.9	Medium Lowland
>1.8	>5.9	Lowland

INTRODUCTION

1. The National Water Policy envisages that water resources development activities, in particular the SSWRD projects will be implemented through peoples' active participation. In follow up, the first ADB-supported SSWRD Project (1995-2002) introduced Participatory Rural Appraisal (PRA) as part of the process of developing local stakeholders' active participation in the process of subproject planning and implementation. The process was developed and improved over the other projects implemented since then and proved to be a successful tool to understand if there is a good degree of support of local people for the subprojects and if there is any group of people who might be adversely affected by the subproject. The brief grass-root level appraisal has also been a good tool to indicate justification of investment in processing the subproject.

Accordingly, all SSWRD projects are required to undertake PRA of subprojects to understand their social and socio-economic viability in the first place and a qualitative understanding of their technical and environmental soundness.

OBJECTIVES OF PRA

1.1 Purpose

2. The purpose of PRA is to obtain a comprehensive overview of the perceptions of different local stakeholder groups concerning water issues in the proposed subproject area. PRA findings will be useful in selecting socially and environmentally sound and sustainable subproject design. Moreover, PRA is a vital tool in understanding the social and institutional context of a subproject. Its findings can provide early and essential information about who will be affected by the project (positively and negatively); who could influence the subproject (positively and negatively); which individuals, groups or agencies need to be involved and how; and, whose capacity needs to be built to enable them to participate effectively. Therefore, it provides a strong foundation and framework outline of the participatory planning, implementation, and monitoring that follows after the subproject is selected.

1.2 Specific Objectives

3. PRA aims to define the existing social profile in the subproject area and find out from the various stakeholder groups, their views and opinions about the problems and constraints they face relating to water resources in the area and, having given and explained the solution that is being planned to solve the problems and constraints, understand their opinion about the proposed subproject plan and readiness or reluctance to offer support and co-operation in implementing the planned subproject. In this context, the PRA includes the following:

- Inventory of local water resources and their present use;
- Identify the social / socio-economic profile of the beneficiary groups in the subproject area;
- Perceptions of local stakeholders' groups on (i) existing water related problems and constraints in relation to domestic, agricultural, fisheries, environmental and other

usages and (ii) the solution/redress of the problems and constraints that will be obtained from the proposed subproject plan; and

- Understanding of the support and co-operation that the beneficiary people and communities are ready to render in implementing and subsequent operation and maintenance of the subproject facilities so that the benefits would be sustainable.

4. The PRA seeks to answer the following four key questions for each of the proposed water resources development and management subprojects:

- Is there broad, popular support for the proposed subproject?
- Is there any opposition to the proposed subproject, and if so, by whom, why and how many people are against it?
- What are the likely adverse impacts and what possible mitigation measures can be taken?

5. Are the beneficiaries willing to:

- pay the cost of operation and maintenance, that is usually taken as 3% of earthwork and 1.5% of structure costs;
- assist with land acquisition; and
- take full responsibility for operation and maintenance of the completed subproject.

PRA PROCESS IN SSWRD SUBPROJECTS

1.3 Overview of Subproject Selection Process

6. A subproject proposal is initiated by Union Parishad and Upazila Engineer (UE) prepares the subproject proposal in technical format which is considered in the Upazila Parishad and given approval for implementation. The subproject proposal, thus having recommendation of Local Governments, is submitted by Executive Engineer of the District to IWRM Unit of LGED at Dhaka for further processing under an implementing project.

7. In the IWRM Unit, the subproject proposal is pre-screened for adequacy of supporting data-information and papers and upon satisfaction of having sufficient merit, a multidisciplinary field reconnaissance by professional persons are undertaken to assess potential of the proposed subproject from technical, social and environmental considerations.

8. Upon recommendation of the professional reconnaissance team, the Participatory Rural Appraisal (PRA) of the subproject is undertaken by a contracted Firm. PRA is a quick social appraisal of the subproject to ascertain if expectations of would-be beneficiaries are contained in the subproject proposal and if they have spontaneous support for the subproject and is willing to undertake and bear responsibility of the subproject's subsequent operation and maintenance activities through an association of themselves.

9. The PRA, if conducted meaningfully, provides a thorough insight into the social soundness of the proposed subproject and potential of having a meaningful and pro-active institution of the beneficiaries for operation, maintenance and sustainability of the subproject. PRA is thus considered a very important and final tool for selection of a SSWR subproject.

1.4 PRA Team and Timeframe

10. Each PRA Team includes a Water Resource Engineer, a Sociologist, a Women in Development Specialist, an Agriculturist and a Fisheries Specialist cum Environmentalist. A team leader from among these members will be selected.

11. PRA is a quick appraisal activity. Yet, time required to conduct PRA of subproject depends on its size and complexity of planned interventions. For simple subprojects, like drainage and tidal irrigation subprojects involving only re-excavation of khals and having usual sizes with 3-5 villages, may require 2-3 days field work. But, subprojects involving gated structures for water regulation present complex water management issues and if subproject area is big say involving 10 villages, may need 7-8 days field work.

12. Considering an equal number of days for data processing and report preparation, total time required for conducting PRA of subprojects may vary from *1-week* for simpler subprojects to *2-week* for bigger and complex subprojects.

1.5 PRA Sampling Method and Coverage

13. To expect a wide participation and support for a proposed subproject, it is necessary that there must be thorough discussion with potential beneficiaries with dissemination of information about the infrastructure to be built, their functions to address the problems

including limitations and about the benefits and advantages that is expected as the result of the subproject as widely as possible.

14. Therefore, in order to expect wide participation of the beneficiaries in the subproject matters, besides *Talks/Interactions* with local leading persons and *Transect Walk* through the subproject area, emphasis should be given to hold *FGD* and S*tructured/Semi-structured Interviews* with target groups in *all subproject villages*. If, however, number of villages in the subproject is exceptionally large, say more than 10, or many small scattered homesteads exist in the area, smaller villages or homestead clusters may be grouped together to workable number of villages for conducting PRA and also for other subsequent issues to come.

1.6 Main Components of PRA and Tasks of Team Members

1.6.1 Engineering Component

15. A Water Resource Engineer (WRE) having experience in conducting PRA will be the PRA Team member responsible for the Engineering Component. He will concentrate in assessing the physical situation and engineering aspect of a proposed subproject. However data and information obtained for use in PRA will be only qualitative in nature. The WRE will provide support and assistance to all members of the Team in engineering and mapping matters.

16. The WRE facilitates the conduct of *"Timeline"* with help from key informants / participants. There will be two *"Timelines"* summarizing (i) history of important water resources development events in and nearby the subproject area, and (ii) development / evolving of the current water resource related problems/constraints for which the subproject is being considered. .

17. Together with other members of PRA Team and local participating people, the WRE will undertake "*Transect Walk*" and develop a physical / resource map of the subproject area by putting information obtained by visual examination and by collecting from transect participants on a Google map of the subproject with reconnaissance information carried from Dhaka for the purpose. The WRE's task will mainly be to check and validate available data-information on water resources, engineering and physical features. The followings and any others the WRE may think necessary should be noted / marked / drawn on the physical map:

- Subproject boundary given by reconnaissance team. Any modification to that boundary suggested by the *Transect Walk* participants or others in course of the PRA exercise.
- All water resources/physical features (rivers, khals, beels, dighis, villages, market, etc.). The features visible in the map (Google map) will be identified on ground and their names written on map. Smaller features that are not visible in the Google map being used should be drawn approximately with name..
- All structures affecting water (roads, embankments, sluices, regulators, culverts etc.) both existing and proposed (indicate if a new proposal during PRA).
- Flooding and drainage paths with flow directions using different color arrows (blue for flooding, green for drainage). 

- Area and Spread of flooding/inundation to be shown by colored bounding lines for mean, 1:10-yr and 1:20-yr floods based on discussion with participants.

18. ***Form G3-A(WR)*** given in ***Exhibit G3-A*** of this Document presents the format for writing observations and data gathered by the Water Resource Engineer. In the narrative report, the Water Resource Engineer will explain the things below:. :

- History of water related development activities and the current water related problems should be described in a timeline. Specify if alignment of khal is still defined / visible. See sample in the following table:

A. Time Line for Water Resource Development Activity

Sl.	Features Waterbody/Struc	Year Established/ Constructed	By Whom?	Status
1.	Khals			
	a. Jungla Khal	Unknown but it has been existing since 1900	Government	Fully silted up and alignment no longer defined. Major portions used for seedbed preparation. The downstream part being cultivated.
	b. Kumari Khal	1978	BWDB	About 500 meters upstream is silted up but alignment is visible.
2.	Culvert	1978	UP	Broken. No longer functional

B. Time Line for Water Related Problems

Sl.	Water Related Problems	20 Year Before	10 Year Before	Now (2017)	Reason
1	**Flood**	No flood in pre-monsoon time, only in monsoon. .	Rain flood gradually increasing (pre-monsn)	Problem now is severe, every year event. Drainage is slow..	Khals inside and also in outside has silted up. Culvert built in 2010 is with small length.
2.	Culvert			Built in 2010 Span less than khal top width.	Broken. No longer functional

- Mention also in the history of water related activities if this subproject area is within any BWDB project or if there is any BWDB intervention in the past and in the future in the proposed subproject area.
- After the history of water related activities and problems, briefly discuss the proposed subproject development concept or plan (as proposed during reconnaissance survey), specifying the type of subproject and the works/structures proposed for construction.

In case of water retention/conservation projects, mention any issue of *sharing the khal/beel water* by different users.

- Also present what the local stakeholders have proposed if these differ from the reconnaissance survey proposal. Check for possible conflict of opinion as to the need for the structures, location of the structures, and/or khal alignment.
- In presenting the expected impacts of the proposed subproject, closely relate these to the proposed development plan for the subproject in order to show clearly how the various impacts will be attained. **Example**: If the proposed subproject is implemented, it will result in quick removal of floodwater from Rupati beel and the crops in the adjoining fields will be free from water logging resulting in increased crop production. The re-excavation of the Shakaria khal will allow storage of water during dry season and this water could be used for cultivating paddy and "robi" crops in areas on both sides of the khal."

19. Participants/Stakeholders to be involved in the Time Line and Transect Walk will preferably have the following eligibilities:

- Farmers, persons who have lived long, say more than 20 years, in the subproject area and are conversant with causes and effects of current water resource related problems.
- Local leaders who are knowledgeable about past interventions on water resources development in the area

20. Names and signatures of those involved in PRA activities specific to this component should be given as shown in ***Form G3-A (WR).***

1.6.2 Agriculture Component

21. An Agriculturist having experience in conducting PRA will be the PRA Team member responsible for the Agriculture Component. Proposed subprojects usually aim at overcoming bottlenecks in agricultural production. PRA should be able to clearly point out what the water-related agricultural problems are and how the local people want to overcome these. The focus is therefore on qualitative information, rather than on quantitative data. In this regard, the Agriculturist meets with representative farmers of all the villages covered by the subproject to find out how water, be it too much or too little, affects crop production. Each of the main crops is discussed to identify water-related constraints and possible solutions.

22. **Participants and PRA Methods and Tools for Agriculture Information:** The Agriculturist/Agronomist will conduct focus group discussions and some semi-structured interviews with the men and women farmers to find out how water, be it too much or too little, affects crop production, what are the main crops, what are the water-related constraints and solutions, and possible impacts of the proposed subproject on crop production. Matrix and Problem Ranking will be utilized in the identification of constraints and solutions. This should be initiated before completion of FGD session with the women and men farmer-participants. The Agriculturist should see to it that he is able to have discussions with small, marginal, medium and rich farmers in the subproject area.

23. ***Form G3-B (Agri)*** given in ***Exhibit G3-B*** of this Document presents the format for writing observations and data gathered by the Agriculturist. In the narrative part of the report, the following should be written:

- Land types and major cropping patterns to be reflected in the agriculture map (see below). Cropping patterns should include variety (local, hyv) and planting method (broadcast, transplanted).
- Areas having flood related crop production limitations
- Areas having water logging related crop production limitations
- Areas having drought related crop production limitations
- Expected impact of the proposed subproject (example: reduced crop damage, changed cropping patterns, cropped area, yields, etc.). The impacts should be quantified in terms of percentage of area, kilograms, percent of farmers who will benefit from which village. Explain how expected impacts will be attained. If this has been mentioned in engineering aspect, then just refer to that section here and do not repeat what had been mentioned already.
- A separate **agriculture map** should be prepared using Google map of the subproject area with reconnaissance level interventions shown. Earlier, this Google map should be prepared at Dhaka for the Agriculturist which he would carry for field work.
- The areas under various crops and the areas classified as waterlogged, flooded, irrigated, etc are to be shown in the agriculture map.

24. Names and signatures of those involved in PRA activities specific to this component should be given as shown in ***Form G3-B (Agri).***

1.6.3 Fisheries Component

25. The Fisheries Component and Environment Component will be addressed by a common Fisheries-cum-Environmental Specialist. Thus a Fisheries-cum-Environmental Specialist having experience in conducting PRA will be the PRA Team member responsible for the Fisheries Component. The task of the Fisheries-cum-Environment Specialist is to find out from people (men and women) involved (full and part time) in fishing what the local capture fisheries situation is and how it can be improved. Proposed subprojects often have a negative impact on capture (open-water) fisheries and therefore on the poorer sections of society for whom the common resource is important for their protein intake and sometimes cash income. The PRA report should indicate what the present capture and culture fisheries production is and how these might be affected by the proposed subproject.

26. The Fisheries cum Environmental Specialist will indicate the followings on the fishery map of the subproject prepared by using a Google map. Earlier, the Google map of the subproject should be prepared at Dhaka for the Fisheries cum Environmental Specialist which he would carry for field work.

- Seasonal and perennial water bodies
- Location of fishing communities
- Fish migration routes

27. In the narrative section, the following information should be mentioned:

- Fisheries resource base, distinguishing between seasonal and perennial water bodies estimating their number and size and quantifying present fish production, distinguishing between capture, culture, fresh water and salt water fish and prawns. Indicate ownership and management status of major water bodies

(example: khas or privately owned, cultivated or not, under individual or group management etc.).

- Fishing communities specifying types of fisher families estimating number for each type. Indicate how many households are depending on fishing as their main livelihood
- Involvement of women in fisheries activities
- Expected impact of the proposed subproject on fisheries

28. The possible mitigation measures to compensate for the possible negative impacts should be mentioned. Apart from the views/suggestions of the local people or affected people themselves, the following list could be discussed with them:

- adopting fish friendly operation of structure gates.
- planned fish cultivation in the subproject water bodies.
- extension support for fish culture (training, documentation, etc.).

29. **Participants and PRA Methods and Tools for Fisheries Information:** FGD and Semi-structured Interviews will be conducted with men and women fishers (genuine/ethnic and subsistence); genuine fish farmers; stock holders from all subproject area villages to gather fisheries information.

30. ***Form G3-C (Fish)*** given in ***Exhibit G3-C*** presents the format for writing observations and data gathered on fishery aspect. Names and signatures of those involved in PRA activities specific to this component should be provided in ***Form G3-C***.

1.6.4 Environmental Component

31. The Fisheries-cum-Environmental Specialist will be the PRA Team member responsible for the Environmental Component. The following usual negative effects should be kept in mind:

- people living between a proposed embankment and the river will experience more intense and standing flood conditions,
- people living upstream from regulator who may experience additional flooding if the regulator is closed
- landless and fisher households will be affected if fish production is reduced because a structure prevents fish eggs and/or fingerlings from entering the subproject area from the river
- some plants/wildlife species may be threatened / endangered by the subproject
- forest resources and natural or planted vegetation (e.g. planting and cutting of trees) add to either profit or loss due to the subproject

32. ***Form G3-D (Env)*** given in ***Exhibit G3-D*** presents the format for writing observations and data gathered on environmental issues/concerns. In the narrative section of the report, the following should be written:

- Historical sites, conserved wetland/forest that might be threatened

- Water bodies that may be affected
- Land Acquisition issue, which should identify and quantify those who will be affected and what their reactions are towards the subproject. It should include any possible mitigation measures. Explore issue in-depth and check for people who will lose their income that may be brought about the re-excavation of khals like those who have been using portions of the khals for seedbed preparation and cultivation, residence, and others.
- Description of navigation specifying how many boats ply the area, how many boatmen/trawler drivers
- Villages/areas vulnerable to flooding (within and outside the project boundary). Identify and quantify.
- Use of chemicals and fertilizers.
- Expected impact of proposed subproject, description of project affected people (e.g. landowners who will lose land, boatmen who will not be able to ply their boats, fisher folks who will not be able to capture fish, others) and mitigating measures.

33. The possible mitigation measures to compensate any of the possible impacts should be mentioned. Apart from the views/suggestions of the local people or affected people themselves, the following list could be discussed with them:

- raising the homesteads where additional flooding is expected
- providing boat passes in regulators where navigation of many boats is hindered
- making a road where navigation is no longer possible
- stocking of a beel if a fish migration route is blocked
- design sill level in structures so that a beel cannot be completely drained
- keeping gates of regulators built in migration routes open at equal or nearly equal WLs at appropriate times for recruitment of fish eggs and fries.
- Resettlement of people who lose their homesteads due to construction of an embankment.

34. The **resource/physical map** (Google map based) of the subproject will show highlighted by colored circles or ovals drawn, the locations where people will be displaced due to construction of embankment or any other structure. Also, the areas (inside or outside of subproject) which might be negatively affected due to implementation of the subproject will be indicated in the map by color or shading.

35. **Participants and PRA Methods and Tools for Environmental Information:** FGD should be held at environmentally sensitive/important sites whenever needed in order to have a better investigation of some environmental concerns/issues. All villages of the subproject area should be studied. If this has not been followed, information in respect of other villages should be collected before drawing any conclusion on environmental feasibility. The names of villages and *moujas* studied should be indicated in ***Form G3-D (Env)*** to clarify where the information applies.

36. A sample of potential project affected people (PAP) should be taken to ensure that their recommendations and views are included in the report. Key informants from villages outside the subproject area who may be negatively affected should be interviewed. Concerned key informants from staff of relevant government agencies should also be interviewed.

37. Names and signatures of those involved in PRA activities specific to this component should be given as shown in ***Form G3-D.***

1.6.5 Social and Women Aspect Component

38. The Sociologist and Gender and Development (GAD) Specialist together meet, separate of the other tam members, with the farmers, fishers, landless, boatmen, women, indigenous groups (if there is any) and other stakeholders in the selected villages. She/he tries to find out what each of these stakeholders groups thinks about the local water resources; what their biggest problems are and the possible ways to overcome them.

39. ***Form G3-E (Soc)*** and ***Form G3-F(Women)*** given in ***Exhibit G3-E*** and ***Exhibit G3-F*** present the format for writing observations and data gathered on social and women issues/concerns. In the narrative section of the report, the following should be written:

- Type, number and percentage of stakeholders groups (indicate percentage land owned/operated)
- Major problems and ranking and proposed solutions by men and women stakeholders to be presented in a table/matrix form
- Reactions of men and women stakeholders about the proposed subproject and recommendations, if any (to be presented in a table/matrix form)
- Expected impact of proposed subproject on various social classes and occupational groups
- History of cooperation among local people
- Social conflicts, if any
- Major problems and needs of the indigenous people and their views about the proposed subproject and their recommendations, if any
- Existing groups/organizations (formal/informal; men's or women's groups) and services
- Women Aspects: demographic data; non-water related problems and needs, major activities and workload, and mobility status

40. This section will also deal with information regarding the landless and destitute men and women inside the subproject area: their number, present occupation, their experience and interest in engaging in earthwork employment. It will also deal with information regarding any indigenous group/s (if there are): their number, location of households, and source of income/livelihood. Separate FGDs and interviews with indigenous groups (men and women) should be conducted concerning: a) their water resource constraints; b) other needs and problems; c) their views and recommendations on how to address these; and d) their views on the possible impacts (negative and positive) of the proposed subproject and their opinion on the mitigation measures. Information should also be gathered on the level of participation of indigenous groups in economic and community activities.

41. Other information to be gathered concerns the identification of major social conflicts and presence of very influential people controlling management of resources and decision making within the subproject area (if any). The Sociologist should also gather information on the history of cooperation among the local people in the subproject area. S/he should check if the local people had initiated any program/project using their own resources or if they have contributed their resources to any government/private projects or programs implemented in the area. She should gather information also on existing groups/organizations (formal or informal) in the area.

42. The Sociologist and the GAD Specialist will show on the social/resource map of the subproject (Google map based), which was prepared earlier and carried to site for field work, the location of villages, union, where the various stakeholder groups (occupational groups, social groups/classes, landless and poor people, indigenous peoples, project affected people, etc.) live, and location of institutions/ organizations like the UP office, health clinic, mosque, school, etc.

43. In the social map, the Sociologist should indicate the negative social effects of the proposed subproject, if any. The following should be kept in mind:

- people living on an existing embankment who have to move off, if and when it is heightened/broadened
- people (farmers, landless, etc) who may no longer easily cross a previously passable *khal* after it is re-excavated
- people living downstream from a water retention structure who may experience water shortage in the dry season
- landless and fishers' households who will be affected if fish production is reduced because flooding/water logging is reduced
- boatmen and businessmen who will be affected if *khals* are closed with regulators
- people affected by transport cost increase if *khals* are closed with regulators
- women who will have to walk farther for washing/bathing, watering the homestead garden, etc. if surface water inside the subproject area is reduced
- type and approximate area of land to be acquired/lost as well as the number of households likely to be affected.

44. **Participants and PRA Methods and Tools for Social and Women Aspects**: FGD should be held at all villages of the subproject area as defined in Section 3.3. The GAD Specialist will be responsible in ensuring women's involvement in all the PRA activities. She will be conducting separate FGDs and interviews with women from different socio-economic classes and occupational groups concerning water resource constraints, needs and problems, their views and recommendations on how to address these and their views on the possible impacts (negative and positive) of the proposed subproject and their opinion on the mitigation measures. She will also gather information on the level of participation of women in economic and community activities, their main activities or preoccupation, mobility status and their major concerns.

45. Names and signatures of those involved in PRA activities specific to this component should be given as shown in ***Form G3-E*** and ***Form G3-F.***

1.6.6 Overall Conclusion of PRA Team

46. ***Form G3-G (Overall)*** presents the format for the overall conclusions of the PRA Team on key components of the PRA study. In the narrative report, the answers and findings to each question in the format should be written. On the questions: *Is there broad popular support for the proposed subproject and is there any opposition?* Identify and quantify who support and who oppose. Specify the type of stakeholder group/s, number and/or percentage and the reasons for supporting and opposing the proposed subproject. In addition, the PRA team should give a brief analysis and recommendations about the findings of the PRA study.

47. PRA Team should present briefly their own analysis and recommendations as to the social, environmental and institutional viability of the proposed subprojects and what they think of the proposed development concept by the local people considering their water resource constraints and problems in a separate sheet attached to ***Form G3-G.***

1.7 The PRA Implementation Process

48. The overall process for implementing PRA in SSWRD subprojects is presented in ***Table G3-III.1*** that integrates all components and activities under them as discussed earlier. The matrix describes the process, the corresponding activities to be conducted, the data/information to be gathered, the methods and techniques in initiating the activities and the expected outputs of each activity.

49. The PRA process for SSWRD subprojects involves eight (8) steps from planning to the submission of the PRA report (see ***Figure G3-III.1***). The heart of the whole PRA process can be found in Steps 3 and 4, which involve the actual conduct of PRA activities, data gathering and methods to be used (see ***Figure G3-III.2***). During the fieldwork period, the PRA Team should live full time at the subproject area so as to be able to fit in the activities with the availability of the people. FGD and Semi-structured Interviews can be done more ideally during late afternoons and evenings when local people have completed their major works. Transect and mapping can be done early in the morning or when local people are taking their break during the day from their work at the farm and elsewhere. ***Figure G3-III.3*** presents the steps involved in conducting the feedback and debriefing sessions that end field works.

Table G3-0.1: PRA IMPLEMENTATION PROCESS IN SSWRD SUBPROJECTS

PRA PROCESS	ACTIVITIES & DATA TO BE GATHERED	PRA METHODS AND TOOLS / TECHNIQUES	OUTPUTS
1. Collection of subproject map (Google map based) and discussion of reconnaissance findings	1. Collect subproject map from and discuss with LGED/PMO reconnaissance findings		1.Collected subproject map and gathered reconnaissance findings
2. Discussion of PRA objectives, activities and requirements with District and Upazila level LGED officials and Union Parishad Chairman and members	2.a PRA Team meets with Executive Engineer and Upazila Engineer to discuss PRA objectives, activities and support needed by PRA Team 2.b PRA Team meets UZ Chairman,UP Chairman and Members to discuss PRA objectives, activities		2.a LGED officials and PRA Team finalized arrangements for the implementation of PRA activities 2.b UZ Chairman,UP Chairman and members made aware of PRA objectives and activities
3. Conduct initial visit of the area and preliminary social investigation and inventory of subproject boundary, villages, population, local water resources and present use by the whole PRA Team	3.a Identify all villages covered by the proposed subproject and stakeholders groups: potential beneficiaries (categorized into farmers, fisher folks, others); affected people or those who might be adversely affected/ impacted; local groups/ institutions who can affect the outcome of the intervention; vulnerable groups living within the subproject boundary (poor, marginal, destitute, landless, etc.); influential people; and other key informants 3.b. Inventory of all local water resources and present use.	• Stakeholder Analysis through Individual talks and interactions with local leaders, key informants • Transect • Resource/Physical mapping	3.a Established rapport with the local people 3.b List of stakeholder groups and estimated number in the subproject area (tabulation and map) 3.c Tabulation and map of existing water resources in the subproject area and corresponding present usage.
4. Facilitate Self Analysis by the people in the subproject area about their situation as well as basic description of the type of community and the interest groups. (To be initiated individually by the PRA Team members/experts using Forms G3-A to G3-G as their data gathering guide)	4.a. Get views and opinion of the people about the existing water resources facilities and structures. Surface their problems and needs on water resource use and management and other issues: • perceptions on water related issues and constraints in relation to domestic, agricultural, fisheries, transport,	4.a.i FGD and Semi-structured Individual Interviews 4.a.ii. Matrix ranking for constraints/ problems/issues 4.a.iii Preference ranking on solutions, recommendations	4.a. Narrative report on views/ perceptions of each stakeholder group on: • water related issues and constraints (including their needs and aspirations) in relation to domestic, agricultural, fisheries,

PRA PROCESS	ACTIVITIES & DATA TO BE GATHERED	PRA METHODS AND TOOLS / TECHNIQUES	OUTPUTS
	environmental, other usage (needs and aspirations) • perceptions on solutions and recommendations to resolve issues and constraints identified. • perceptions on positive and negative impact of proposed subproject on various stakeholder groups. • Perception of their responsibilities towards the proposed subproject 4.b. Gather information on the following: • landless and destitute men and women/households • history of water related interventions • land types and use • water bodies and fishery data • agricultural/fishery production data • environmental issues (flooding, water logging) • social and women aspects	4.a.iv Social Mapping 4. b.i. Conduct trend line, time line, seasonal diagram and production flowchart 4.b. ii Indicate in the social map areas which will be negatively affected by the proposed subproject and landless/destitute people 4.b. iii Indicate in the fishery map: water bodies/ ponds; "ghers" for prawn cultivation. The flood and waterlog affected areas; and water shortage areas to be reflected in agriculture map. Ponds/ water bodies to be affected by proposed subproject to be reflected in the physical map	transport, environmental, other usage • solutions/recommendations to resolve issues and constraints identified • positive and negative impact of proposed subproject to them 4. b. Completed trend line, time line. Seasonal diagram, production flowchart, social map and resource/physical map
5.1 Determine if there is any opposition to the proposed subproject and if so quantify the opposition. Also identify options for changing proposed subproject to make it more widely accepted or what mitigation measures can be taken to minimize residual opposition. (To be determined and discussed by the whole PRA Team based on all data gathered. (See Form G3-G)	5.1a. Assess outputs of activity 4.a and 4.b 5.1b. If there is any opposition quantify by reviewing data under 3.a output. 5.1c. Validate data in 5.1a and 5.1b and identify options through a discussion with the opposing groups and concerned technical staff/ engineering consulting firm.	(Should be inferred from findings / outputs in item 4. a. and 4.b. Additional FGDs/ interviews with other stakeholder group/people may be required for identifying mitigation measures).	5.1a. List of any opposition (individuals and or groups) and estimated number 5.1b. Options or mitigation measures to minimize residual opposition presented in table form and/or map.
5.2 Determine likely environmental impacts of the proposed subproject, if any of those are negative, what design changes can be made to minimize them and what mitigation measures can be taken concerning residual negative impacts. (Determined by whole PRA Team	5.2a. Evaluate outputs of 4.a and 4.b and identify environmental impacts, if any. 5.2b. Discuss with local institution e.g. affected people, UP, LGED, and other key stakeholder groups on (i) change in design, (ii) miyigation measures	(Should be inferred from findings/ outputs in items 4.a and 4.b)	5.2a. Description of identified environmental impact. 5.2b. Proposed design changes to minimize negative impact. 5.2c. Mitigation measures.

PRA PROCESS	ACTIVITIES & DATA TO BE GATHERED	PRA METHODS AND TOOLS / TECHNIQUES	OUTPUTS
based on data gathered.(See Form G3-G).			
5.3.To determine if there is a broad, popular support for the proposed subproject (To be determined by the whole PRA Team based on all data gathered. (See Form G3-G).	5.3 Assess outputs of activity 4.a and 4.b.		Matrix on extent of support for the proposed subproject by key stakeholder groups
5.4 Determine willingness of potential beneficiaries to: a) Pay 3% of all earthworks and 1.5% of all structural work before LGED starts construction. b) Form WMCA and take full responsibility for O&M. c) Assist in land acquisition. (to be determined and discussed by the whole PRA Team based on all data gathered (See Form G3-G).	5.4a. Assess outputs of activity 3 & 4. 5.4b. May need to gather more information to be able to really gauge willingness: • History of cooperation in the area: check if they have undertaken any projects/ programs using their own resources or if they have contributed anything in any govt. projects/programs of the area • Land acquisition experience in area • Any existing groups (informal and formal) in the area	5.4a. Infer from findings / outputs in items 3 & 4 5.4b. Conduct additional FGD and interviews with potential beneficiaries, key informants	5.4 Percentage of beneficiaries willing to: a) Pay 3% of all earthworks and 1.5% of all structural work before construction. b) Form WMCA and take full responsibility for O&M. c) Assist in land acquisition.
5.5 Come up with overall conclusions and draft report (See Form G3-G).	5.5 Consolidate and analyze outputs of nos. 3-5.4		5.5 PRA draft report on findings
6. Feedback session/s with the stakeholders on PRA findings	6. Conduct group meetings with key stakeholder groups and/or public meeting with majority of stakeholders who participated in PRA activities to present and discuss major findings of the PRA	6.a. Large Meetings/ Assembly meeting 6.b. Presentation of enlarged version of maps prepared, matrices and diagrams	6.a. PRA findings confirmed/ validated by the stakeholders 6.b.Majority of stakeholders approved or agreed with the PRA Team about PRA findings
7. Debriefing session with LGED field officials and staff, local government officials, key staff from relevant government agencies and NGOs	7. Conduct meetings with the LGED Executive Engineer, Upazila Engineer and staff and also with UP members and key staff from relevant government agencies and NGOS to present and discuss major findings of the PRA	7. Presentation of PRA findings and discussions	7.a. PRA findings confirmed/ validated by UZ Parishad, partner organizations, LGED officials and staff and government/NGO people of Uz level 7.b.Upazila Engineer and Executive Engineer agreed with PRA Team about PRA findings
8. Write final report on PRA findings and submit to the Project Director.			8. PRA Report submitted

FIGURE G3-III.1: FLOWCHART OF PRA PROCESS IN SSWRD SUBPROJECTS

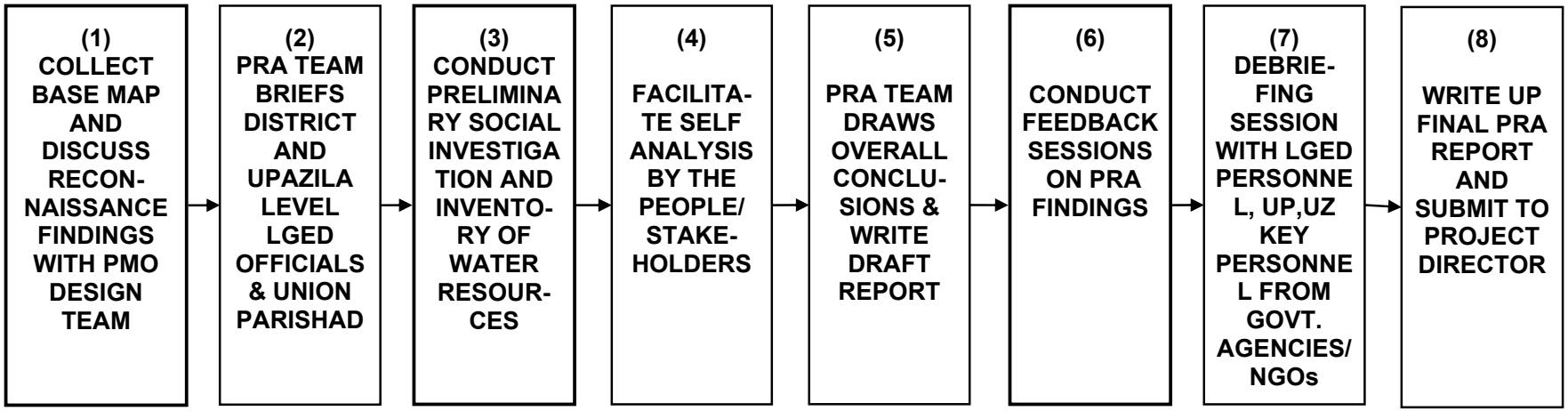


FIGURE G3-III.2: FLOWCHART OF PRA FIELDWORK PROCESS (1 week) IN SSWRD SUBPROJECTS

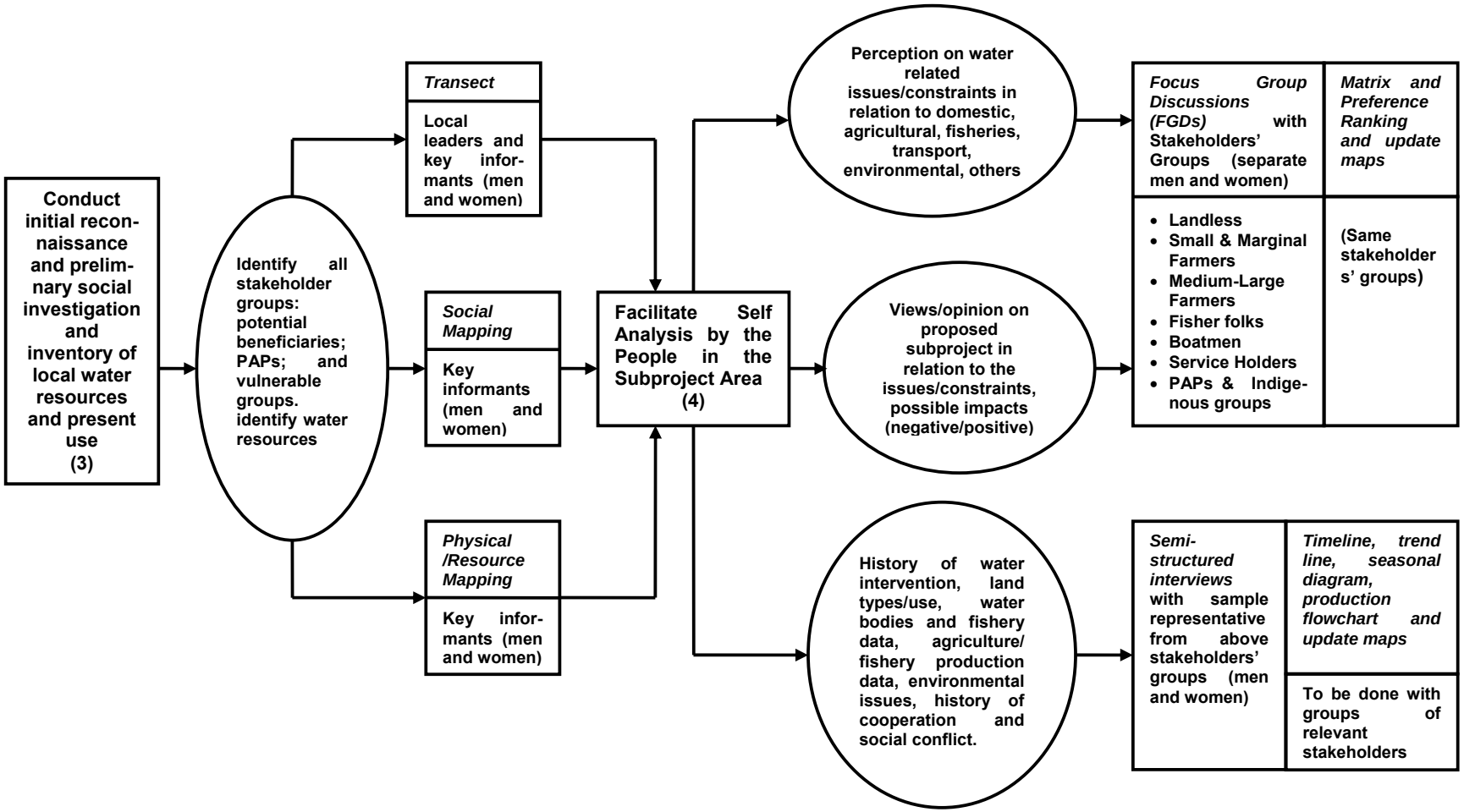
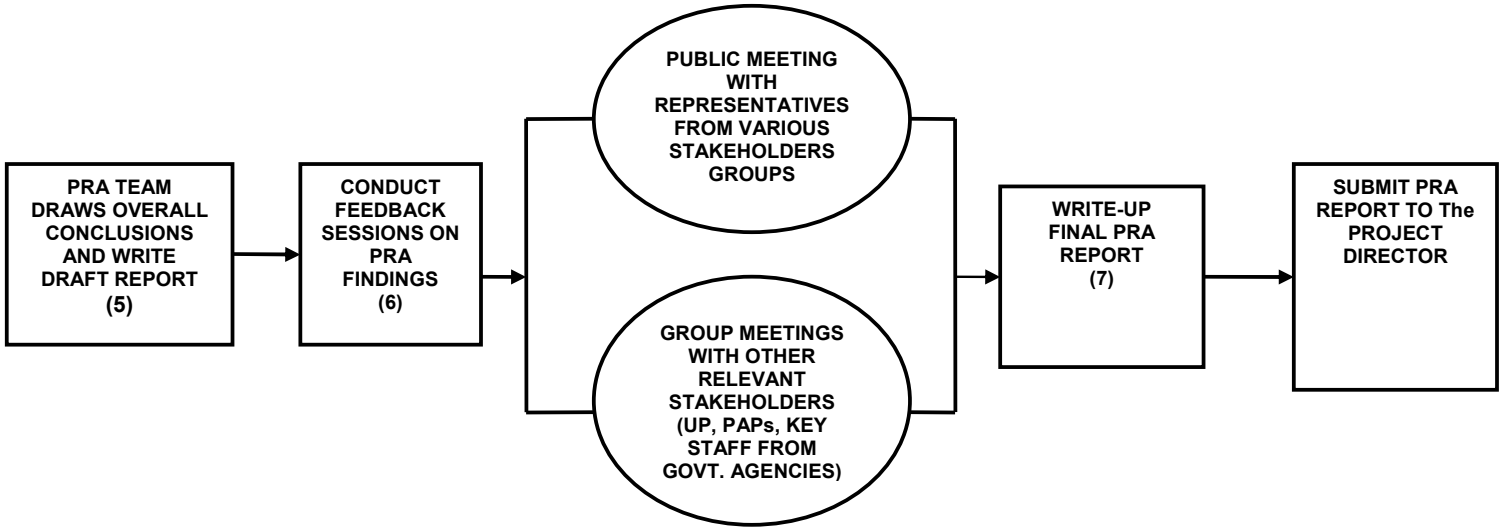


FIGURE G3-III.3: FLOWCHART OF PRA REPORTING & FEED-BACK PROCESS (1 week) IN SUBPROJECTS



1.8 Basic Principles and Rules in Conducting PRA

50. The PRA Teams must observe the following principles and rules in the process of conducting PRA work in the proposed subprojects assigned to them:

- Make your objectives and activities clear to relevant officials, local leaders, and other stakeholders. Ensure that they fully understand these and also their role in the PRA.
- Establish rapport with the local people/stakeholders and gain their confidence. Help them understand their role in the PRA.
- Do not raise any expectations or make any promises
- You are a facilitator, facilitating investigation, analysis, and learning by the local people themselves.
- Seek out representatives from all stakeholders' groups of various occupations, social status and gender. Involve both men and women. Do not rush and overlook other stakeholders especially the poor and disadvantaged.
- Do not be biased and never interpret the data. Write-up and present the information as you have gathered it specifically on the stakeholders; proposed solutions to their water related problems and impacts of proposed subproject on social, agricultural, fishery and other environmental aspects.
- Gather all information indicated in the PRA Guidelines as comprehensively as possible.
- Work as a team.

1.9 Undertaking Selected PRA Tools

1.9.1 Time Line or Historical Mapping

51. **Objective** of the Tool is to find out significant water resource development interventions in the subproject area.

52. **Steps** to be followed in applying the Tool and achieve the objective are:

a. Discuss with the participating stakeholders the purpose of the activity. Start by asking about the significant water resource development events they could remember that have been initiated which benefited or affected them or their community/area. The interventions may take the form of water resource structures/facilities such as regulator, khal that may or may not be located within the proposed subproject area.

b. Take note of the year when the intervention was initiated and who initiated it. Ask questions that would draw out significant water resource development events in the community. Example of questions, are as follows:

- When was the first water resource system/structure constructed which benefited or affected their community? In which year(s) were these built? What were the structures constructed, where are these located and who built these?

- Aside from this water resource system/structure, were there other water resource development interventions in the area e.g. fishponds? Who initiated the assistance and what year(s) these were built?
- For each water resource structure/facility, what is the present condition and usage?

c. Plot the events on a timeline (yearly basis)

Year	Water Development Intervention/Structure/Facility	Who Built?	Status/Usage

d. Summarize the discussion.

1.9.2 Reconnaissance / Walk Through and Resource / Physical Mapping

53. **Objective** of the Tool is to enable the participants to collect information like land use, existing physical infrastructure facilities and other resources of the subproject area through direct observation and discussion while walking and draw a resource/physical map after the walk.

54. **Steps** to be followed in applying the Tool and achieve the objective are:

a. The team may divide the whole subproject area among them and organize a group of stakeholders who will undergo the walk through with the team. They may divide it based on the number of villages. It is important that each group discusses and agrees on the approximate route to be taken.

b. The group will then walk and observe from one end of the route to another end taking notes of/documenting the following data:

- rivers, khals, beels, ponds and other water bodies
- all structures and facilities affecting water (roads, embankments, gates, bridges, etc.) and other facilities e.g. schools, clinics, markets, etc.
- settlements (villages, unions and households)
- inundated, flooded, water logged, and irrigated areas
- wetlands, forest, natural or planted vegetation, if any

c. After the walk through, each group will choose an appropriate place and medium for drawing the physical/resource map. They may choose from the following:

- ground (using sticks, stones, sawdust, etc)
- floor or flat surface (using chalk, stones, sticks)
- poster paper (using pens, colored chalks or crayons)

d. Work on one item at a time like finishing the land resources first before water resources.

e. Observe how things are taking place. If some things are left out/forgotten, ask the group members about it. Encourage corrections and/or additions.

f. The team will re-draw the whole map for the subproject area on paper if it was drawn on the ground or the floor.

1.9.3 Social Mapping

55. **Objective** of the Tool is that at the end of the activity the participants will be able to show information about the social structure of the subproject area, about the local stakeholders' groups and potential project affected people, location of homesteads, different streets/paras, institutions (schools, mosques, clinics, etc.),

56. **Steps** to be followed in applying the Tool and achieve the objective are:

a. Explain the purpose of the activity. Using the outline of the physical/resource map explain what data are needed to be shown on the map, as follows:

- location of farming and fishing households, landless households and other occupational groups
- location of institutions, organizations/groups
- potential project affected groups (e.g. households to be affected if fish production is reduced, land/areas for possible acquisition, etc.)

b. Choose an appropriate place and medium like:

- ground (using sticks, stones, sawdust, etc)
- floor or flat surface (using chalk, stones, sticks)
- poster paper (using pens, colored chalks or crayons)

c. Copy the map on paper, especially if it was done on the ground or on the floor.

1.9.4 Focus Group Discussion (FGD)

57. **Objective** of the Tool is that at the end of the activity the participants will be able to discuss a number of water related topics e.g. history of water related interventions, fishery aspects, environmental issues/impacts, problems/issues and possible solutions to the issues identified, etc.

58. **Practical Guidelines** to follow in conducting FGD are as below:

a. It should be held with a small group of people who share common interests, concerns, occupations, social class, and other characteristics. Examples: small to medium women or men-farmers, genuine men or women fisher folks, etc.

b. Keep the group small. Although it is possible to have as few as four or as many as 12 participants, the 7-10 range is generally the most successful.

c. There should be a facilitator- the person who guides the discussion, and in addition, another member of the team should be present to take notes on the discussion.

d. Make sure the members of the focus group know what are expected of them during the session. Orienting the participants about the objectives of the

discussion will enable them to search their memories for the recall of perceptions and experiences relevant to the topics or issues to be discussed.

e. Be familiar with the guide questions/topics or issue for discussion.

f. Avoid marathon sessions. The length of the FGD depends largely on the number of topics/issues to be discussed and the size of the group. But it is generally advisable to keep the session within a period of 1-2 hours to avoid physical strain or exhaustion among the participants

1.9.5 Semi-Structured Interviews

59. **Objective:** This is a method that allows for a natural free-flowing conversation and does not involve a formal questionnaire, but instead makes use of a flexible interview guide or checklist of topics or issues to help ensure that the interviews stay focused on the relevant issues/topics. It can be used to probe on certain issues/topics with individuals or with members of a household. At the end of this activity, information on a checklist of topics/issues had been gathered in detail.

60. **Practical Guidelines** to follow in conducting Semi-Structured Interviews are as below:

a. Identify and list the issues/topics which you will gather using this method. Think also of ways on how to probe for details, like coming up with probing questions.

b. Identify and list down the individuals/key informants or households you will involve in this activity based on the information to be gathered.

c. Be familiar with the checklist of topics or issues for discussion to avoid looking at it from to time to time during the interview that may distract the informants and the process.

d. Avoid marathon sessions. The length of the semi-structured depends largely on the number of topics/issues to be discussed. But it is generally advisable to keep the session within a period of one hour for individual interviews and no longer than 2 hours for household interviews to avoid physical strain or exhaustion among the participants.

1.10 Final PRA Report: Submission and Approval

61. When the fieldwork is completed, the findings of the PRA are summarized in a Draft Final Report using the specified standard Table of Contents (see ***Exhibit G3-H***). The report should give comprehensive and reliable information, which would allow a proper assessment of the social and environmental feasibility of the proposed subproject.

62. When the PRA Team has completed its Draft Final Report, it will be submitted to the PMO. The PMO-Project Consultants will review the report and, if any revision/modification is considered necessary, the PRA Team will do that and re-submit the Final PRA Report. The Final PRA Report will, upon recommendation from the PMO-Project Consultants, be approved by the IWRMU (P&D Section), LGED.

63. Following approval of the Final PRA Report by IWRMU, LGED, PMO will instruct the Consultant Firm to proceed with Feasibility Study and IEE/EIA of the subproject.

SUPERVISION AND MONITORING OF PRA ACTIVITY

64. After each day of fieldwork, the team members will hold a meeting to crosscheck findings/information gathered. This is crucial as it is one of the important methods for ensuring correct and reliable information. Quite often, the team identifies information or areas that will need further checking, which is then done by varying the people interviewed, the location of the interview or the tools used. This technique is known as “triangulation” and is one of the major ways in which quality of information is ensured.

65. The IWRMU (P&D Section) and Project Consultants will be closely supervising and monitoring the PRA activity through LGED field offices which will be strengthened by placing necessary project staff. They will undertake field supervision. All submitted PRA reports will be studied and evaluated by the PMO- Project Consultants Team. Observations and recommendations for PRA improvement will be immediately forwarded to concerned PRA Team Leader / Team members and management of concerned Firm if necessary and these will be consolidated and written-up for use in follow-up training with the PRA teams.

66. Poor performance by a team member or the PRA team as a whole will be discussed immediately with management of the Firm concerned for proper action.

67. Regular review meetings/courses with the Team Leaders and/or Team members will be initiated to discuss progress of work and issues that need to be addressed. In addition, the Team members may be requested for meetings time to time to discuss comments and suggestions for improvement and/or completion of specific report submitted, if and when necessary.

EXHIBITS

Exhibit G3-A: **Form G3-A (WR) Report on PRA Engineering Findings**

Exhibit G3-B: **Form G3-B (AGRI) Report on PRA Agriculture Findings**

Exhibit G3-C: **Form G3-C (FISH) Report on PRA Fisheries Findings**

Exhibit G3-D: **Form G3-D (ENV) Report on PRA Environmental Findings**

Exhibit G3-E: **Form G3-E (SOC) Report on PRA Social Findings**

Exhibit G3-F: **Form G3-F (WOM) Report on PRA Women Aspect Findings**

Exhibit G3-G: **Form G3-G Report on Overall Conclusion of PRA Team**

Exhibit G3-H: **Form G3-H Table of Contents of PRA Report**

EXHIBIT G3-A: FORM G3-A (WR)

Report on PRA Engineering Findings

Proposed Subproject: ……..……..

District: …… Upazila: …… Union: ……Villages: …...……..

[The Water Resources Engineer will ensure (a) obtaining all information necessary, may be beyond the structure of this Form, to make the engineering report comprehensive, and (b) obtaining information from all villages (small contiguous scattered homesteads can be grouped like a village) inside / outside subproject area, according to the outline given in ***Section 3.3*** *of the Document* ***G3 Participatory Rural Appraisal of Subprojects.*** *Use back of the Form if space is necessary]*

1. Describe the subproject area and people – names of villages with populations, number of households including benefitted households and gross and benefit areas by marking on the subproject/physical map.
   Notes:……
   ……

2. Explain concept plans of original subproject proposal and of the reconnaissance team and describe stakeholder opinions including additions/changes/dropping of interventions, if any.
   Notes:……
   ……

3. Describe the history of water related interventions (hydraulic structures, khal re-excavations, embankment, roads, etc.) Particularly mention details of BWDB interventions inside and outside (vicinity) of subproject area.
   Notes:……
   ……

4. Indicate on the map (subproject/physical map) using arrows the directions of flood flows and drainage flows.
   Notes:……
   ……

5. Indicate on the map (subproject/physical map) by shading, flood inundated areas and waterlogged areas, and in the report itself give dates and depth of inundation.
   Notes:……
   ……

6. How often is the area flooded (once every 1,2,3,4,5 or more years), what is the source of the flooding, depth of flooding and what is the highest flood level (local mark)?
   Notes:……
   ……

7. In case of a proposed water conservation project, check if there is a potential water sharing issue between upstream/downstream areas/users..
   Notes:……
   ……

8. If the proposed subproject is implemented, what will be the impacts on the water environment?
   Notes:……
   ……

Stakeholders Involved in PRA Activities (Engineering)

Sl. No.	Name	Village	Gender	Occupation	Signature	Date
Activity-1: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			
Location-2 of Activity (place/village): ……						
Activity-2 (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			
Location-2 of Activity (place/village): ……						

EXHIBIT G3-B: FORM G3-B (AGRI)

Report on PRA Agriculture Findings

Proposed Subproject: ……

District: ……. Upazila: …… …… Union: …… Villages: .....

[The Agriculturist will ensure (a) obtaining all information necessary, may be beyond the structure of this Form, to make the agriculture report comprehensively representing the whole subproject area, and (b) obtaining information from all the concerned villages (2 or more small villages may be grouped) inside subproject area, according to the outline given in ***Section III D (2)*** *of the Document* ***G3 PRA of SSWRDP Subprojects.*** *Use back of the Form if space is necessary]*

1. Land Types

Land Types	Area (hectare)	Major Crops			Major Limitations to Crop Production (Late planting, crop damage, use of local variety, low yield, low productivity, etc.)	Average Cost of Land (Tk/ha)
		Kharif 1	Kharif 2	Rabi		
Drainage free						
Flood free						
Irrigated: Full Supplement						
Flooded: Shallow Moderate Deep Very Deep						
Poor drainage						
Drought						
Unirrigated						

2. Flood Related Crop Production Limitations

Flood Characteristics (circle types)	Flash flood/ Seasonal flood/ Local rainfall Shallow/ Moderately deep/ Deep/Very deep
Average number of floods per year	
Period of floods; (month –to - month)	
Yield loss per crop	Name of Crop _____ loss: _____ kg/ha or % Name of Crop _____ loss: _____ kg/ha or %
Farmers' suggestions on how to protect crop from flood damage	

3. Water Logging Related Crop Production Limitation

Drainage pattern (circle applicable one)	Slow / Delayed / Late Pre-monsoon / Monsoon / Post-monsoon
Type of land where water logging occurs (circle applicable one)	High / Medium High / Medium Low / Low / Very Low
Period of water logging; from-to (month)	
Yield loss per crop	Name of Crop _____ loss: _____ kg/ha or % Name of Crop _____ loss: _____ kg/ha or %
Farmers' suggestions for improvement *(Categorise suggestions coming from highland, medium land, low land and farmers)*	

4. Drought Related Crop Production Limitations

Characteristics of drought	Extensive / Short / Before rainy season / After rainy season / Before dry season / After dry season
Period of drought (months/season)	
Type of land affected by drought	High / Medium High / Medium Low / Low / Very Low
Area of land affected by drought (ha)	
Yield loss per crop	Name of Crop _____ loss: _____ kg/ha or % Name of Crop _____ loss: _____ kg/ha or %
Farmers' suggestions on how to protect crop from drought	

5. Expected Impact of Subproject on Crop Production

Reduce crop damage (name of crop and area)	
Increase in area under modern variety (name of crop and area)	
Increase in crop area (name of crop and area)	
Change in cropping patterns (specify cropping patterns)	
Increase in crop yield (name of crop and yield increase in percent)	
Others	
No impact	

Stakeholders Involved in PRA Activities (Agriculture)

Sl. No.	Name	Village	Gender	Occupation	Signature	Date
Activity-1: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			
Location-2 of Activity (place/village): ……						
Activity-2: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			
Location-2 of Activity (place/village): ……						
Activity-3: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			
Location-2 of Activity (place/village): ……						

EXHIBIT G3-C: FORM G3-C (FISH)

Report on PRA Fisheries Findings

Proposed Subproject: ……

District: …… Upazila: …… …… Union: …… Villages: .....

[The Fisheries Specialist will ensure (a) obtaining all information necessary, may be beyond the structure of this Form, to make the agriculture report comprehensively representing the whole subproject area, and (b) obtaining information from all the concerned villages (2 or more small villages may be grouped) inside subproject area, according to the outline given in ***Section III D (3)*** *of the Document* ***G3 PRA of SSWRDP Subprojects.*** *Use back of the Form if space is necessary]*

1. Fisheries Resource Base and Production

Type of Water Body	Total Area (Hectare)	Khas Area (Hectare)	Tidal Effect (Yes/No)	Annual Production (Kg)			
				Fish	Galda	Bagda	Total
A. Seasonal Water Body (0.5 m water for 4 months)							
☐ Floodplain Ricefields							
☐ Pond, Dighi, Ditch							
☐ Khal							
☐ Beel							
☐ Borrow pit							
Sub-Total							
B. Perennial Water Body (0.8 m water year round)							
☐ Pond, Dighi, Ditch							
☐ Khal							
☐ Beel							
☐ Baor							

☐ River, Haor							
Sub-Total							
Total (Sub-total A + B)							

2. **Fish Migration Routes** (for in and out migration of fish to and from the subproject area. indicate on the map)

Name of the Channel/Khal	Period of Major Migration					
	Early Monsoon		Middle Monsoon		Late Monsoon	
	In	Out	In	Out	In	Out
a.						
b.						
c.						

3. **Fishing Communities**

Type of Household (HH)	Total HHs	Female Headed HHs
a. Genuine/Ethnic Fisher		
b. Subsistence Fisher/ Part time Fisher		
c. Genuine Fish Farmer		
d. Subsistence Fish Farmer/ Part time Fish Farmer		

4. **Involvement of women in fisheries activities**

Fisheries Activities	Number
Feeding fish	
Pond culture	
Fish nursery	

Others:	
•	
•	
•	

5. **Expected Impact of Proposed Subproject Interventions on Fisheries** (*Male and female responses to be segregated if significantly different*)

Expected Impact	Suggested Mitigating Measures
Reduction of fish habitat (area, depth of water, period of inundation)	
Reduction in the entry of brood fish and fish seeds	
Reduction in fish production	
Reduction in the inflow of water	
Reduction in community consumption of fish	
Deterioration of livelihood condition of fisher folks	
Others:	
•	
•	
•	

Stakeholders Involved in PRA Activities (Fisheries)

Sl. No.	Name	Village	Gender	Occupation	Signature	Date
Activity-1: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			
Location-2 of Activity (place/village): ……						
Activity-2: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			
Location-2 of Activity (place/village): ……						

EXHIBIT G3-D: FORM G-3-D (ENV)

Report on PRA Environmental Findings

Proposed Subproject: _____ Union(s): _____ Upazila: _____ District:_____
Villages/Moujas (Study Areas): _____

[The Enironment Specialist will ensure (a) obtaining all information necessary, may be beyond the structure of this Form, to make the agriculture report comprehensively representing the whole subproject area, and (b) obtaining information from all the concerned villages (2 or more small villages may be grouped) inside subproject area, according to the outline given in ***Section III D (4)*** *of the Document* ***G3 PRA of SSWRDP Subprojects.*** *Use back of the Form if space is necessary]*

1. Is there any conserved wetland like Tanguar Haor or conserved forest like Sundarban in the proposed subproject area? If so, give details and show location on the map.
   ……
   ……

2. Is there any historical/archaeological site, which may be threatened or may have to be demolished for subproject construction? If so, indicate in the map and give details.
   ……
   ……..

3. Indicate on the map and give names of the water bodies which may be drained partially or completely if the proposed subproject is implemented

Water bodies not affected by proposed subproject	
Water bodies partially drained by proposed subproject	
Water bodies completely drained by proposed subproject	

4. Land Acquisition Issue and/or Agricultural Land Loss. Mention here the type and approximate area of land to be acquired/lost as well as the number of households likely to be affected, if any. Also mention mitigation demand by affected households.

Type and Approximate Area of Land (in hectare)	Number of Affected Households	Mitigation Demands from Affected Households

5. Indicate on the map and give names and the number of boats passing through khals/rivers/channels, which may be closed with a structure if the subproject is implemented.

Average number and types of boats passing proposed structure site per day

Site/Khal Name	Pre-monsoon	Monsoon	Post-monsoon

6. Indicate on the map and provide names of villages/areas outside the subproject boundary, which may experience higher risk of flooding if the subproject is implemented.

……
……

7. Types and amount of chemical fertilizer and pesticides presently used by farmers

Crop	Name of Fertilizer and Pesticide	Amount Used per Acre

8. Will the subproject construction require destruction of natural or planted vegetation? If so, give detail.
……

9. Give the approximate percentage of people in favor and/or against the proposed subproject ……..

10. Expected environmental impacts and possible mitigation measures if proposed subproject is implemented

Type of Intervention	Expected Impacts and Affected People		Possible Mitigation Measures
	Positive	Negative	
Khal re-excavation			
Construction of WRS, Sluices, Regulators			
Embankments constn.			
Other interventions			

11. Summary Table of Project Affected People (PAP)

Sl.	**Type of Stakeholder Group Affected**	**Number of PAPs**	**Negative Impacts**	**Mitigation Measures**
1.				
2.				

Note 1: If new impact issues other than those described above are identified during field visits and discussions with sub-project beneficiaries, affected groups and other stakeholders, these issues are to be recorded in separate sheets along with mitigation options suggested by them.

Note 2: If any environmental impact has serious adverse effects as per assessment of the beneficiaries, affected groups and other stakeholders, the PRA Team should recommend a detailed field investigation and should indicate this in its overall conclusions.

Stakeholders Involved in PRA Activities (Environment)

Sl. No.	Name	Village	Gender	Occupation	Signature	Date
Activity-1: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……..			
Location-2 of Activity (place/village): ……..						
Activity-2: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……..			
Location-2 of Activity (place/village): ……..						
Activity-3: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……..			

EXHIBIT G3-E: FORM G3-E (SOC)

Report on PRA Social Findings

Proposed Subproject: _____ Union(s): _____ Upazila: _____ District:_____

Villages/Moujas (Study Areas): _____

Name and Designation of Surveyor(s):…… Date of Survey: ……..

[The Sociologist will ensure (a) obtaining all information necessary, may be beyond the structure of this Form, to make the agriculture report comprehensively representing the whole subproject area, and (b) obtaining information from all the concerned villages (2 or more small villages may be grouped) inside subproject area, according to the outline given in ***Section III D (5)*** *of the Document* ***G3 PRA of SSWRDP Subprojects.*** *Use back of the Form if space is necessary]*

Table 5.1.1(a): Inventory of Villages

No.	Village Name	Union	No. Households	Total Population	Date(s) Visited
Villages inside the subproject area					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
Villages outside the subproject area					
1.					
2.					
3.					
4.					
5.					
6.					

Table 5.1.1 (b): Farm Size Distribution and Household Occupation of Villages Inside Subproject

Village Names		1.	2.	3.	Totals
5.2.1	People interviewed (groups)	Number of Males:__ Number Females:__ Total:_____	Number of Males:__ Number Females:__ Total:_____	Number of Males:__ Number Females:__ Total:_____	Number of Males:__ Number Females:__ Total:_____
5.2.2	Total number of HH in village				
5.2.3	In this village, number of a) Households entirely depending on agricultural production for income (Farm) b) Households with farm and other occupations (mixed Farm/non-Farm) c) Households entirely dependent on non-farm occupations (Non-Farm)				
5.2.4	a) Is most of the land owned by a few households? b) What (estimated) percentage of land is operated by landless sharecropper, marginal & small owner?				
5.2.5	Who owns / lease water bodies in side subproject, if there is/are any?				

	Village Names	**1.**		**2.**		**3.**		**Totals**	
	Farm Landholdings	No.	%	No.	%	No.	%	No.	%
5.2.6	Landless/functionally landless: < 0.2 ha (< 50 decimal)								
5.2.7	Marginal farmer: 0.2 – 0.5 ha (50 to 125 decimal)								
5.2.8	Small-holder: 0.5 – 1 ha (126 to 250 decimal)								
5.2.9	Medium-size holder: 1 - 2 ha (251 to 500 decimal)								
5.2.10	Large-size holder: > 2 ha (more than 501 decimal)								
	Farmers: Total								
	Primary Occupation / Income Source of HH	No.	%	No.	%	No.	%	No.	%
5.2.11	Daily-paid Agricultural Labor								
5.2.12	Other daily-paid work: Laborers, Household Maids, Earth Workers								
5.2.13	Traditional Fisher (fishing in rivers or beels etc.)								
5.2.14	Agricultural Farming								
5.2.15	Poultry, fisheries, dairy								
5.2.16	Medium-Large Business, Trade, Transport, Boat owners								
5.2.17	Small-scale Business, Trade								
5.2.18	Transport (Rickshaw/Van puller), Boatmen								
5.2.19	Others (In Service, Retired, Foreign Remittances)								
5.2.20	Unemployed								

	Village Names	1.	2.	3.	Totals	
	Primary Occupations: Total					
5.2.21	What is the average agricultural day labour wage in peak period ?	Male…….. Fem…….	Male….. Fem……..	Male……..Fem…….		
5.2.22	What is the average agricultural day labour wage in lean period?	Male…….. Fem…….	Male….. Fem……..	Male……..Fem…….		

	In/Out Migration	No.	% of total	No.	%	No.	%	No.	%
5.2.23	How many men migrate-**out** for work during some part of the year?								
5.2.24	How many men migrate-**in** for work during some part of the year?								
5.2.25	Do any women migrate-out for work?								

	Household Economic Status Information				
5.2.26	How many households depend entirely on agricultural/day labor for income?				
5.2.27	How many poor women in this village are earning income or seeking work?				
5.2.28	How many poor female-headed households are there in the village?				
5.2.29	What is the normal payment for a woman doing household labor?	Amount: Per (day/week/month):	Amount: Per (day/week/month):	Amount: Per (day/week/month):	Amount: Per (day/week/month):
5.2.30	What is the normal payment for a woman doing earth works?	Amount: Per (day/week/month):	Amount: Per (day/week/month):	Amount: Per (day/week/month):	Amount: Per (day/week/month):

Village Name		1.		2.		3.		Total	
		Number	%	**Number**	**%**	**Number**	**%**	**Number**	**%**
5.2.31	How many households under poverty line income are there in this village? [Poverty line income = Tk...../.....	Number:		Number:		Number:		Number:	
5.2.32	How many of these poor households send their children to school?								

Table 5.1.2(a): Problems and Solutions Identified by Stakeholders (Male)

Stakeholder Group	**No. of Individuals Consulted**	**Stakeholders' Response/Comments**	
		Present Problems (highest and second highest priority)	**Proposed Solutions (for each problem mentioned)**
Landless (operating less than 0.5 acres). Livelihood mainly depends on manual labor.			
Small and Marginal Farmers (operating <2.5 acres)			
Medium-Large Farmers (operating 2.5 or more acres)			
Fishers and Boatmen			
Service holders and others			

Table 5.1.2(b): Problems and Solutions Identified by Stakeholders (Female)

Stakeholder Group	No. of Individuals Consulted	Stakeholders' Response/Comments	
		Present Problems (highest and second highest priority)	Proposed Solutions (for each problem mentioned)
Landless (operating less than 0.5 acres) Livelihood mainly depends on manual labor.			
Small and Marginal Farmers (operating <2.5 acres)			
Medium-Large Farmers (operating 2.5 or more acres)			
Fishers and boatmen			
Service Holders & Others			

Table 5.1.2(c): Expected impact and reaction to the proposed subproject by stakeholders

Stakeholder Group	No. of Individuals Consulted	Male Response	Female Response
Landless (operating less than 0.5 acres) Livelihood mainly depends on manual labor.			
Small and Marginal Farmers (operating <2.5 acres)			
Medium-Large Farmers (operating 2.5 or more acres)			
Fishers and Boatmen			
Service holders and Others			

Table 5.1.3(a): Problems and Solutions Identified by Indigenous People

Indigenous Groups	No. of Individuals Consulted	Stakeholders' Response/Comments	
		Present Problems (highest and second highest priority)	Proposed Solutions (for each problem mentioned)

Table 5.1.3(b): Expected impact and reaction to the proposed subproject by Indigenous People

Indigenous Groups	No. of Individuals Consulted	Male Response	Female Response

Table 5.1.4: History of cooperation among the people in the subproject area:. Whether or not they have implemented any project/program (e.g. water resource, health and sanitation, etc.) using mainly their own resources. Or if they have contributed their resources (money, labor) to any government/private projects or programs. Give details

Table 5.1.5: Major social conflicts in the area (within last 3 years)

Nature of Conflict (describe)	People/Groups Involved	Describe how it was resolved	Not yet resolved
a.			
b.			

EXHIBIT G3-F: FORM G3-F (WOM)

Report on PRA Women Aspects Findings

Proposed Subproject: _____ Union(s): _____ Upazila: _____ District:_____

Villages/Moujas (Study Areas): _____

[The GAD Specialist will ensure (a) obtaining all information necessary, may be beyond the structure of this Form, to make the agriculture report comprehensively representing the whole subproject area, and (b) obtaining information from all the concerned villages (2 or more small villages may be grouped) inside subproject area, according to the outline given in ***Section III D (6)*** *of the Document* ***G3 PRA of SSWRDP Subprojects.*** *Use back of the Form if space is necessary]*

Table 5.2.1: Non-Water Related Problems and Solutions Identified by Women

Women (Based on land ownership)	**Population**		**No. of Individuals Consulted**	**Stakeholders' Response/Comments**	
	No.	%		**Present Problems**	**Proposed Solutions (for each problem mentioned)**
Poor and landless and destitute					
Marginal and small					
Middle					
Big/Large					
TOTAL					

Number and Percentage of Women Headed Households: _____

Table 5.2.2: Activities and Workload and Source of Livelihood

Table 5.2.3: Mobility Status

Stakeholders Involved in PRA Activities (Social & Women)

Sl. No.	Name	Village	Gender	Occupation	Signature	Date
Activity-1: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			
Location-2 of Activity (place/village): ……						
Activity-2: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			
Location-2 of Activity (place/village): ……						
Activity-3: (Transect Walk/FGD/Interview/Others)			Location-1 of Activity (place/village): ……			

EXHIBIT G3-G: FORM (PRA TEAM)

Report on Overall Conclusion of PRA Team

Proposed Subproject: _____ Union(s): _____ Upazila: _____ District: _____

1. Is there broad, popular support for the proposed subproject? (Quantify in percentage)
   ……
   ……
2. Is there any opposition to the proposed subproject, and if so, by whom, why and how many (number and %) people are against it?
   ……
   ……
3. Is the proposed subproject technically feasible? ……
4. What are the likely environmental impacts and what possible measures can be taken to mitigate negative impacts?
   ……
   ……
5. Are the beneficiaries willing to pay the first year's operation and maintenance cost (3% of earthwork, 1.5% of structures) before start of construction, form a Water Management Association, assist in land acquisition activity, and take full responsibility for operation and maintenance?
   ……

Date: _____ Names and Signature of PRA Team Members

_____ _____ _____ _____ _____

(PRA Team Leader) (……..) (……) (……..) (……)

EXHIBIT G3-H: FORM (TOC OF PRA REPORT)

TABLE OF CONTENTS OF PRA REPORT

* One page for Executive Summary with one paragraph summarizing each of the 6 chapters. One page for Introduction to include when work order was issued, when team actually started PRA work, when debriefing session with stakeholders, XEN and UE was conducted and the PRA methods and tools used for the study.

5.1.8 Description of social conflict 5.1.9 Description of existing organizations/groups 5.1.10 Indigenous Peoples/Groups	
5.2. Women Aspect 5.2.1 Demographic Data 5.2.2 Non-Water Related Problems and Needs 5.2.3 Activities, Workload and Source of Livelihood 5.2.4 Mobility Status	1-2
6.a PRA Team's Overall Conclusions 6.1 Is there broad popular support for the proposed subproject? 6.2 Is there any opposition to the proposed subproject 6.3 Is the proposed subproject socially feasible? 6.4 Are there negative environmental impacts and if so, how can they be mitigated? 6.5 Are the beneficiaries willing to form into a Water Management Cooperative Association, pay O&M contribution, assist in land acquisition and completely assume O&M responsibility? 6.b PRA Team's Analysis and Recommendations	1-2
Appendices (filled-out forms) As available	
Maps (physical/subproject map, resource map, social map, fishery and agricultural map	5

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