



Evaluation on “Enhanced coping capacity of the disadvantaged community.” Project



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Acronyms/List of Abbreviations

BDT	Bangladeshi Taka
CBO	Community Based Organization
CC	Climate Change
CCA	Climate Change Adaptation
CSO	Civil Society Organization
CG	Community Groups
DMC	Disaster Management Committee
DRR	Disaster Risk Reduction
ECCDC	Enhanced coping capacity of the disadvantaged community
EPI	Extended Program on Immunization
FGD	Focus Group Discussion
GoB	Government of Bangladesh
HH	Households
HRM	Human Resource Development
IGA	Income Generating Activities
KII	Key Informant Interview
LA	Local Authorities
LFA	Logical Framework Approach
LG	Local Government
mm	millimeter
M&E	Monitoring and Evaluation
MoU	Memorandum of Understanding
NGO	Non-Government Organization
OD	Organizational Development
ORS	Oral Rehydration Saline
OVI	Objectively Verifiable Indicator
PI	Peoples Institutions
PIP	Project Implementation Plan
PP	Project Proposal
PRA	Participatory Rapid Appraisal
QA	Quality Assurance
SAMS	Sударban Adibashi Sangstha
SPSS	Statistical Package for Social Science
SVS	Student Volunteers Squade
U/Uz DMC	Union/ Upazila Disaster Management Committee
SSI	Semi Structured Interview
SWOT	Strengths weakness Opportunities and Threats
TOR	Terms of Reference
UP	Union Parishad
VGD	Vulnerable Group Development
WDMC	Ward Disaster Management Committee

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Executive Summary

The Enhanced coping capacity of the disadvantaged community (ECCDC) Project of Paritran and its' partners SAMS have been implemented in highly disaster prone south west Sathkhira district, Bangladesh with view to reduce peoples' disaster vulnerabilities under financial assistance of SMILING Programme of the European Union. The project was implemented for 3 years in 16 Unions of 2 Upazilas namely Sathkhira Sadar and Shaymnagar Upazila of Sathkhira district. Therefore an end line evaluation was carried out in the months of November'14-December 2014. The report is the output of the study.

The objectives/purposes of the evaluation are:

01. Evaluate to which extent output, outcome and goal level project indicators have been achieved, assessing this in quantitative and qualitative terms, over time and comparing the project achievements with data at national and district level.
02. During evaluating impact, pay special attention to change of awareness, knowledge, attitude and practices within target communities.
03. Identify lessons learned and challenges (with possible solutions) and formulate actionable recommendations, which can be utilized to make Paritran and SAMS Vision work in the program area more effective.

Methodology of the study: Both qualitative and quantitative approaches were followed in survey conduction at field. Stratified random sampling was followed for respondent selection from household level for quantitative survey. Union has considered as an stratum, under each stratum households were selected through simple random techniques. As because population (Household Size-N) is less than 10,000, sample size 322 households were selected through probabilistic formula of standard normal distribution. A questionnaire was developed for quantitative household survey through vis-à-vis interview technique at beneficiary level and for qualitative survey a checklist was developed for target groups' survey through semi structure interview techniques and focus group discussion as well. Case studies were formulated on the basis of non probabilistic snowball techniques.

For concept mapping literature review technique was applied. Project monitoring report, half yearly report and other relevant documents were studied with view to collect secondary information.

Findings of the study: It was found that the project is very much relevant to the contextual analysis, both internal and external. Consideration of national level drivers of disaster risk reduction and international conventions the project is time worthy and very much relevant.

The project has found relevant need and constraints of the beneficiaries. Log frame for the project is also found appropriate for project design. Cross cutting issues like gender, children, socially disadvantaged community were rightly address.

Flood, cyclone, water logging, riverbank erosions, drought and cold wave are frequently experienced by the people of the area, which are being effected food Insecurity cum malnutrition (crop damage), Health status devastation, house damages, shocks, poultry, livestock, fisheries damage, working Hour loosing, communication disruptions, displacement of people, mobility Increase, property loss, drinking water scarcity and sanitation problems.

Community get organize through CBO formation (Community Group) under result one. They got scope for integrity, solidarity through self help institutions. We feeling, ownership feeling, negotiations skills, benefit sharing were significantly developed through peoples participation in self help groups. Information generation cum dissemination and utilization skill, Planning skill, implementation skill were developed among the members through receiving training on PVCA and PVCA exercise at field

level. Institutional capacity of the Community Group members has been ensured their self confidence, social power, accountability, transparencies in their activities. Community mobilization through providing knowledge on DRR, messages of public awareness made readiness to people to face hazardous situation and accelerated their disaster risk reduction initiatives, which ensure their protection of life and livelihood from hazards.

On the basis of qualitative survey with stakeholders, followings changes have noticed in the project area, viz.-

- i) Increased awareness on DRR
- ii) Reduction of lifting saline water in the paddy land
- iii) Increase community practice on tree plantation and vegetable cultivation
- iv) Increase cultivation of fresh water fish instead of shrimp culture
- v) Sensitize about protection of para forest near to embankment
- vi) Community looks as watch dog for activities of Water Development Board
- vii) People monitor water flow through sluice gate for controlling salinity
- viii) Prevails noticeable captiousness on Early Warning on cyclone among community people
- ix) Good tie has established between community and UDMC, WDMC, CGs are participating in ADP (Annual Development Plan) formulation and budget formulation.
- x) Knowledge on preparedness, adaptation, early warning system has been increased and found skills on adaptation practices
- xi) Some good practices on safe drinking water were noticed in the area.
- xii) Most of the poor people have anticipatory knowledge and experiential learning about existing hazards and vulnerabilities. Climate change impacts are posing new dimension in existing hazard portfolio and creating lot more uncertainty to the poor people. Therefore villagers get opportunities to exchange their views through CGs. The output has multiplier effect as this are directly contributing people in reducing their sense of hopelessness.
- xiii) People have long experience to cope with natural disasters and by the way they have developed local coping mechanism. The essence of the effort is to strengthen the local coping mechanism through capacity building support to scale up certain disaster management practices; early warning dissemination, evacuation, search and rescue, uses of first aid in emergency response, shelter and emergency relief distribution. During emergency, water borne diseases spread fast, as whole community become exposed to the floods, water logging and cyclone. The capacity of emergency response therefore important and very matured when recurrent flood, cyclone prediction is true.
- xiv) The people do not have information and knowledge about future dimension of hazards and vulnerabilities. The ability of autonomous adaptation might lose due to over exposure of floods and cyclones. Now grassroots villagers get opportunity to contribute in these areas through CG's meeting.
- xv) Skill development training on IGAs ensured economic empowerment of the community.
- xvi) Group approach has created "we feeling" "Ownership feeling" and "voice raising capacity" among community people.
- xvii) Community people movements towards Union Information Centre are increasing and community get benefits from the information centre.
- xviii) Nobody has found in the study for permanent migration from the study area for both push and pull factors. It is fact that targeted beneficiaries are maximum day laborers, so they move for other parts of the country for selling labours during seasonal unemployment period.

Under qualitative survey there are 7 area of coping capacities namely 1) Food 2) Health 3) Mobility 4) Households Asset 5) Profession 6) Disadvantaged household member and 7) Communication Means. Maximum value of the 7 coping capacity area is 21 in consideration of highest likelihood meter 3. Therefore, the average value 17 belongs between likelihood parameters 2 and 3. Out of **maximum value 21, the distribution has scored 17, which will be in percentile measures 71%**, which is very significant in regard to coping capacities of these 322 households.

Organizational development support and capacity building supports have been ensured proper implementation of the project. Service delivery mechanisms were found up to the mark, human resource and management practice were remarkably improved, and financial transparency and accountability were satisfactory due to capacity building supports. Cost cautiousness was found satisfactory in resource utilization techniques. Inter relationship of partners was found satisfactory. Staff skills were significantly improved in communication, inter relation and rapport building, GO-NGO linkage, problem solving and human relation etc.

Cross cutting issues like gender equity, child issues, disability issues, WATSAN issues in disasters were incorporated in knowledge development, message development for public awareness program under the project. Through properly address of cross cutting issues public attitude and behavior has been significantly improved, which forward to build the equitable society.

In financial points of view, the project management was strongly cautious in regard to budget and expenditure. No big fluctuation/variance was found in the budget and expenditure. The evaluation team was randomly compared budget and expenditure for 4 activities under 4 results.

Finally it may conclude that the project is time worthy and successful initiatives in the field of disaster risk reduction in context of disaster prone South West area.

A. Introduction:

Bangladesh is prone to various natural catastrophes, its people face to vulnerable existence and have to deal on regular basis with the shock associated with natural disasters including food scarcity, and loss of shelter and employment. The effects of the ongoing climate change also appearing as a permanent question for the existence of the country, especially south west coastal part of the country, which is routinely facing the highest events and frequency of environmental problems all the year round like flood, cyclone, water logging, salinity and arsenic contamination of ground water. Super cyclone Sidr in 2007, Bizlee in 2008 and Aila in 2009 hit the area in the last three consecutive years. As a result many people died and lost huge amount of resources. The Government is somehow managing the disasters of different scales and types with sporadic support of the world community, NGOs, Business community etc., but without any comprehensive effort. According to government standing order on disaster (SoD), Disaster Management Committees at local government level (District, Upazila and Union) are supposed to operational but experience indicates these do not function properly. There is no adequate knowledge of the DMC members regarding disaster preparedness and management, as well as there is no Government monitoring and follow-up system. Initiatives and uses of community based early warning systems, risk and resource mapping, contingency plans, community based preparedness and emergency preparedness systems are very limited at local government level. Therefore, the disaster prone people have no adequate knowledge on disaster preparedness and do not know how to get benefit from early warning systems, contingency plans and emergency preparedness. No sufficient measures prevail in the location to address the food insecurity, employment opportunities, and water, sanitation and health hygiene problems due to disaster. No voice is raised for taking rapid emergency management in the area from community based organizations, civil society organizations. No significant step is found from the policy makers for taking rapid emergency preparedness and disaster risk reduction measures. At the community level there is no platform of the community people to collectively work for disaster risk reduction. No comprehensive action plan is still implemented in the area incorporating all section of

the society in order to reduce the disaster vulnerability of the area. No demand is also raised from the community to government for formulation shrimp culture policy as well as its' implementation in the region.

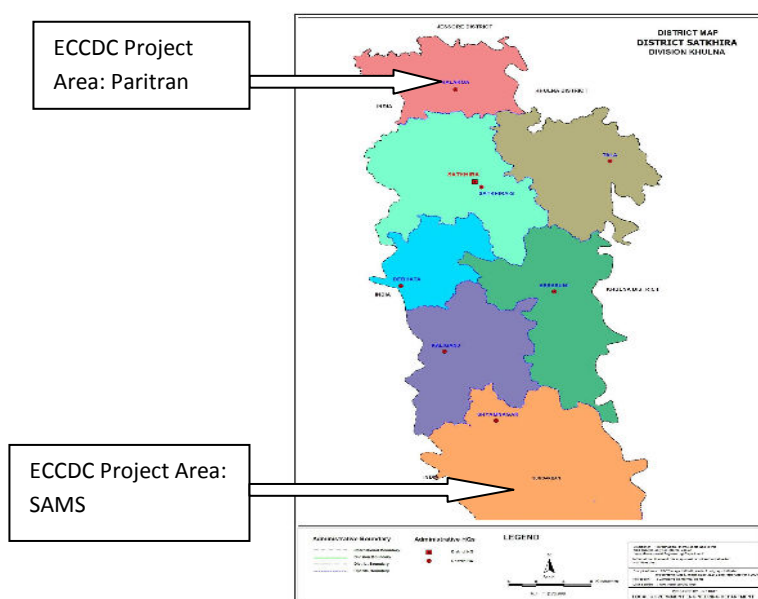
The project area consisted of Tala, Satkhira Sadar and Shaymnagar Upazila are situated in the coastline of the Bay of Bengal. Due to sea level rise and other manmade reasons saline water enter into the country side daily two times during high tide. Salinity in the soil is increasing the area due to saline water enter into the locality through the channel network and farmers are entering saline water from cannel with a view shrimp cultivation which is creating water logging in the area. So crop lands are gradually decreasing as well as hamper crop production. Due to excessive salinity in the soil fruits production like coconut, battle nut is declining, some trees are losing their existence. Salinity problems are gradually expanding due to following reasons in the area:

- a) Sea level rise due to climate change
- b) Riverbed and sea bed are heightening due to rapid land erosion and deforestation as well in the area.
- c) Reduce velocity of river water from the upstream
- d) Unplanned shrimp cultivation through making round polder for arresting water in the shrimp cultivated land.
- e) Weak polders, no embankments and dilapidated embankments due to some miscreants interests for shrimp cultivation
- f) Destroying Sundarban, para forest in the coastal area.
- g) High profit earning tendency through applying non scientific use of salt in shrimp land as a basal dose.

On the other hand due to excessive population growth, community people are burgeoning uses timber for fulfilling new demand housing construction and fuel purpose. The effect of deforestation, decreasing crop land and grazing land has been fallen in poultry and livestock production. So biodiversity and living diversity is decline in the area. Safe drinking water is serious problems in the area due to salinity in surface water and arsenic contamination in ground water. Fresh water fishes are being disappeared due to application of poisons, chemical fertilizer in the soil due to pond preparation of shrimp culture and crop cultivation. Increasing of less labor intensive shrimp cultivation, decreasing of crop production rural employment sectors is seriously disturbed. The productivity of cattle, chicken and ducks is drastically reduced due to shocks of disaster as well as insufficient food stuff. Roads are damaged and communication is disrupted. Smooth delivery of all existing services like food transportation, health and sanitation and education are grossly obstructed. The common symptoms of widespread poverty and economic misery are reflected in ill health and malnutrition, illiteracy and low school enrolment and low level of hygiene and sanitation practices. Surviving in extreme poverty and ignorance for years in remote areas, the people tends to generate a subculture of poverty characterized by pessimism, acceptances of the miserable condition of lives, sufferings and deprivations. The womenfolk, under the traditional patriarchy, suffer double deprivation in extreme economic distress and misery. Due to above mentioned all push factors people of the area is temporarily migrating to other part of the country for having employment opportunity. Cyclone and tidal bore make more complex the situation. However, following effects due to salinity are being furnished especially occupational communities, viz.-

- a) Fresh water crisis in the area
- b) Reducing crop lands alarmingly
- c) Reducing grazing land as well as reducing cattle rearing occupation in the area
- d) Loosing feasibility of tree plantation, flora and fauna, so it has been directly affecting to the occupations of the local inhabitants
- e) Durability of infrastructures is reducing
- f) Water borne diseases are alarmingly increase
- g) Children, pregnant and lactating mothers are suffering from malnutrition

- h) Public occupations are rapidly changing
- i) Seasonal migration is increasing
- j) Abolishing fresh water fishes
- k) Loosing bio diversity due to poor existence of flora and fauna
- l) Vegetables cultivation is gradually declining
- m) Traditional Mele cultivation, coconut productions are in stake.
- n) Dependency on mangrove forest is increasing
- o) Finally economic risks are alarmingly increasing.



Counting high risk profile of the area, Paritran is the local NGO of Sathkhira district, with financial assistance of The European Union (EU) under ‘SMALL INITIATIVES BY LOCAL INNOVATIVE NGOS’ (SMILING) Program, has implemented ECCDC Project The focus is on implementing project that reduced disaster vulnerabilities of the area work towards disaster preparedness, mitigation and prevention and to provide sustainable livelihoods solutions for the most vulnerable.

The ECDC project operated in the ---- unions under 2 Upazilas of South West Sathkhira district from May 2012 to December 2014. The ECDC project was implemented under the leading string of Paritran through an implementing partner (SAMS). Following pen picture shows the allocation union and Upazila as per partners:

SL. No	Upazilla	Union	Implementing NGO
1.	Sathkhira Sadar	Khesra, Jalalpur, Nagarghata, Labsa, Balambi, Fingri, Bramanrajpur, Dulihar.	Paitran

2.	SAMS	Shamnagar Sadar, Munshigonj, Ishawaripur, Burigoalini, Ramjan Nagar, Gabura, Padhapukur	SAMS
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Considering result indicators of log frame, the project was assessed against its log frame using evaluation criteria of impact, relevance, effectiveness, efficiency and sustainability.

B. Objectives of the Evaluation:

- Evaluate to which extent output, outcome and goal level project indicators have been achieved, assessing this in quantitative and qualitative terms, over time and comparing the project achievements with data at national and district level.
- During evaluating impact, pay special attention to change of awareness, knowledge, attitude and practices within target communities.
- Identify lessons learned and challenges (with possible solutions) and formulate actionable recommendations, which can be utilized to make Paritran and SAMS Vision work in the program area more effective.

C. Survey methodology: In brief methodologies of the study has included as:

- Searched literatures and reviewed by using a checklist in line with study objectives and scope. The study team has made every effort to collect and review all information relevant for the study.
- Prepared outlined for methodology and shared with the Paritran and SAMS
- Field visits, collection of primary data and its analysis in line with study objectives and scope
- Direct observation
- In-depth interview
- Participatory observation
- Assessment of the existing ECCDC situation
- Focused Group Discussions (FGDs) and Key Informants Interviews (KIIs) with relevant stakeholders
- Supervision and quality control and checks of data
- Conduct consultative workshop with the following groups by using a checklist
 - with relevant stakeholders and
 - beneficiaries of ECCDC
- Translation and sifting of qualitative data
- Coding
- Data entry to computer
- Data cleaning and consistencies checks
- Design and construction of frequencies tables: bi and multivariate
- Data Interpretation/Analysis: use of Excel program
- Present Draft Report to Paritran
- Incorporating comments, observations and suggestions in the report.
- Finalize the report and submission.

Planned Steps in line with the Study Rationale:

- A detailed report analyzing the strength and weakness with recommendations
- Results were analyzed and compared to the expected results based on key output indicators for the different components of the project.

- Project inputs (time scaling, human resource and financial resources) were compared to the project outputs
- Mainstreaming development learning in community based development programme was analyzed with the view of bottom up approach.
- Level of ownership and receptiveness of the concerned stakeholders was analyzed and formulated.
- Major lessons were drawn from global, in-depth analysis of the methodology itself and its real, tangible results for the people with cross cutting stakes like gender, disability and child issues and the community as a whole.
- Lessons learnt and tangible results were formulated and discussed with stakeholders in order to provide recommendations to Paritran and SAMS and target groups.

Rationale:

The broad objective of the survey is to validate results reported and to share analytical observations and recommendations.

The evaluation was carried out to assess:

Relevance of the project (i.e. appropriateness of the project in relation to the needs and situation in its context);

Efficiency of the project (i.e. availability and use of input, cost-effectiveness, timeliness);

Effectiveness of the project (i.e. the extent to which the project stated objectives are being achieved or can be achieved);

Impact of the project (i.e. analysis of lasting and/or significant change –positive or negative, intended or not – in people’s lives, brought about by a given action or a series of actions);

sustainability of the project (i.e. the likelihood of the project continuing after donor support)

C.1 Concept Mapping:

The study intended to have an overall understanding on requirement as well as possible or feasible measures for findings of effective implementation of development program undertaken by the Paritran & SAMS. The study team has reviewed the following documents

- Agreement between European Union and Paritran
- Sub Contract Scope of Work between the Paritran and SAMS
- Project Proposal and Concept Note
- Annual Plan of Operation of ECCDC
- Annual Reports, Mid Term Evaluation Reports
- Quarterly progress reports, monthly activity reports
- Success Stories drafted by project staff
- Baseline report of the project

Project Activity Records

- Training participant records and documentation
- Records of procurement of materials for beneficiaries, distribution records, reporting
- Photographs and videos

The study was given emphasis on both qualitative and quantitative approaches. Data was collected on the basis of following two sources:

i. Primary Sources: Household level respondents provided data on achievements as well as outcome of the project.

ii. Secondary Sources: The secondary data was collected through documents survey from various reports, booklets, planning documents and journals of various DRR reports both Government and non-government level.

Relevant secondary documents which are available in hard or soft form were studied within the given scope. On the basis of topographic, demographic, socio-economic, psycho-social characteristics, risk area characteristics in regard to hydro metrological and socio economic parameters were also conceptualized.

Document review and literature search were done relevant of the study, such as i) Project Proposal and concept note ii) Log Frame iii) Compile Annual Report iv) Project guidelines. Other relevant information was collected on the basis of ToR of the study.

C.2. Strategy:

The study intends to have an overall understanding on requirement as well as possible or feasible measures for findings of effective implementation of development program undertaken by the Paritrans-SAMS. The study was given emphasis on both qualitative and quantitative approaches.

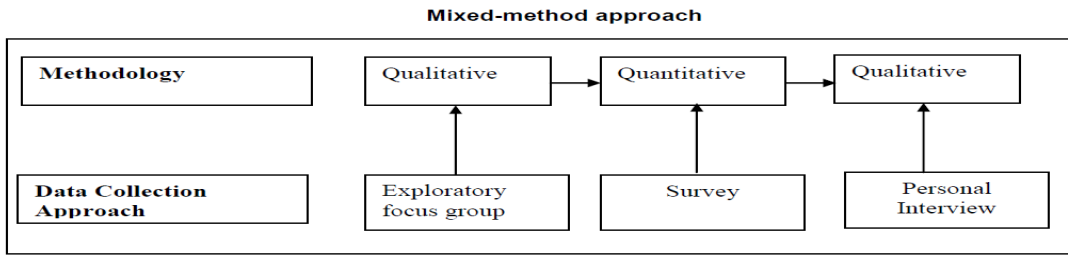
The data collection was done through the application of Rapid Assessment Methodology. The rapid assessment methodology has included review of literature, and records, interview of key informants, observation, and use of semi-structured questionnaire as the instruments for data collection. Data collection through literature review generally helps to compile the secondary sources of data. Through field visit and observations, a) Biophysical Data b) Socio-economic Data and c) Perception Data on DRR were also collected. The key informants were requested to provide information on livelihood assets at selected locations to the research team to verify the local knowledge base. Observations were made for understanding the nature and extend of livelihood activities as well as to allow for the identification of the difference between what the respondents reported and what they actually livelihood situation. Semi structured questions was geared towards the respective target group.

C.3. Parameters Selection/Revision and Instrument Preparation/Review Techniques:

Although project evaluation is supposed to like baseline and other Project Performance Management survey but it was revised or updated in the survey in consideration of evaluation principles like relevancy, efficiency, effectiveness, impact and sustainability of programmatic aspects. A threadbare review was done against result and purpose level OVIs at the time of preparation of the stakeholders. In this pre text a Logical framework has enclosed with the report, which were the basis of parameter selection for instrument preparation.

C.4. Methods and Data Collection Approach:

Both quantitative and qualitative data were collected through primary and secondary sources following methods of exploratory focus group, personal interview, opinion survey and other relevant techniques and tools as appropriate. Following pen picture has shown the process:



C.4.1. Data Collection Techniques:

The study team was prepared questionnaire and checklists for collecting data through vis à-vis interview. Both open ended and close-ended questions were used to solicit valuable opinions from the household representatives, key informants. However tools for the data collection were records, formats, questionnaire and checklist etc. Total data collection techniques are illustrated below:

Techniques/Methods	Descriptions/Process	Tools/Instruments
Using available information from secondary sources	Use of data that has already been collected by others	-Checklist -Data Compilation Form
Observing	Systematically selecting, watching and recording, behavior and characteristics of targeted population, objects or events.	-Eyes and Ears -Data Compilation Form
Interviewing	Oral questioning of respondents either individual or groups	-Interviewing Guide -Data Collection Forms
Administering Written Questions	Collecting data based on answers provided by respondents in written form	-Survey -Questionnaires
Conducting focus groups	Facilitating free discussions on specific topics with selected group of participants	-Checklist -Questionnaire

The team interviewed (in person) with key informants familiar with ECCDC project operations including staff of Paritran and SAMS and Staff of relevant private and Government. Data and information were collected through IDIs with ECCDC beneficiaries.

C.4.2: Orientation on Questionnaire and Checklist to Field Investigators

Data collection tools i.e. household questionnaires, topical outlines for Key Informant Interview and guidelines were prepared jointly by the entire team and were followed by a discussion and briefing on data collection ethics, understanding of the tools, quality control and management of the process of data collection. All the data collectors also attended a full day orientation session facilitated by the Consultant, which included rehearsal and mock sessions.

The Field Investigators were imparted training on:

- Background and objectives of the study
- Methodology of the study

- Interview techniques
- Establish rapport with government and non government officials and the beneficiary households
- Details of questionnaires, checklist and observation guidelines
- Drawing samples

The Field Coordinator and Managers checked all the completed schedules brought from the fields with the help of Field Investigators. Data were collected during the period 20th November'14 to 30th December'14

C.5. Output Mapping Technique:

Base of the output mapping is plan of operation, Gantt chart and log frame. With a view to measurement outputs, monitoring reports, mid-term evaluation reports and other periodic survey reports etc. were also reviewed.

C.5.1. Outcome Identification Steps:

- a) Outputs of the projects
- b) Outcome of the projects (Immediate consequences cum effects).
- c) Outcomes are making influences to life and livelihoods to the project participants.

C.5.2. Outcome Mapping Methods:

- a) Checklist,
- b) Matrices,
- c) Questioning
- d) Expert System,
- e) Professional Judgment

C.6. Sample Survey and Sample Frame:

Sample Size (n) was determined in Probabilistic ways with 95% confidence interval. The measuring unit is households. If the household number is N (> 50,000: Large Popn.), the sample size (n0) will be determined following way-

$$n_0 = \frac{z^2 pq}{w^2}$$

where z = Value of 95% Confidence Interval =1.96, p= probability of poverty incidence =0.315 (UNDP), q = probability of non incidence of poverty= 0.685, w = Margin of error, say 5% = 0.05.

$$(1.96)^2 \times 0.315 \times 0.685$$

Therefore, n0 = ----- = 331

$$(.05)^2$$

But ECCDC population size (N) < 50000 (small population), hence sample size (n)

$$N = n_0 / \{1 + (n_0 - 1) / N\} = 331 / \{1 + 330 / 15000\} = 322.$$

Unions will be considered as strata. Each union is considered as stratum. But sample size of the study is 322, which will be allocated by the following formula:

Total Sample Household Size (n)

n_i (Sample Size of Union) = ----- x Union's Household Size

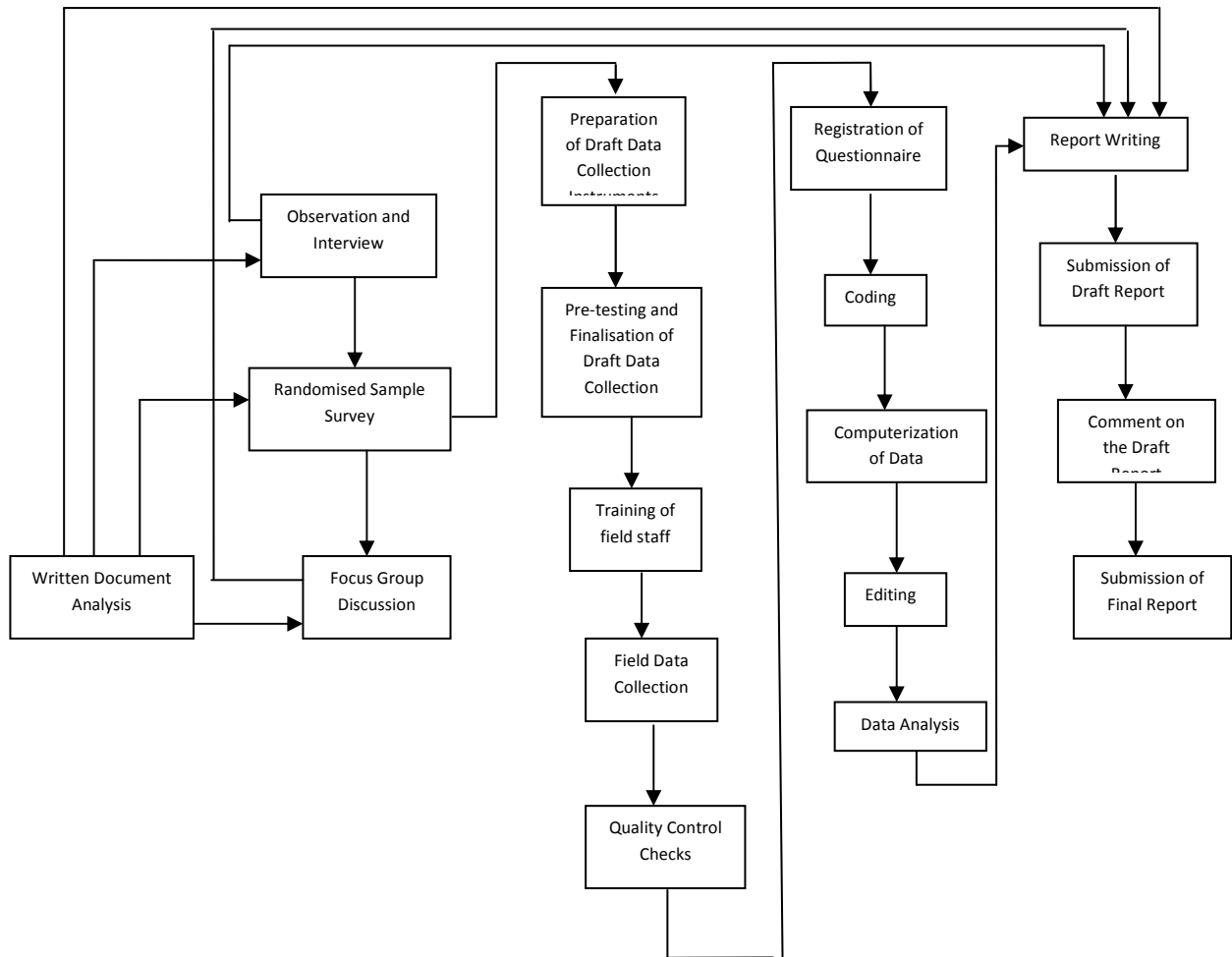
Total Population/Households (N)

Union and NGO Based Total Households and Total Sampled Households are as follows:

Sl. No	Name of Union	Total Households	Total Sampled Households	Remarks
1	Khesra	171	22	Paritran Area
2	Jalalpur	274	36	do
3	Nagar Ghata	245	32	do
4	Labsa	355	46	do
5	Balambi	162	21	do
6	Fingri	251	33	do
7	Brahmarajpur	357	46	do
8	Dulihar	118	15	do
9	Shamnagar Sadar	78	10	do
10	Munshigonj	78	10	SAMS Area
11	Ishawaripur	122	16	do
12	Burigoalini	85	11	do
13	Ramjan Nagar	119	15	do
14	Gabura	56	7	do
15	Padhapukur	57	8	do
	Total	2528	322	

Result based successes for beneficiaries were identified by purposive sampling as well as snow ball techniques at field level.

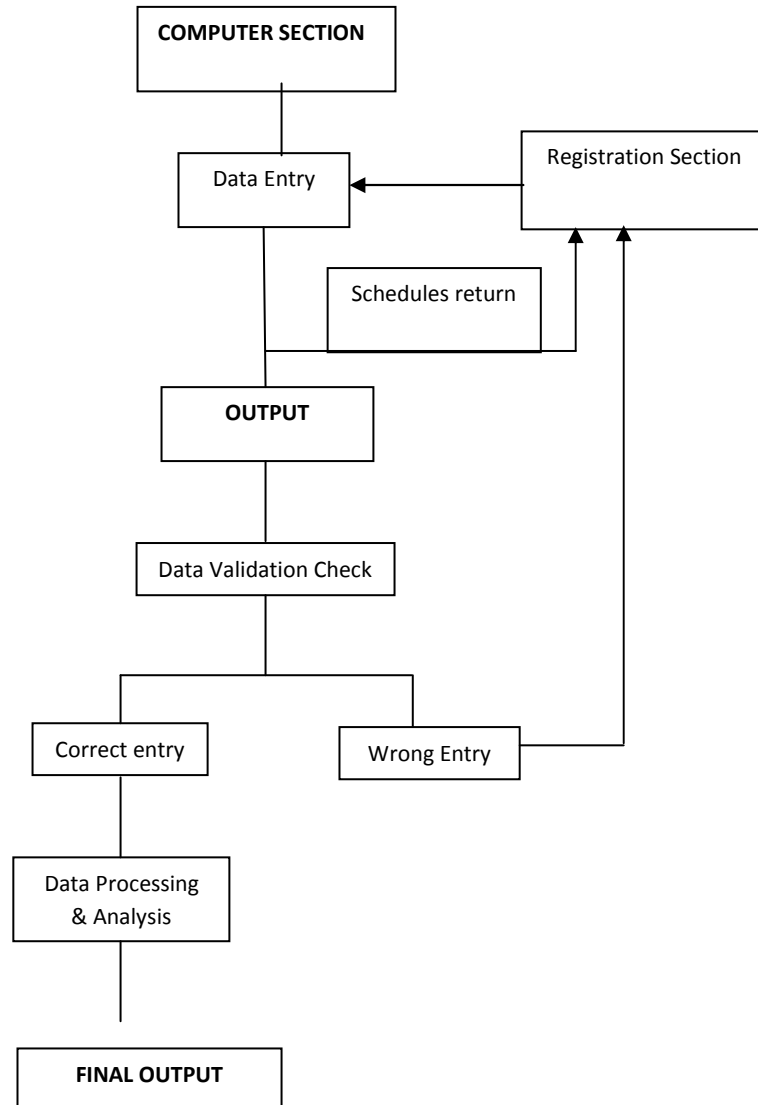
Study Implementation Process: Methodology At a Galance



D. Data Analysis:

At the time of questionnaire designing, data processing plan was formulated. Significant emphases were given on both qualitative and quantitative data.

A data collection tool (e.g. draft questionnaire) was also be field tested before final application. After receiving filled in questionnaires from the investigators, the study team was reviewed questionnaire and edited accordingly.



Then data from the questionnaire were tabulated properly with Excel software at office level. Descriptive statistics like measurement of central tendencies, measures of dispersions will also be applied, where possible, through relevant computer software.

The results were also be presented in multiple ways in the form of text, graphs and in a tabular form (as applicable).

Qualitative data was processed through classification, categorization, priority ranking and weights of the attributes.

Data interpretation techniques are illustrated below:

- a) Benchmarking: Compared and measured a process or activity against and internal or external sources
- b) Impact Analysis: measured changes on due to intervention of the project
- c) Pareto Analysis: Bar chart for categorizing issues or other attributes in terms of importance

E) Quality control and accommodating feedback:

Analyzing strength, weakness, opportunity and constrains of field work, many interesting issues or information come up, those were duly incorporated in the report through ensuring validity of the information. To ensure quality data, the following measures were taken:

- Training for data collectors and supervisors on ethics and method of data collection including best possible quality data collection and measures to minimize non-sampling errors;
- In-built mechanisms in the checklist/schedules to cross-check consistency of the responses;
- Probing techniques to ascertain the appropriateness/relevance and consistency of answers, and wherever necessary elaboration of answers;
- Close supervision of the work of the data collectors;
- Random check on the work of the data collectors;
- Edition of filled questionnaires every evening to find out the omissions, non-response, and irrelevant answers;
- Feedback by supervisors and solution to bottlenecks, as and when arisen.

F. Limitation of the Study:

- Emphasized on quantitative information which was collected by recall method respondents may forgot quantitative information, as they do not have document to produce transactions or any records.
- Secondary information was limited.
 - The data collection period was not adequate therefore the staff members had to hurry in filling up the formats which may constrain to achieve detail and in depth collection of qualitative information
 - The study could not cover all levels and stakeholders of the project
 - Political unrest hampered schedule of field work

G. Findings of the Study: Findings are two folds:

G.1) Quantitative Survey:

G.1.1) Relevancy:

The project is very much relevant to following international and national DRR and Climate Change drivers:

International	National
MDGs	National Flood 2004 Workshop Recommendations, PRSP
UNFCCC	Inter Costal Zone Management Plan
WCDR	Disaster Management Act 2012, SOD (Standing Order on Disaster)
SAARC Framework	NAPA (National Action Plan for Adaptation)
Hygo Framework of Action of ISDR.	BSCCAP (Bangladesh Strategy for Climate Change Action Plan)

On the other hand, the project was demand of time in consideration of risk profile of Sathkhira and Khulna district and supplementary initiative for “Inter costal Management Plan” in this region, undertaken by the government.

The project was successful in targeting the extreme poor and was relevant to the priorities of the extreme poor, and particularly of women. The objective of trying to ensure access to sustainable services was particularly relevant in the distant Sundarban context comprising with networks of many rivers.

The log frame was accurately valued the importance of capacity building and organizational development at a community level which was very much context oriented in order to be able to make best use of the three project results and also to be able to continue to demand and sustain the services after the project ended. In practice however, the project invested significant energy in building this capacity and institutionalization, this was very successful.

According to log frame the project was successfully address the capacity building of target groups of the area like government officials, other NGO officials, extension group on “Disaster Risk Reduction”, on the basis of discussion and field level initiatives by them the evaluation team have found noticeable changes in the target group especially to include DRR in their service oriented activities. For example it is mentioned here that the Department of Agriculture Extension, Livestock Department and Department of Fisheries have given to provide priority to disaster victims for their service delivery, i.e., farmers selection cum knowledge dissemination, input distribution, mentoring services, market linkage and other their value chain activities.

In the disaster risk reduction process especially in livelihood security of the area, the project was capacitated vulnerable communities, which found very significant measures, which were addressed successfully needs of the community.

G.1.2: Respondent profession and Experience of Disasters:

It is necessary also to know the profession and disaster experience of respondents. Therefore an attempt has made to know the profession and experience of disaster of the respondent, following matrix has furnished the study findings on that:

Table-1: Distribution of Respondent Household Profession and Experienced Disaster During Last 5 years.

Union	Total Sampled HHs	Profession for HHs					Experienced Disaster during last 5 year										
		a	b	c	d	e	1	2	3	4	5	6	7	8	9	10	11
Khesra	22	3	0	3	0	16	4	0	1	3	8	0	0	0	6	0	0
Jalalpur	36	3	2	20	1	10	2	1	21	0	0	0	14	0	0	0	0
Nagar Ghata	32	0	0	32	0	0	3	0	0	0	0	29	0	0	0	0	0
Labsa	46	0	0	44	1	1	0	0	0	0	0	48	0	0	0	0	0
Balambi	21	0	0	21	0	0	0	0	0	0	0	21	0	0	0	0	0
Fingri	33	0	0	33	0	0	3	28	0	0	0	0	0	0	0	2	0
Brahmarajpur	46	0	0	42	3	1	1	45	0	0	0	0	0	0	0	0	0
Dulihar	15	1	1	11	0	1	1	0	0	0	0	0	0	12	0	2	0
Shamnagar Sadar	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	2	0
Munshigonj	10	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	10
Ishawaripur	16	1	3	10	0	2	0	0	0	0	0	0	0	0	0	4	9
Burigoalini	11	1	2	3	0	5	0	0	0	0	0	0	0	0	0	1	10
Ramjan Nagar	15	0	0	14	0	1	0	0	0	0	0	0	0	0	15	0	0
Gabura	7	0	0	4	0	3	0	0	0	0	0	0	0	0	7	0	0
Padhapukur	8	0	0	0	0	8	3	0	0	0	0	0	0	0	5	0	0
Total	322	12	10	247	5	53	17	74	22	3	9	98	22	12	33	11	29
%		4	3	76	2	15	5	23	7	1	2	30	7	3	10	3	9

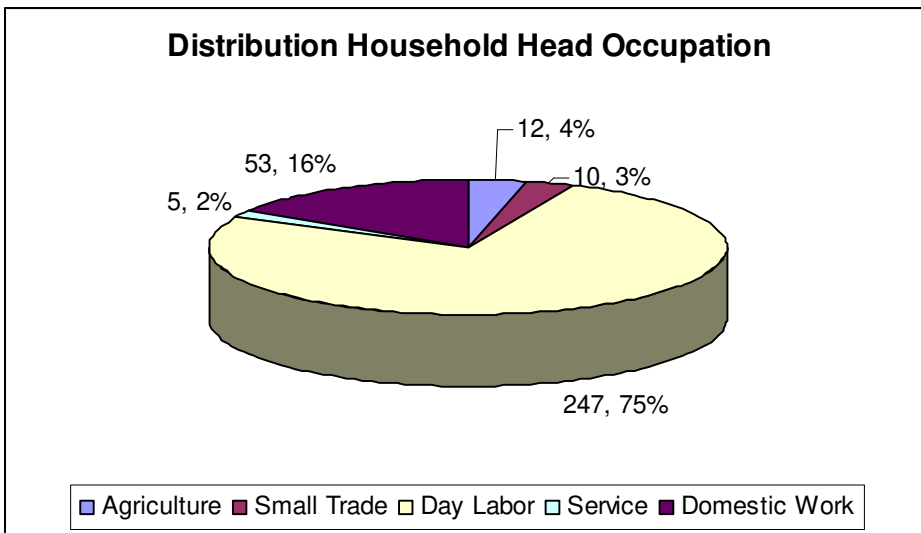
Distribution of Respondent Household Profession and Experienced Disaster During Last 5 years.

Profession: a= Agriculture, b = Small Business, c = day labor, d = service, e = domestic work and others

Disaster Experienced: 1 = Flood, 2 = Flood + Cyclone, 3 = Flood + Water Logging, 4 = Flood+ + Water logging + Salinity, 5 = Flood + Salinity, 6= Riverbank Erosion+ Salinity+ Cyclone+ Water Logging, 8= Riverbank Erosion + Flood , 9 = Flood + Cyclone + Salinity, 10 = Cyclone, 11 = Flood+Cyclone+Riverbank Erosion

The above table shows that day labor belongs highest frequency 247 (76%) is the main occupation of the respondents of which they are landless, marginal farmers. Next highest profession is domestic work belonging frequency 53 (15%) of the respondents' group. Rest of the occupations is agriculture with frequency 12 (4%), small business holds 10 (3%) and services belongs 5 (2%).

Graphical representation of respondent professions has shown below:



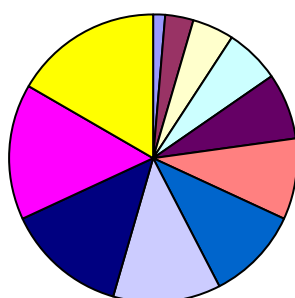
The above distribution indicates clearly that beneficiary selection was quite relevant under the project.

Experienced of Disasters by the Respondent during last 5 years:

Disaster Experienced: 1 = Flood, 2 = Flood + Cyclone, 3 = Flood + Water Logging, 4 = Flood+ + Water logging + Salinity, 5 = Flood + Salinity, 6= Riverbank Erosion+ Salinity+ Cyclone+ Water Logging, 8= Riverbank Erosion + Flood , 9 = Flood + Cyclone + Salinity, 10 = Cyclone, 11 = Flood+Cyclone+Riverbank Erosion

It is seen in the above table 5% , 23%, 7%, 1%, 2%, 30%, 7%, 3%, 10%, 3% and 9% respondents were experienced disasters, like flood, flood + cyclone, flood + water Logging, flood+ + water logging + salinity, flood + salinity, riverbank erosion+ salinity+ cyclone+ water Logging, riverbank erosion + flood , flood + cyclone + salinity, cyclone, flood+cyclone+riverbank erosion. Analysis has pointed out maximum respondents were suffered from flood + water logging + cyclone + salinity, then second highest disaster was flood + cyclone and next place was recorded for flood + cyclone + salinity. It has furnished in the graphical representation as follows:

Distrubution of Respondents' Disaster Experince in last 5 year



Where, 1 = Flood, 2 = Flood + Cyclone, 3 = Flood + Water Logging, 4 = Flood+ + Water logging + Salinity, 5 = Flood + Salinity, 6= Riverbank Erosion+ Salinity+ Cyclone+ Water Logging, 8= Riverbank Erosion + Flood , 9 = Flood + Cyclone + Salinity, 10 = Cyclone, 11 = Flood+Cyclone+Riverbank Erosion.

According respondents maximum persons experienced from multi hazards. According to frequencies and percentile measurement, maximum respondent experienced Riverbank Erosion+ Salinity+ Cyclone+ Water Logging, which reflects reality of the area as well as appropriateness of disaster vulnerability of the communities.

Based on the opinion of community, following pen pictures has shown effect of disasters:

Upazila Name and District	Effects of disasters			
	Flood and Water Logging	Riverbank Erosion	Drought	Cyclone and Salinity
Tala Upazila of Sathkhira District, Dacope Upazila of Khulna district	- Food Insecurity (crop damage) -Health Effect -Shocks, poultry, livestock, fisheries damage -Housing damage -Working Hour - Communication disruptions	-Displacement of people -Mobility Increase -Food Insecurity -Property loss -Housing damage -Health Status etc.	- Food Insecurity (crop damage) -Health Effect - poultry, livestock, fisheries damage -Working Hour - Water scarcity	- Health effect -Crop Damage -Hamper crop production -Habitat loss -Damages flora and funa -Fishery, Poultry and livestock damage. -Working Hour.

Above tables indicate that the project was very much relevant to the area in regard to needs and constraints of community people, no doubt.

G.1.3 Relevancy with Cross Cutting Issues:

Gender: The project was provided training gender equity at project personnel level. Through the training the project staff gained knowledge on the issues like concept of Gender & sex, gender roles & needs, women empowerment, understanding the Inclusion and Exclusion- concepts, practices, consequences etc. and finally applying the knowledge in the field updating in CG's disaster risk reduction action plans with respect to gender and inclusion.

Effect and Impact of the Training: Effect of the gender equity has found in guideline preparation, implementation, decision making and resource distribution level.

Disability: Disability issues were incorporated in the DRR training modules, knowledge on different types of disabilities were imparted to project personnel and CG's leaders. It was considered duly disability issues in messages formulation for IEC/BCC materials. It was observed that public attitudes are being changed about the persons with disabilities in the society.

Dalit, Un touched and ethnic minority like Munda: In the beneficiary selection criteria and group formation (CG), both the implementing authorities namely Paritran and SAMS were attentive to select their targeted beneficiaries through criteria selection. Profession (Table-1) indicates clearly that all are either dalits, untouched (Nikari, Sikari, Chunari, Bowali, Mouali, cobbler, barber, Hajom, sweeper etc.), ethnic minority namely Munda. The sensitive issue like Dalit, Un touched and ethnic minority like Munda was incorporated their training module, IEC/BCC material preparation and public awareness program, those initiatives were relevant in the context of the area.

Child Issues: Child issues were addressed in training modules on DRR with key messages; those were imparted to project personnel and CG's leaders. It was widely considered child issues in IEC/BCC materials formulation and dissemination of messages. Especially "Dos and Don's for Children in emergency situation" were disseminated widely to community. Knowledge and skills on nutritional status of children was considered in crop diversification system. Community received sound knowledge on nutritional status through cooking cum demonstrations of diversified foods. It has been observed that public attitudes are changing on nutritional food for children with minimum costs.

WATSAN Issues: Particularly in the project area water and sanitation are acute problems for disaster risk reduction and emergency management. All the issues related with WATSAN were discussed thread barely in the training module considering emergency situation. In the formulation of messages for IEC/BCC materials WATSAN issues were considered with priority basis. In the social media like folk songs, street drama and courtyard meeting WATSAN issues were incorporated. Now community behaviors on WATSAN were found satisfactory level.

G.1.2) Efficiency:

With a view to measures efficiency two steps of measurement were taken, such as:

- I) Comparison of Budget and Expenditure:
- II) Comparison of planning time and implementation time

I) Comparison of Budget and Expenditure:

In order to compare budget and expenditure following activities from 3 results were selected and put symbol a, b, c, d, e, f for graphical representation as follows:

a= Workshop with UDMC, CBOs, ECOs (Result-1)

b = Court yard meeting for disseminating knowledge and skills. (Result-1)

c= Training for member of LG, CBOs, & ECOs in search as well as rescue techniques, first aid skills, early warning system (Result-2)

d= Training on volunteerism development (Result-3).

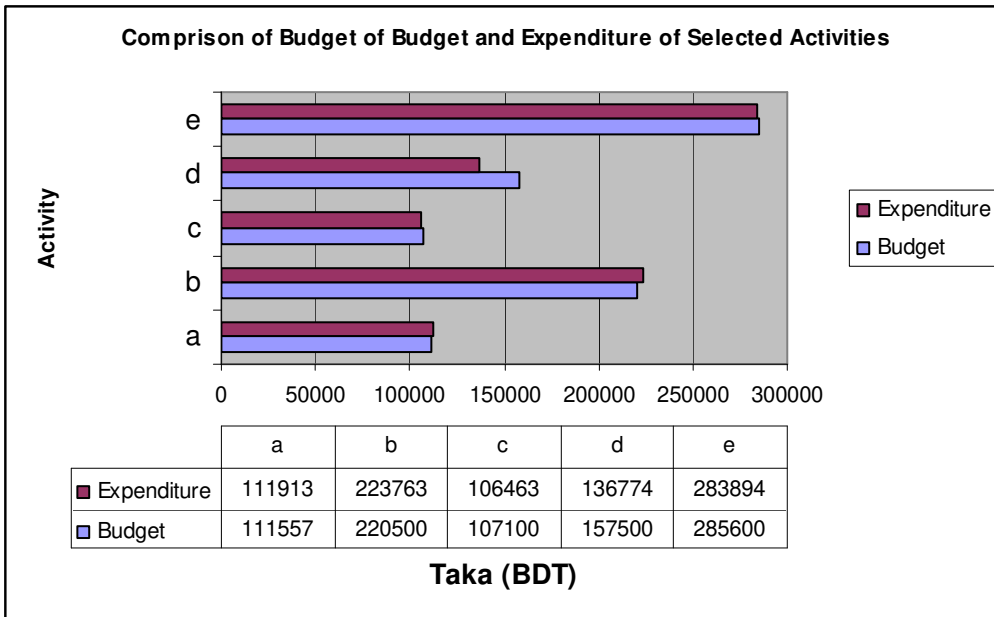
e= Training on (Disaster preparedness management, Advocacy and partnership building, Mobilization, Leadership and group management.) (Result-4)

Name of Activity	Target	Achievement	Remarks
a	15	15	100%
b	4200	4200	100%
c	03	03	100%
d	15	15	100%
e	08	08	

The above table shows that selected activities were accomplished 100% in comparison of target and achievement.

Name of Activity	Budget	Expenditure	Remarks
a	111557	111913	Little bit more than budget
b	220500	223763	do
c	107100	106463	Less than budgeted amount
d	157500	136774	Less than budgeted amount
e	285600	283894	do

Comparison of budget and expenditure has shown below in the graphical representation:



The above table shows that budgeted and expenditure amount are almost homogenous. Therefore, it is done undoubtedly efficient manners.

II) Comparison of planning time and implementation time:

In regard to managerial efficiency, timing is the most important factors. An attempt was taken for time efficiency for the project in consideration of above mentioned 6 activities symbolically a b c d e f. The following table shows the activity based time for planning and time for implementation:

Estimated period & Executed period for	a	b	c	d	e
Planning	July To August/12	August/12 to December/14	September/12 & May To October/14	November, December/12, & April/13	August/12, December/12, & April/13
Implementation	April 13 to April 2014	August/12 to December/14	April/13, September & October/14	April/13 to December/14	October/14 To November/14
Remarks	Less Efficient	Efficient	Efficient	Efficient	Most Efficient

With a view to concluding remarks 3 likelihood parameters are defined in consideration of planning and implementation viz., **Most Efficient** = i) Name of month (s) are same ii) Calculated duration and implementation duration are same and **Efficient** = i) Name of month (s) are not same but ii)

Calculated duration and implementation duration are same and **Less Efficient** = i) Name of month (s) are not same ii) Calculated duration and implementation duration are not same.

In consideration of above likelihood scale, above mentioned sampled 6 activities were planned and implemented in “**Most Efficiently**” in 2, and rest 4 activities were planned and implemented “**Efficiently**”.

G.1.3) Effectiveness/Outcome and Impact:

Two types of measurements were used for effectiveness viz. a) Quantitative Finding b) Qualitative findings:

G.1.3.1 Quantitative Findings:

Result Chain: The result chain is stepped as Output (Like to see) → Outcome (Love to see) → Impact (Dream to see). Maximum output bring forth from activity. Therefore following table has furnished the synopsis list of the project:

Synopsis on all year Target and Achievements

Sl. No.	Name of Activities	All Year Target	All Year Achievement / Outputs
1	Training on Project Implementation Plan (PIP), Staff orientation	03	02
2	Training on M & E System Development, Logical framework review	03	02
3	Training on Financial Management, Office management, Communication & Facilitation	06	01
4	Establishment of bill board	08	08
5	Sticker	15000	15000
6	Posters, Booklet	6000	6000
7	Leaflet	30000	30000
8	Development Ward Disaster Management Committee	45	45
9	Organize Community group	75	75
10	Project launching meeting at Upzala level	02	02
11	Project launching meeting at Union level	15	15
12	Court yard meeting (Total 75 group)	4200	4200
13	Video Documentary Shows	60	40
14	Workshop with UDMC, CBOs, ECOs	15	15
15	Social Mobilization	03	03
16	Court yard Training	90	90
17	Mass awareness campaign through interactive Drama	180	180
18	Video Documentary Making cost	1	01
19	Livestock training for dalits groups	02	02

Sl. No.	Name of Activities	All Year Target	All Year Achievement / Outputs
20	Training on tailoring for disadvantage including Dalits & Indigenous woman	02	02
21	Vegetable seed cultivation among community yard by community initiative	270	270
22	Networking meeting with Govt. CBOs, ECOs & Volunteer group	15	15
23	Coordination meeting with WDMC, community group and volunteer group	150	150
24	Training for member of LG, CBOs, & ECOs in search as well as rescue techniques, first aid skills, early warning system	03	03
25	Training on disaster risk management, roles and responsibility of DMC, CBOs, ECOs, CSOs	03	03
26	Dialogue meeting with LGs, Govt. & Non Govt. Community	12	12
27	Advocacy meeting With local govt. & administration to sustainable environment development	02	02
28	Volunteer group formation in each three ward	45	45
29	Training on volunteerism development	15	15
30	Materials for mobile information center	135	135
31	Social information fair to share the technology of increasing agricultural production, saline tolerant crop, environment friendly shrimp cultivation etc.	01	01
32	Discussion meeting with Govt. officials, including UDMC, DPHE, CBO and others are regarding Right to information.	03	03
33	Training on (Disaster preparedness management, Advocacy and partnership building, Mobilization, Leadership and group management.)	08	08

On the basis of qualitative survey with stakeholders, followings changes have noticed in the project area, viz.-

- i) Increased awareness on DRR
- ii) Reduction of lifting saline water in the paddy land
- ii) Increase community practice on tree plantation and vegetable cultivation
- iv) Increase cultivation of fresh water fish instead of shrimp culture
- vi) Sensitize about protection of para forest near to embankment
- vii) Community looks as watch dog for activities of Water Development Board
- viii) People monitor water flow through sluice gate for controlling salinity
- ix) Prevails noticeable captiousness on Early Warning on cyclone among community people
- x) Good tie has established between community and UDMC, WDMC, CGs are participating in ADP (Annual Development Plan) formulation and budget formulation.
- xi) Knowledge on preparedness, adaptation, early warning system has been increased and found skills on adaptation practices
- xii) Some good practices on safe drinking water were noticed in the area.
- xiii) Most of the poor people have anticipatory knowledge and experiential learning about existing hazards and vulnerabilities. Climate change impacts are posing new dimension in existing hazard portfolio and creating lot more uncertainty to the poor people. Therefore villagers get opportunities to exchange their views through CGs. The output has multiplier effect as this are directly contributing people in reducing their sense of hopelessness.

- xiv)) People have long experience to cope with natural disasters and by the way they have developed local coping mechanism. The essence of the effort is to strengthen the local coping mechanism through capacity building support to scale up certain disaster management practices; early warning dissemination, evacuation, search and rescue, uses of first aid in emergency response, shelter and emergency relief distribution. During emergency, water borne diseases spread fast, as whole community become exposed to the floods, water logging and cyclone. The capacity of emergency response therefore important and very matured when recurrent flood, cyclone prediction is true.
- xv) The people do not have information and knowledge about future dimension of hazards and vulnerabilities. The ability of autonomous adaptation might lose due to over exposure of floods and cyclones. Now grassroots villagers get opportunity to contribute in these areas through CG's meeting.
- xvi) Skill development training on IGAs ensured economic empowerment of the community.
- xvii) Group approach has created "we feeling" "Ownership feeling" and "voice raising capacity" among community people.

G.2. Qualitative Survey:

a) Household Preparedness:

a.1) Food Preservation: Maximum respondents opined that they preserve flatten rice, molasses, dry foods etc. Women play vital role for food preservation but men assist in maximum cases.

a.2) Fuel: In case of fuel they are used to preserve wood, dry hay, dry leaves, dry grass and creepers etc. Women made dry rounded cow dung, dried cow dung with stick, flatten cow dung with the mixture of hay/ dry paddy plants in the dry seasons, preserve for fuel preparedness during floods and riverbank erosion. Sometimes they uses portable mud burner, which is made by the women of the households. Both men and women played vital role for fuel preservation.

a.3) Drinking Water: Maximum participants opined they are used to habituate for tube well water. Women play vital role for drinking water collection and preservation. When flood waters inundates platforms of the tube well, they use extra pipe for tube well, and extract out flood waters, then they use this water for drinking purpose during flood, sometimes they use water purification tablets if available to them. In few cases, they have collected water from far distance safe area with rented in rickshaw van, during Aila. In the dry season, some households are used deep tube well water for drinking purpose, operating for irrigation purpose.

a.4) Child Protection and Women Issues: Mothers play vital role for child protection measures but ORS, dry food and warm cloths are collected by men. During normal time they use different types of vaccination to the children.

a.5) Old, Disables, Socially Disadvantaged Community and Early Warning: Maximum respondents opined that they are not financially solvent for purchasing and using devices and other relevant logistics for old persons and disables. But physical and vision handicapped people use stick, made by local thin bamboo or thin dry stick for movement..

a.6) Sanitation and Defecation Management during Water logging, Cyclone, Floods:

In the household level it is very difficult to manage the defecation in broad day light especially for women and older people, if household latrine goes under water. In this situation they use big pots for defecation and dumps to far away from households. During these types of disasters, it is heard sometimes snake biting to use high bush area for defecation. So defecation is also difficult during inundation of latrine. In normal time some cautious people raise their household latrine in consideration of highest flood level.

a.7) Transportation System:

- Measures taken for emergency transport as bicycle, rickshaw, motor cycle, rickshaw van, motorized van in the road communication system
- Uses of stretchers, locally made stretchers for transportation in emergency, uses of cloths for covering distress people protection from rains, heats, sometimes community people uses umbrella to protect disaster victims from heats and rain.
- Manages of boat and mechanized boat
- Manages of banana trees and floats of banana trees.

a.8) Power Utilization and Information Management: There is coverage of power supply of Rural Electrification Board in some area, but power supply disrupts during disaster community people have solar unit, where it is found TV. But maximum TVs are operated by the solar power and even mobile phone sets are also charged through solar power. Sometimes it is used microphone of the local mosques are used for public communication.

b) Awareness Issues:

i) Awareness Message Dissemination: Maximum respondents opined that due to rough and tough communication government officials visit their area rarely and on the other hand poor coverage of NGO interventions in maximum area. So the maximum community people have poor experienced on awareness issues both from government and NGO sides as well.

ii) Copping Mechanisms against Disasters: Community respondents opined that they have different coping mechanisms against different hazards. They can adopt coping mechanisms by heredity, learning by doing, community experience, observations, success stories, benefit sharing etc.

c) Indigenous Copping Mechanisms:

c.1) Indigenous Early Warning against different hazards:

Community can understands about impending hazards with analysis of following symptom like-

- wind direction,
- air temperature and temperature of river water,
- river water wave and wave sound
- color of cloud,
- appearance of sun and moon
- appearance of rainbow
- Soil condition of riverbank and hilly area
- Appearance of vegetation particularly leaf
- Abnormal sound of wild animal, and
- Behavior of certain bird species.

Early Warning: Maximum household respondents opined that there is no official early warning dissemination system to the community but sometimes they were informed about early warning by the community volunteers now due to project interventions. They use warning system for old and PWDs through community volunteers as follows:

Disability	Warning (Using by Community Volunteers)	Caring Techniques during Flood, Water Logging, Cyclone, cold waves
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Vision and Old Person, who watching power is limited	-Warning system with high sound e.g.- Ringing the bell. -Campaign	-Put them in dry place - Wear them with warm cloths, covered with local quilts - Arranges lamp, light for them
Listening	- Uses for pictorial display -Put on and off light frequently.	- try arrange local device for them as per their needs and types of inactiveness
Intellectual	-Special warning like use of red flag	
Physical	-Campaign.	-Make separate queue for them to provide government services/ NGO services to them -Provide priority to them to use latrine -Provide priority to them for their food, diet and doctors advices and other emergency issues.

Socially Disadvantaged Community: Warning messages are being disseminated using their mother tongue. Community based organization (CBO) plays good role for warning messages campaign. Dalits and Munda community are not acceptable to the mainstream community, so volunteers groups were developed within the community following equal sex ratio.

Copping with Flood:

Flash flood is a quickly occurring hazard which does not often permit any lead time to prepare. Therefore, it causes physical injuries and risk of drowning. In absence of any form of warning, women rely on traditional knowledge (physical observation). As flash flood is a quick incidence, people do not get enough time for preparation and as a result in the flash flood prone areas people develop different types of self protective mechanism. For example, women generally tie up empty plastic bottles on the body of their children so that they can survive in case of falling into the water. Flash flood deteriorates sanitary condition and in such circumstances women have to face difficulties. They generally defecate at night in open water with great risk of insecurity and health vulnerability. To maintain the food security in flash floods, many women sell their poultry, cows/bullocks, and small livestock and also borrow money from relatives in case of emergencies such as diseases of children etc. In the flash flood prone areas, women generally follow the coping mechanism such as preservation of dry foods such as 'muri', 'chira', 'kholi' etc underneath their roof with polythene, preservation of fuel wood in the same way etc. In many households, women sell their trees in emergencies for the survival of the family.

It was informed that simple tactics like holding onto to trees, looking for comparatively more dependable places like high areas and polders, using floating items such as timbers, roofs of thatched houses, straw piles and bunches of banana trees are the spontaneous survival strategies. The survivors of mightiest flash flood informed that the self-protection instinct dominated their immediate responses. The post-disaster coping depicts a diametrically opposite picture of community and group cohesiveness, together with the altruism of the surge-battered people. The victims were reported to have survived by eating stems of roots and edible plants before arrival of outside relief. For drinking water, the survivors collected rainwater that is not very difficult to obtain as all flash floods are always succeeded by rain for several hours. As regard minor injuries, fever and diarrhoea the people use herbs and other local substances. Nevertheless, major injuries remain unattended till Medicare services are received from government and non-government sources.

Coping with Drought:

Not many options are available or practiced to cope with a drought situation. Usually in a drought condition, it is widely accepted that agriculture production and livestock suffer the most. But the sufferings of women, their hardship and initiatives to combat the situation are hardly recognized. The most observed survival mechanism is to sell the mere assets that women own, such as, gold, poultry (chicken, ducks, goats etc.), as price hike of essentials is very common in this situation. Often they are compelled to sell these at a lower price. Drinking water crisis during drought, gives women enormous extra burden adding to their miseries. As women are the sole responsible to collect water for the family, as designed by the gender based role in the society, women have to take extra burden and effort to fetch water in this water crisis condition. They have to walk a long way to find a tube well where water level supports water supply adequately. Sometimes women take part in pre harvest and post harvest activities. They collect and preserve seeds for next cultivation. Women try different types of vegetables for their courtyard production which are moderately drought tolerant. Drought tolerant rice is being practiced now.

Community opined also followings techniques:

a) They construct house with fences and roof made of hilly long grass or hay, which can protect heat wind and keep cool inside b) They keep open doors and windows of the house for easy air circulation. c) Some people keep water in a big cauldron along widow side over the floor of the house, which keep cool inside the house. d) People assemble under the shade of trees to get some relief. e) Take baths several times in a day. f) Drink squash with the mix of banana, lemon, papaya and wood apple for minimizing heat inside the body. g) They plant trees considering soil feasibility of the area-which keep cool environment in the area. i) use herbal medicine in duodenal diseases during summer j) some people eat tomato soup to get relief from heat. k) Farmer use bamboo made hat over the head to get shadow in the hot sunny days.

Coping with River Bank Erosion:

Out migration is the only coping when river bank erosion takes place. This is a phenomenon which takes away almost everything from the affected dwellers. People affected by riverbank erosion have reported that they do not even have the incentive to plant trees for future security as they know their fate. This is a real disaster for the whole of the affected community which leaves nothing but widespread waterbed. The destitute people take shelters on the near by embankments or adjacent *khas* lands. As a result the families, especially young women face enormous harassment and insecurity. Often the male members of the family go to big cities for employment leaving their families almost in an unbearable situation. In FGDs, it is reported that many male members leave their families forever. In the areas where river bank erosion is acute and common, women headed households are very common as husbands go outside the area for employment and never come back and take the responsibility of the poor family. Young women sometimes are compelled to go for garments industries without having any other alternative income generating activities to survive in the area. Still people constantly try to cope with the adversities. They build the houses in a manner that they can easily pack it into parts and shift it to the safer place.

In order to save themselves from the hazard, they take generally following measures: a) they put bush, plants with more branches into water flow to reduce velocity of water. b) They plant deep-rooted tree also for soil erosion protection. c) At the edge of the river they drive bamboo pole into riverbed with fencing for reduction of water velocity near the bank of the river. d) They construct houses in such a way that which can be easily disbanded as well as replaced to other place in short time during emergency.

Copping with Cold Wave: They want to cope with the situation in using the following techniques: a) they construct house with fences and roof made of *Kashia* (long grass) or hay, which can protect cold wind and keep warm inside the house. b) Preserve warm extra cloths and quilts. c) Cover cattle with gunny bags and cover also with torn sack the shed of domestic birds. d) Maximum people get heat from mud burner with spreading hands over the burner in cooking time. e) They collect straw, hay and burn it in open space; many people assemble there and get heat. f) They fill husk with fire into earth made cauldron/pan and put under the bedstead for hitting the room. g) Cover also seedbed by polythin sheet for protection of seedlings h) now a day they use lime over the pond water to increase temperature of water for saving of fish life. i) Rich and middle class people eat hotchpotch through well cooking and get warm inside the body.

Copping with Fire: Fire is also big disaster in the rural Bangladesh as well as north east part of the country. People adopt many techniques for protection from the disaster in the following ways: a) Women plaster fence of the kitchen with clay b) They refrain from cooking in the open space, if women cook in the open space they make fence round cooking area with old cloths like **Sharee** in such a way that wind can not make any problem during cooking period. c) After cooking, they cover mud burner with mud made pan. d) They exchange fire through local lantern for set up fire into the burner with covering the cloths against the wind speed in such a way that wind speed does not wipe out and for not spreading fire round. e) Neighbours come forward with full of water into bucket, cauldron, jar and pan to extinguish fire. h) Some time they cut down the bamboo and grass made roof to the adjacent house for saving from fire of the neighbour. i) People cover the roof with water mixing quilt and sacks in such a way that fire cannot spread to other houses. j) People cut down roof of the cattle shed for the animals to escape during fire.

Copping with Tornado and nor'wester: Community people try to cope with the devastating hazards:

- Bamboo/wood pillars and fence of the house tie crossed way in the mud with strong wire and hard pool.
- main switch has shut down of power supply, where applicable
- they plant hard trees around the house
- they take shelter hurray and lie down under bedstead or low lying area
- transports, land and water, have stopped their engine
- they clean the road through moving fallen tree branches and other obstacles
- take assistance from civil defense
- They bury the dead bodies as soon as possible.

c.9) Salinity, Soil and Agriculture: Indigenous Practice

- a) Keeping fresh rain water into land area for long time, salinity can not high over top soil in the wet situation.
- b) Farmers use organic manure over the soil for keeping soil moisture long time
- c) Farmers use green manure over soil for keeping soil moisture for long time
- d) Inter cropping is widely used for reducing evaporation from soil
- e) Farmers cultivate sesame, water melon, pumpkin, bitter gourd, ladies fingers and other salient tolerant crops for reducing evaporation in the soil.
- f) Social forestry, agro forestry, homestead plantation become popular in the area
- g) Notice change in tilling system in the area
- h) Community awareness become high, they are participating in sluice gate management, keep vigilant eye for entering brackish water inside community.
- i) Crop rotation techniques are used against salinity, adopts saline tolerance paddy for cultivation.

Salinity and Homestead Protection:

- a) Raised homestead considering highest tidal water level, plastering homestead with paddy husks against soil erosion.
- b) Plastering fence of the house with mixture of cow dung, husks and clay against salinity, especially poor families
- c) Using newly discovered saline protected cement by rich persons for protection of walls.

Salinity and Drinking Water:

- a) Poor people collect drinking water collectively from pond of distant area through paying van rents
- b) Somebody are using drinking water by “Farm Pond” technology, Water is being lifted by solar power from pond to over head tank, supplies to poor households
- c) Somebody are using “Managed Aquifer Reserved” from “Farm Pond”, as because due to salinity in the area rain water is only surface water source in the area, deep tube well and shallow tube well do not working in the area due water layer crisis in the area

Water for other uses like bath, washing and hygiene practice: People are using surface water from ponds, in some cases rivers, rain water and small ponds (Indara).

Copping with Livelihoods and survival techniques:

Typology	Poverty level and Causes	Coping Actions
Extreme poor	<ul style="list-style-type: none"> <input type="checkbox"/> Chronic (year round) food shortage. Only 1 or 2 meals per day. <input type="checkbox"/> Rely on casual labor for main income – seasonal shortage of work <input type="checkbox"/> Floating population and migrants <input type="checkbox"/> Many HHs are female headed. <input type="checkbox"/> Little or no access to NGO credit, <input type="checkbox"/> Few economically active household members <input type="checkbox"/> No cultivable land at all, and many do not own a homestead – so lack space for IGAs <input type="checkbox"/> Minimal assets such as livestock – some have some poultry <input type="checkbox"/> Poor quality housing and water & sanitation 	<ul style="list-style-type: none"> <input type="checkbox"/> Search for temporary employment and accommodation <input type="checkbox"/> Seasonally migrate to other districts to find menial work <input type="checkbox"/> Daily wage labour <input type="checkbox"/> Domestic service for women – minimal pay <input type="checkbox"/> Poorest scavenge food, fuel and fish <input type="checkbox"/> Sell possessions at time of hardship <input type="checkbox"/> Some access GoB safety nets <input type="checkbox"/> Some share-rear cattle <input type="checkbox"/> Some fish – but lack access to fishing grounds (In water bodies in the area)
Poor	<ul style="list-style-type: none"> <input type="checkbox"/> Below the poverty line <input type="checkbox"/> Seasonal food shortages <input type="checkbox"/> Own homestead, and may own a little and share-crop agricultural land. <input type="checkbox"/> Poor housing and water & sanitation 	<ul style="list-style-type: none"> <input type="checkbox"/> Migration to find work <input type="checkbox"/> Some work as day-labourers, boatmen, fishermen, petty trade, coal collection from the rivers, day labour in sand, china clay and stone collection business <input type="checkbox"/> Many belong to NGOs and take

Typology	Poverty level and Causes	Coping Actions
	<input type="checkbox"/> Lack of economic opportunities for adult household members <input type="checkbox"/> Chronic debt	loans <input type="checkbox"/> Advance sale of labour and crops <input type="checkbox"/> Some rear poultry as a business <input type="checkbox"/> Some own or share-own cattle <input type="checkbox"/> Need to take loans from NGOs, relatives and moneylenders in a crisis.

Compilation Techniques for Coping Capacity Index:

It has mentioned seven areas in the following tables for disaster resilience namely (A) Food (B) Health (C) Mobility (D) Household Infrastructure (E) Profession (F) Disadvantaged HHs Member (H) Communications Means. But each area out of 7 is divided into as follows:

(A) Food: 1. Grains: Rice/Chapati/Curry 2. Water (Drinking & other purpose 3. Fuel (Burner, Utensils, fuel) 4. Clothing 5. Others

(B) Health: 1. Doctor Advice 2) Medicine 3) Diets 4) Relevant services 5) others

(C) Mobility: 1) Life Security 2) Shopping 3) Profession 4) Health 5) Education

(D) Protection of Household Infrastructure: 1. House 2. Latrine 3. Pond 4. Tubewell 5. Livestock shed 6. Trees

(E) Profession: 1. Agriculture- Crop, Livestock, Fish, 2. Business (Small or Medium) 3. Service

(F) Disadvantaged HHs Member: 1. Women 2. Children 3. Old 4. Disables 5. Scheduled Caste

(G) Communications Mean: 1. Flood & Water logging 2. Drought 3. Riverbank erosion 4. Cyclone

There are 3 options provided for adaptation/resilient capacities. For example under (A) food area there are at least 15 coping options, but minimum options are 5 in 5 sub areas. On the basis of respondent opinions, it is used likelihood scale 1= respondents reply at least one from each sub area, (partial coping capacity) 2= more than 5 considering 1 option from each sub area (mid level coping capacity) and 3= more than 10 considering 2 options from each sub area (good coping capacity).

In consideration of each area and sub area it has calculated weighted values through utilization of likelihood scale. Then total weighted values have aggregated and coping cum resilient capacities of the total distribution has calculated as:

$$\text{Coping Capacity Index} = \frac{\text{Total Aggregated weighted values of the distribution}}{\text{Total Frequencies.}}$$

Table-2: Distribution of Coping Mechanisms Practices of Respondent Households

Union	Food			Health			Mobility			HHs Assets			Profession			Disadvantaged HH Members		
	1	2	3	1	2	3	1	2	2	1	2	3	1	2	3	1	2	3
Khesra-22	2	10	10	1	21	0	1	17	4	0	13	9	15	6	1	3	18	1
Jalalpur-36	0	20	16	12	24	0	1	24	10	0	17	19	23	13	0	4	32	0
Nagar Ghata-29	1	23	5	1	26	2	1	24	4	2	26	1	3	26	0	3	24	2
Labsa-48	1	45	2	2	6	42	3	42	3	3	9	36	4	42	2	7	40	1
Balambi-21	3	16	2	1	19	1	4	16	1	2	18	1	8	8	5	7	12	2
Fingri-33	0	26	7	2	31	0	2	20	11	1	24	8	0	31	2	2	27	4
Brahmarajpur-45	3	39	3	2	43	0	1	34	10	1	32	12	4	41	0	3	42	0
Dulihar-15	1	13	1	2	11	2	3	10	2	0	13	2	3	11	1	1	13	1
Shamnagar Sadar-10	0	8	2	0	8	2	0	7	3	0	8	2	0	5	5	0	6	4
Munshigonj-10	0	1	9	0	10	0	0	7	3	0	1	9	0	1	9	0	10	0
Ishwaripur-16	0	9	7	0	14	2	0	10	6	0	9	7	0	16	0	0	15	1
Burigoalini-11	0	8	3	0	11	0	0	4	7	0	6	5	0	11	0	0	11	0
Ramjan Nagar-15	0	12	3	0	13	2	0	11	4	0	10	5	0	11	4	1	11	3
Gabura-7	0	6	1	0	7	0	0	5	2	0	6	1	1	1	5	0	6	1
Padhapukur-8	0	7	1	0	7	1	0	5	3	0	7	1	0	8	0	0	8	0
Grand Total																		

Total Weighted Value = 5496, Average Copping Capacity = Weighted Value/ Total Frequency = 4775/322 = 15. In the above distribution, there are 7 area of copping capacities namely 1) Food 2) Health 3) Mobility 4) Households Asset 5) Profession 6) Disadvantaged household member and 7) Communication Means. Maximum value of the 7 copping capacity area is 21 in consideration of highest likelihood meter 3. Therefore, the average value 17 belongs between likelihood parameters 2 and 3. Out of maximum value 17 score will be in percentile measures 71%, which is very significant in regard to copping capacities of these 322 households as well as household resilient.

Table-2: Distribution of respondent's opinion on using of information centre

Name of Union	Information Centre Services Received
Khesra	19
Jalalpur	31
Nagar Ghata	27
Labsa	46
Balambi	19
Fingri	30
Brahmarajpur	42
Dulihar	13
Shamnagar Sadar	9
Munshigonj	8
Ishawaripur	12
Burigoalini	10
Ramjan Nagar	14
Gabura	6
Padhapukur	7
Grand Total (322)	293 (91%)

The above distribution shows that 91% people moves to UP Information Centre for receiving information services. They also opined that it was crying for them due to:

- a) easy accessible to their door steps
- b) saves time and money for their collection of requires services
- c) easy to take decision for their necessity
- d) un doubtable benefit worthy initiatives in their door steps
- e) free from forgery, troubles and muscle men nuisance
- f) helpful to know their rights
- g) Creating awareness to community.
- h) disseminating early warning to community to safe their life against disasters
- i) helpful to move other part of the country for service opportunity seeking

Table-3: Distribution of respondent's opinion on migration

Name of Union	Migrated	Reasons	Remarks
Khesra	4	for selling labors	temporary
Jalalpur	7	do	do
Nagar Ghata	4	do	do
Labsa	9	do	do
Balambi	3	do	do
Fingri	7	do	do
Brahmarajpur	9	do	do
Dulihar	3	do	do
Shamnagar Sadar	2	do	do

Munshigonj	2	do	do
Ishawaripur	3	do	do
Burigoalini	3	do	do
Ramjan Nagar	4	do	do
Gabura	2	do	do
Padhapukur	2	do	do
Grand Total (322)	64 (20%)		

The above table shows that 20% people moves for selling labors other parts of the country with temporary moods. Nobody has found in the study for permanent migration from the study area for both push and pull factors. It is fact that targeted beneficiaries are maximum day laborers, so they move for other parts of the country for selling labours during seasonal unemployment period.

I) Sustainability Initiatives under ECCDC:

Sustainable Institutionalization like CG

For sustainability of CG following two factors were considered under ECDC:

A. Organizational Context: Strategic Alignment, Core Functions, Management Process, Services Delivery, Funding Cycles or Resource Mobilization etc.

B. Inter and Intra Organizational Relationship: Network, Information Management, Communications Procedures, and Support Functions etc.

Sustainable Access of Community Based Organizations to Public Services:

- 1) Rapport building and frequent communication
- 2) Availability of information and services
- 3) Utilization of information and services:
- 4) Sustainable situation on information and services

However the project was tried to address the above four factors, in some cases come good success in public service access.

There are two sides of sustainability:

A) Demand Side: Community empowerment is most important issue to express their needs and rights. Community empowering techniques are as follows:

- Community based with community management: CGs are doing this internally.
- Community to community advocacy: CGs are doing this among other CGs.
- Community participation in local government planning: All CGs are participating in local government planning and budgeting.

B) Supply Side: Intuitional development and commitment is most crucial issue in this regard. Following factors are considered in order to bring institutional mobility by the ECCDC staffs i) tried to more proactive regarding their mandates ii) Human resources of CGs were dedicated to services iii) Assisted CGs for optimum utilization of financial resources iv) tried to follow team approach and objective oriented by CGs. v) Assisted to prioritize to follow collaborative approach and linkage development v) Assisted to relate with networks for more strengths with the processes like collective actions, co-learning, mutual cooperation, participatory consultation, compliance and co options with meaningful alternatives for dynamic service providing and receiving.

Case Studies for the ECCDC Project

Win over Salinity: Montu Lal Sarder- An Warrior of Life Struggle

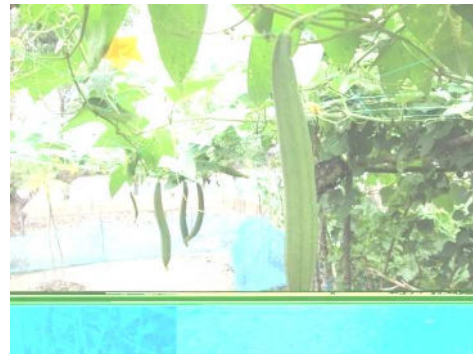
Montu Sarder is from Munda ethnic group under Munshigonj union of Shaymnagar Upazila, Satkhira district. He has 7 family members and belong 66 decimals of cultivable lands and cultivates 3 times round the year. It was sufficiently produce crops for livelihood of the family before 5 years ago. Salinity over soil has increased rapidly in the area due to adverse climate effect in recent times and he does not cultivate the land more than one time now. So poverty has captured his livelihood and now he leads family through selling labors to others. Studies of his children have interrupted and he was seeking customers for selling lands. In this context he has introduced with ECCDC project officials, jointly implemented by the SAMS and Paritran supported by the European Union under SMILING program. The ECCDC project officials has arranged training for Montu Sarder on compost preparation under Union level Block Supervisor of DAE. Now Montu is efficient farmers for compost preparation and he is using compost in his salinity prone land for fertility as well as keeping soil moisture in the land. He is using following techniques for compost preparation:

- i. select high land and dig a hole of 3 meter length, spread 2 meters and 1.2 meters deep
- ii. Under a roof he digs 6 holes and fill it cow dung, straw, leaves, creeps for rotten
- iii. In this way he fills 5 holes and keep vacant one hole
- iv. He transferred rotten materials from 5 holes to vacant hole after 4 weeks and mix it properly
- v. After 2-3 months it becomes compost in this way through full rotten

Montu is now using compost his land and cultivates his land 2 to 3 times round the year and the land regains fertility and contain required soil moisture, and he is getting sufficient crop production from the land. Now economic solvency has returned in his family due to using these techniques. Now he is withdrawn his decision for selling land and leading his happy life with his family members.

Thakur Moni Muda Cultivates Vegetables in Salinity Soil

Under ECCDC project a motivation program to destitute women of the project area was carried for adaptation of vegetables cultivation into salinity soil through floating over water logging area and hanging garden technology. Thakur Moni Munda wife of Khagendra Nath Muda is the destitute women of Datnakhali Munda para village of ward number 7 under Burihoalini union. She leads life with serious hardship with 5 family members. Tidal water flow-



through Chuna river of Sundarban washes surrounding area of her homestead. Therefore she thinks always that it is quite impossible to cultivate in to salinity environment. As a result she deprives and has rarely chance to eat vegetables in every day and sufferings from nutritional deficiency. Under the circumstances, she becomes a member of Datinakhali Munda Para Group. Under ECCDC project she has trained on “Vegetables Cultivation in Salinity Environment” by the government Sub Assistant Agriculture Officer (SAAO) through linkage development by the project. After receiving training she starts vegetables cultivation using earth made jar with full of saline free mud and poly begs with full of saline free mud and reap vegetables seeds on it and provides support for climbing vegetables plants in to Sundarban trees namely Sundari, Kaora, Goran, Bain. In this way she is now earning a good amount from vegetables selling in local market after fulfilling her family vegetables demand.

Now neighbors of her come forward to see success for vegetables cultivation using the technology.

Case study-1:

Monotosh found new horizon in seed cultivation:

Seed cultivation: Monotosh Munda Village Romjan nagar, Union of Ramjannagar, Shayamnagar, Satkhira is dwelling in Mundapara with his joint family. In their family there are 6 members. They were given a package of seeds having pumpkin, lalshak, chalkumra and other vegetable seeds. They planted and took care with total family members providing compost fertilizer by making themselves. We observed six pumpkins, 8 chalkumbra. The father of Monotosh told us they got a very good collection of pumpkin and it provided their family needs and they sold over BDT 4000 by consuming family nutrition. The family is very grateful to the SAMS organization and to the Parittran as well as to the Donor agency Uropean Union.



Case study-2

Border Guard Job for Dalit Bashudev is a miracle.

Bashudev Das is living at Kashipur Village of Patkelghata of Tala sub-district in Satkhira district of Bangladesh. In the family of Bashudev they are 4 brothers and 1 sister. His elder Mr. Joydev Das who is an employee of Parittran who got married some years ago. Bashudev Das is the youngest son of his father let Mr. Shibpada Das and mother Dulali Das. He is meritorious from his boyhood and achieved good result in his education period. His brothers are trying to help for his education in honors level. Bashudev tried his best at all the academic examinations. He tried to attend at many public employment interviews. Though he could able to achieve good places in the examinations but the government officers told him that he should provide 5 to 6 lakh for employment finally. Bashudev paid some people one lakh taka for getting appointment letter but he failed to get that. He didn't get that job and it was very difficulties (Fig: Bashudev with her mother Mrs. Dulali Das).



For him to get the money back. Bashudev couldn't able to think of his obstacle to get job. He began to communicate with Dalit Parishad leader in Satkhira district with his elder brother Mr. Joydev Das. Mr. Joydev Das with his Coordinator of Enhanced Coping Capacity of the Disadvantaged Community (ECCDC) project Mr. Prosad Sarker went to Mr. Al. Haz. Engineer Md. Muzibor Rahman. The Dalit Parishad leaders in Satkhira district Mr. Gour Das and Mr. Probir Das showed the (DO) letter of our honorable Prime Minister of special quota for Dalit people to the MP. At last with the advocacy of ECCDC project Coordinator and the Dalit leaders, our MP Mr. Muzibur Rahman recommended on the ID Card of Bashudev Das that he attended at the Border Guard in Banladesh (BGB) interview. He also became 1st place at that exam out of 1962. After few days later Bashudev was called for Viva test and he faced the test successfully. Finally the authority called him for Medical test and confirmed

him to join the job of Border Guard of Bangladesh (BGB) for training. Their family is very grateful to the organization Parittran and also to the donor agency European Union.

Casestudy-3:

One village of Labsa Union saved from flood water by WDMC members.

Labsa is one of the unions of Satkhira Sadar Upazila. Here Parittran is working through Enhanced Coping Capacity of the Disadvantaged Community (ECCDC) project. From the very beginning of the project the staffs here are trying to give the Ward Disaster Management (WDMC) to work with the community group members and with the students volunteer members. The people here are facing each year with flood water. Once a morning the villagers found water in front of their yard. The villagers became astonished. Mr. Foizur Rahman the member (Fig: Villagers are working for new embankment)



of Ward Disaster Management Committee (WDMC) called the community group members with students volunteer. They sat together and decided to work one person from each family to repair the Embankment and make new one beside their houses. The community members worked with volunteer group members in a whole day. At last after 2 days work with voluntarily they villagers became succeeded and the village escaped from flood for the time being. The villagers became happy and they thanked to the staff of Parittran as well as to the project ECCDC.

Casestudy-4:

The Puspa's family is out of danger by the legal help of Union Parishad.

Puspa is one of the members of Horinagar Community Group at the village of Muragacha the union of Keshra of Tala Sub-district of Satkhira district. In their group they are 19 members. Puspa's family is trying to survive in the community facing classism and cast barriers by the Muslim nearby. Once a Muslim family hurt her brother inlaw named Shekhor Das. The nearby Muslim family made hard problems to the family members of Puspa. Puspa became upset and tried to overcome the situation. She went to many a people and told them the event that held upon them. The Muslim family hurt them and they made hurdles to go out of their home. The family of Puspa couldn't able to solve the difficulties. Puspa to the group members then the Advocacy Organizer (AO) in the group meeting of Enhance Coping Capacity of the Disadvantaged Community (ECCDC) project told them to write an application to the local chairman to go for making solution of this problem of the nearby Muslim family. Then the family of Puspa wrote an application to the Chairman of Keshra Union and went to him to solve the problem with the group members. The Chairman told them to sit with that Muslim family. After few days the Chairman sitting by and solved the problem of the two families by telling the Muslim family if they hurt again the Chairman will himself take action against the Muslim family. Then after negotiation with the Chairman of Khesra the family of Puspa became get rid of hard situation. The Mulim family now doesn't create any problems and they never make any quarrel with the family of Puspa and her brother in law Shekhor Das. The group members are now happy that they altogether able to overcome the rough situation by asking help from the local union Parishad. The local union Parishad gave them the assistance of legal help and the group members and the family members of Puspa are very happy. Puspa is a standing voice of the family and to the group members. They are grateful to Parittran ECCDC project staff as well as to the donor of European Union.

J. Recommendations:

Followings are the recommendations for strategic thinking with view to disaster risk reduction in south west region:

Food Security Issue

There were ample scopes for grassroots advocacy issues for **food access and food stability issues** viz. a) to introduce share cropping law in farmers' level. b) Introduce minimum Wages law of Bangladesh government for wages discrimination c) Gender Discrimination for wage distribution d) reduce dominance of local moneylenders f) Introduce Bengal Alluvion and Dilluvion Act of 1825 of the British Government and Bangladesh Presidential Ordinance of 135 in 1972. g) Bangladesh Government Act on food storage. h) Khasland distribution policy and its' community based monitoring system i) Community Mobilization on "Rules and Regulation of Giving/Taking Land Lease" j) GoB Gazette notification, published on 8th May 1997, on landless rehabilitation. k) Access of poor people to government social safety networks including food aid, cash for work, food for work etc. k) proper implementation of GoB Inter Coastal Zone Management Plan (ICZMP) through community participation may ensure food security.

-At the same it was needed to mobilize community on above mentioned advocacy issues and it was needed to carry out action research on the above advocacy issues, disseminated study findings to the community based organizations like CDPC, at same time to UDMC, UZDMC and DDMC.

-So it was the opportunity to mobilize community in regard to balanced food items selection for consumption. It was scope to mobilize community crop diversification.

Food security issues are considered in DRR components year the rounds. In consideration of geographical context following issues may consider on priority basis:

-Ensure community participation in polders repair, reconstruction

-Participation of community in block making and placing for protection of riverbank erosion

-Sluice gate reconstruction

-Creation of alternative IGA (Crab fattening, tailoring, mat making, handicraft, block batik, small business, poultry rearing, cow rearing, hatchery etc.)

-Construction of flood shelter

-Repair of schools

-More coverage of social safety net

-Re excavation of rivers and cannels

- Set up more community clinic

- Organize health camp for poultry and livestock

- Construct Killa for shelters for livestock during emergency

- Set up "seed store" for farmers.

- Re pair and reconstruct road.

Waterlogging Issues:

-Drain out water rapidly through implementation of master plan with activities like i) creation of tidal reservoirs in the downstream of the rivers Kobaddak, Betna, Salikha and Saltha. (ii) Re excavation of rivers in the area (iii) make free all rivers from illegal occupancy (iv) resist to unplanned construction (iv) Cultivate fish in river connecting channel by some influential persons through putting bush for fish sanctuary, which creates obstacles in water flow in the rivers as well as caused for waterlogging, therefore it will have to bring under constant monitoring through community participation

Continuation of Tidal River Management:

The TRM can ensure solutions of water logging, make free from floods, make fertile lands, regain biodiversity in case of flora and fauna, increase underground water table, solve irrigation problems, increase naval routes inside country etc. Following measures may ensure TRM:

-Re excavation of rivers, take measures for network of rivers, remove illegal occupancy on rivers and canals, community based participatory monitoring may ensure TRM in the area.

Salinity Issues:

- It should be introduced community based participatory monitoring with Water Development Board on Sluice Gate Operation and maintenance

-Introduce widely green managing for soil health, reintroduce crop cycle for covering mass vegetation year the round in the crop land.

-DAE should be trained farmers in compost preparation and ensure utilisation of compost in the cultivable land.

-For protection of physical infrastructure community coping capacity may enhance and salinity friendly "Ferro Cement" may use for building construction

Environmental Protection:

Any geographical area should protect organisms and physical environment for the sake of good ecosystem. Organisms of environment consist of (i) abiotic components: non living items, which may protect through utilization of proper preparedness and mitigation knowledge (ii) biotic components: living organs, many of the species are about to disappear in the region. So special attention is needed for to protect environmental protection.

Emergency Preparedness and Recovery

Experienced persons know that poverty is the cause of disaster; poverty is the result of disasters. For emergency preparedness hazard specific response interventions should be standardized on the basis of local context etc. In regard to recovery following issues are to be considered through community mobilization, advocacy support and institutional linkage supports:

More employment generation, 2) Development essential services, 3) More food and nutritional development 4) More safety, security and protection measures 5) Development of Human Rights (Gender discrimination, right to disabled, child rights, right to socially disadvantaged community, right to indigenous community, right to migrant people etc.) 6) Reform of land management (raising land, losing land, abandon land, land use planning- including forestation and agriculture etc.) 7) Establish rule of law and governance etc.

Schooling:

Child schooling in emergency situation like flood, waterlogging is acute problem in the area. Therefore School level Improvement Plan (SLIP) may introduce, renovation of buildings, ground rising for using as shelters during emergency. School timing, and period may rescheduling in this regard.

Community Awareness

Need for a shift from awareness centric approach to capacity building centric approach. The project evaluated had successfully created awareness and generated a demand for disaster preparedness. Any future initiatives should ensure that along with awareness, adequate and equal emphasis should be given to capacity building at the grassroots, particularly in terms of skill development to deal with disaster situations. Such skills, in the long run, will stand good for the community at times of crisis.

Capacity Building

The capacity building measures through skill development and training becomes even more important in terms of poverty reduction and integrating poorest of the poor into disaster preparedness. The project area is woefully lacking in infrastructure and support systems for

disadvantaged community, left out of the development and risk reduction processes due to discrimination, ignorance as well as technical insufficiency. RDRS Bangladesh has a huge role to play in terms of filling this gap, not only within its project area but also to other stakeholders in the north-west region of the country. In order to sustainable initiatives of capacity building, followings principles should be followed:

- i) Assessment: Through need, personnel and working situation assessment capacity building design should be outlined.
- ii) Install: Building the capacity following participatory methods and process.
- iii) Maintenance: Follow-up, exercise and refreshers methods should be followed.
- iv) Evaluation: Should measure appropriateness, effectiveness, efficiency and impact of capacity building and outlined lessons learned.

Sustainability:

Operational Factors Affecting Sustainable Development

Many factors can affect sustainability, but most people in social development work agree on a few basic principles.

- Locally driven: the idea should come from the community, belong to the community, and be a part of the community. Outsiders who come in and tell the community what will be done merely enable the people, disempowering them to make decisions for themselves. The solutions belong to the outsider, not the community, and may not be appropriate for the community.
- Local resources: as much as possible, all materials should be obtained locally and projects should tap in to local knowledge. In the future, if something should fail or if questions should arise, the solutions are obtained in the community.
- Long term plan: the project should build on what already exists to create something that will continue on in the future. Sustainability, by definition, means it will have long lasting consequences. Those consequences should be nourishing to the community, allowing both the people and the resources to prosper.
- Logistical plan: carefully considered plans take into account the changes that may occur in the future. Prior to any implementation, a plan should be written on how to replace materials or how to overcome obstacles that may arise in the future.
- Impact on the community: just as it must come from within the community, it must also have an impact on the community as whole, **not just a few individuals in the community**. If more people feel they are benefiting from the project, more people will see to its long-term survival.

Advocacy

Advocacy as a component should be addressed more strongly, giving emphasis on community led advocacy to strengthen and support the felt need by the people for disaster preparedness and mainstreaming disadvantaged poor into disaster preparedness, particularly in context of the government initiated comprehensive disaster management program that seeks to address some of the key mitigation and reduction issues in the region.

Linkage Development

Linking disaster preparedness to other developmental and risk reduction initiatives like livelihood programs, micro finance and development programs will ensure a comprehensive approach into disaster risk reduction. This will warrant higher and wider coordination within local, national and international level institutions. WJCC and its' partners with its experience in capacity building, mainstreaming disadvantaged poor and coordination should be in a position to offer leadership to the multi level stakeholders in the country.

K. Conclusion:

After the overall discussion, the study indicates that a) the climate has been changing over the few last decades, remarkable to South West part of the country. b) Due to climate change livelihood pattern of flood-plain are also changing as well as insecure food in the area due to damage of agricultural production. c) Riverbank erosion, flood has caused severe environmental problems and inter country migration of local people has been increased over the last few decades. d) The resources of these vulnerable communities for achieving sustainable livelihood are deficient, which further increase their vulnerability. It is also explored that these communities have very little knowledge on climate change and its future impacts. They do not what are the root causes of their misfortune due to climatic disasters. Furthermore the absences of sustainable livelihood approach from government policy or NGO's development works are also visible. It is found that without considering future impact, introduction of non eco friendly livelihood option could make the environmental settings more intolerable. Only sustainable livelihood approach could ensure a better long lasted livelihood options to vulnerable communities.

Hence the interventions for the future can conclude a) building the effective voice of the poor, as a citizens, to demand services b) building accountable and responsive institutions in the public, private and civil sectors to supply pro poor services and infrastructures c) providing rural poor with choice in service provision and diversified channels for access to services.

Evaluation Questionnaire

Name of the Project: Enhanced coping capacity of the disadvantaged community-(ECCDC).

Funded by: European Union

Implemented by: Paritran and SAMS

Questionnaire for Households Survey

Demographic Information for Household:

a.1 Para a.2) Village a.3) Union: a.4) Upazila : a.5) District :

b.1) Respondent Name : b.2) Father/Spouse Name : b.3) Age: b.4) Sex:

c.1) Educational Qualification: c.2) Profession: c.3) Caste: c.4) Income (Year):

d.1) Homestead (Own/Other) d.2) Own Land (Acre): d.3) Share In land: d.4) Lease In:

1. What are the names of occurred disasters in last 5 years in your locality? Make priority of disaster in consideration of losses:

Sl. No	Name of disasters	Year Occured	Priority (Big-7, -----, small-1)

2) Disaster Resilience:

Household resilience in disasters (In consideration of Basic Issues)

Serial No	Issues	Vulnerabilities due to occurred disasters in last 5 year	Total capacities (Previous+ gained from project+ Adaptability techniques) and resilience
(A)	(A) Food. 1.Grains: Rice/Chapati/Curry 2. Water (Drinking &	1)	1.1) 1.2)

Serial No	Issues	Vulnerabilities due to occurred disasters in last 5 year	Total capacities (Previous+ gained from project+ Adaptability techniques) and resilience
	other purpose 3. Fuel (Burner, Utensils, fuel) 4. Clothing 5. Others	 2) 3) 4) 5)	1.3) 2.1) 2.2) 2.3) 3.1) 3.2) 3.3) 4.1) 4.5) 5.1) 5.5)
(B)	(B) Health 1. Doctor Advice 2) Medicine 3) Diets 4) Relevant services 5) Others	1) 2) 2) 3)	1.1) 1.2) 1.3) 2.1) 2.2) 2.3) 2.1) 2.2) 2.3) 3.1) 3.2)

Serial No	Issues	Vulnerabilities due to occurred disasters in last 5 year	Total capacities (Previous+ gained from project+ Adaptability techniques) and resilience
			3.3)
		4)	4.1) 4.3)
		5)	5.1) 5.3)
(C)	C. Mobility 1) Life Security 2) Shopping 3) Profession 4) Health 5) Education	1)	1.1) 1.2) 1.3)
		2)	2.1) 2.2) 2.3)
		3)	3.1) 3.2) 3.3)
		4)	4.1) 4.3)
		5)	5.1) 5.3)
(D)	Household Infrastructure-1. House 2. Latrine 3. Pond 4. Tubewell 5. Livestock shed 6.	1)	1.1) 1.2) 1.3)

Serial No	Issues	Vulnerabilities due to occurred disasters in last 5 year	Total capacities (Previous+ gained from project+ Adaptability techniques) and resilience
	Trees	2)	2.1) 2.2) 2.3)
		3)	3.1) 3.2) 3.3)
		4)	4.1) 4.3)
		5)	5.1) 5.3)
E		Profession: 1. Agriculture- Crop, Livestock, Fish 2. Business (Small or Medium) 3. Service	1)
		2)	2.1) 2.2) 2.3)
		3)	3.1) 3.2) 3.3)
		4)	4.1) 4.3)
		5)	5.1)

Serial No	Issues	Vulnerabilities due to occurred disasters in last 5 year	Total capacities (Previous+ gained from project+ Adaptability techniques) and resilience
			5.3)
F	F. Socially Disadvantaged Communities: 1. Women 2. Children 3. Old 4. Disables 5. Scheduled Caste	1)	1.1) 1.2) 1.3)
		2)	2.1) 2.2) 2.3)
		3)	3.1) 3.2) 3.3)
		4)	4.1) 4.3)
		5)	5.1)
			5.3)
G.	Communications Vehicles: 1. Flood & Water logging 2. Drought 3. Riverbank erosion 4. Cyclone	1)	1.1) 1.2) 1.3)
		2)	2.1) 2.2) 2.3)
		3)	3.1) 3.2)

Serial No	Issues	Vulnerabilities due to occurred disasters in last 5 year	Total capacities (Previous+ gained from project+ Adaptability techniques) and resilience
			3.3)
		4)	4.1) 4.3)
		5)	5.1)
			5.3)

3) What measures were taken for achieving coping capacities cum resilience under the project and who provided supports with supports name, how they provided supports?

Name of Measurements (In the light of Steps for DRR)	Who were involved and how? (Please mention name of CBO, CSO, Project Officials)	How they were involved?	What were the roles of UDMC and UzDMC?
I. Preparedness:			
a) Preparedness: Community Based (CBOs, CSOs, CRA, Contingency Plan)			
b) Emergency Preparedness			
II. Reduction/ Mitigation			
a. Structural			
b. Non Structural			
III. Response			
IV. Recovery			

(=Rehabilitation +Reconstruction)			
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4) Is any member of your family belongs the member of CBO and CSOs? If yes, what are their role:

CBO:

CSOs:

5) Are you ever visited the Union Based Information Centre? If yes what and how you benefited from the Information Centre at Union Level?

6) If you or family members are migrated any part of the country? If yes, what and how are benefitted from migration?

Signature of the Investigator:
Name:

Signature of the Supervisor :
Name:

Checklist for FGD, SSI

Name of Target Group:

Union:

Upazila:

(UDMC, UzDMC, CBOs, CSOs etc.)

(Note: Alls are lead questions for checklists, relevant supplementary questions are allowed)

- a) Disaster Experiences, Causes and effects due to disasters (Flood, Droughts, Salinity, Riverbank Erosion, Water logging,
- b) Damages: Livelihood, Habitat, Food Security, Water and Sanitation, Health, Local Resources (Communications, Institutions and others)
- c) Institutional Supports in the area
- d) Disaster management committees Role and their assistances
- e) Role of other social institutions in disaster risk reductions and benefits of the community (Food, habitat, communications, agriculture, livestock, public health, WATSAN, fisheries, other relevant issues
- f) Public Awareness issues and role of social institutions, project supports
- g) Present role of disaster management committees and their present capacities
- h) Disaster contingency plan, early warning system, disaster preparedness system of DMCs
- i) Community based organizations (CGs) and their present roles, Civil society organizations and their present role
- j) Risk and resource mapping and its' utilizations by CGs
- k) Present role of public service providing organizations (Governments), NGOs role and their services
- l) Community participation in CBOs (CGs) in preparing DRR plan and Contingency Plan preparation and implementation by UDMC & UzDMcs
- m) Communication, advocacy and networking in CBOs, GO, NGO and CBO inter relation in regard to DRR and Climate Change adaptations.

- n) Livelihood development supports and training, crop intensification and diversifications.
- o) Right to information act and how it effectively utilize in DRR?
- p) Relational inter play of disaster vulnerability and migration due to push factors, please mention the name of push factors in the area for migration. How migration due to push factors is reduced?
- q) Sustainability of project supports considering risk factors mentioned in the project proposals
- r) Staff development training, utilization of knowledge and skill in project operations etc.
- s) What short of supports received from the project, how it is being utilities for DRR in the area:

Name of Supports (Training, Orientation, Meetings, Workshops, Advocacy, Awareness etc)	Duration	How it is being utilize in DRR in the area

- t) What you recommends for sustainable DRR initiatives in consideration of the following risk area: (Please do not copy paste of PP)

Types of Risks	Particular of Risk, Measures Taken during Project Implementation	Possible Mitigation Measure
Physical risks		
Environmental risks		
Political risks		
Economical risks		
Social risks		

- u) Tell about functions and benefits of Union Information Centre
- v) Migration pattern and practice of the community people

Note: The checklist will also apply for project staffs of Paritrans and SAMS