Blue Gold Program

Report No. 4

Introduction to the

Monitoring and Evaluation Manual

**Embassy of the Kingdom of the Netherlands,
Dhaka, Bangladesh**

**Bangladesh Water Development Board (BWDB)
Department of Agricultural Extension (DAE)**

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
Draft 1	October	Geert Rhebergen	Nienke Regts	Dirk Smits	Draft M&E Manual
Final	December	Geert Rhebergen	Kim Jansen	Dirk Smits	Final M&E Manual

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List of Abbreviations

BG	Blue Gold
BWDB	Bangladesh Water Development Board
CDSP IV	Char Development and Settlement Project phase IV
DAE	Department of Agriculture and Environment
DT	Departmental Trainers
FT	Farmer Trainers
FFS	Farmer Field School
GIS	Geographical Information System
HH	Household
HIES	Household Income and Expenditure Survey
HPI	Human Poverty Index
HRD	Human Resources Development
IDRC	International Development Research Centre
IPSWAM	Integrated Participatory Sustainable Water Management project
LCS	Landless Contracting Societies
M&E	Monitoring and Evaluation
MIS	Management Information System
MPI	Multidimensional Poverty Index
ODI	Overseas Development Institute
ODK	Open Data Kit
OM	Outcome Mapping
O&M	Operation and Maintenance
PPI	Progress out of Poverty Index
PRA	Participatory Rural Appraisal
SEMP	Sustainable Environmental Management Plan
TOR	Terms of Reference
WMA	Water Management Associations
WMG	Water Management Group
WMO	Water Management Organization

1. Monitoring and Evaluation in the Blue Gold Program

1.1. Introduction

The essence of the Blue Gold Program is to establish and empower community organization/ water management organizations to sustainably manage their water resources and to make these resources more productive. The program aims to create strong cooperatives that will interact with public and private organizations that play a role in the development of the area. Participatory water resource management is the entry point and the initial driver of the community organization process. The explicit objective of Blue Gold is to reduce poverty of the people in the coastal areas by enhanced productivity of crops, fisheries and livestock and increasing incomes by improved processing and marketing of agricultural products including value chain development.

The Program defines a large set of strategies that should contribute to the desired goal. These strategies entail numerous risks and uncertainties, increasing the complexity of the Program. A well-functioning system for tracking these strategies and determining its immediate and wider effects call for a strong monitoring and evaluation system.

This introduction to monitoring and evaluation (M&E) of Blue Gold will provide methodologies and tools for the project M&E staff and the management team to enhance evidence-based program management and planning and to support informed management decision making. The manual focuses on the different components of the M&E system such as the identification of performance questions, information needs and indicators and planning of critical reflection processes, quality communication and reporting.

1.2. M&E support missions

The development of the M&E system for Blue Gold is supported through the input of a number of support missions carried out by senior and junior international M&E experts. The first mission took place from 8-27 September 2013, and a second mission from 15 November until 1 December 2013. During the first mission new concepts in program monitoring and evaluation such as outcome mapping were introduced and presented to Blue Gold staff and the Netherlands Embassy. A second mission took place in November 2013 with the following activities:

- ✓ Preparation of a draft questionnaire and set up for the base line survey
- ✓ Preparation of a Survey Concept Note
- ✓ Finalize the report: Introduction to the M&E Manual

A draft proposal for M&E of Blue Gold will be presented in this report, which will be the basis for the development of an M&E manual for Blue Gold, which will provide methodologies, systems and procedures. Detailed information on itinerary, meetings, etc. is presented in annex 8.

A third mission is planned for the second half of January 2014 when the national M&E team is in place. The following activities are planned:

- ✓ Introduction and training on Outcome Mapping
- ✓ Design formats for data collection for the Outcome Mapping Journals: digital formats using ODK
- ✓ Train Blue Gold staff (the M&E team) on ODK design and operation
- ✓ Assist components with data collection systems (ODK forms, data collection and analysis), and train enumerators in the use of ODK forms in practice
- ✓ Assist with the implementation of the baseline household survey.

1.3.   The scope

The Monitoring and Evaluation (M&E) System has the aim to support the effective monitoring, evaluation, and reporting of results under the Blue Gold Program. The M&E System shall comprise of components that will enable the Program Management to generate and utilize knowledge on lessons learned and analysis of development opportunities and challenges to enhance evidence-based programming and effective management oversight of interventions supported and/or facilitated under Blue Gold. The M&E System will also establish an operational framework to enable Blue Gold to involve beneficiary communities and stakeholders in a participatory review of results and to obtain systematic feedback on performance and input from stakeholders towards the design and implementation of development interventions supported and/or facilitated by Blue Gold.

1.4.   Blue Gold: a simple or a complex program

A situation can be classified 'simple' when there is broad agreement on goals and ways to achieve them, and certainty about the outcomes, relying on best practices as the main ingredient for success. A 'complex'situation is characterized by high levels of uncertainty and disagreement (ODI Background note, March 2013). The program document and inception report describe a (large) number of risks and uncertainties in the proposed strategies to achieve the desired societal impacts. Considering this the Blue Gold Program may be considered as complex. The logical framework of Blue Gold assumes a linear and (quasi)automatic progressing of effects from input through output to purpose and goal. The assumption is that activities carried out as planned will guarantee the achievement of the outputs and purposes. However, some of the underlying assumptions as identified in the log-frame are not easily mitigated in the complex situation of Blue Gold. Some assumptions assume complex social change processes, which require careful monitoring and flexible planning systems. Examples are: supportive enabling environment, such as good governance; timely financial disbursements from the government; cultural barriers for women (e.g. women in the Executive Boards of WMO's)to be lifted, etc. In order to respond to this complexity it is proposed to introduce a level for continuous learning and flexible planning in the logical framework and M&E.

1.5.   Participatory M&E in the IPSWAM Program

The Integrated Planning for Sustainable Water Resources Management Program (IPSWAM) of the BDWB has produced guidelines for integrated planning for sustainable water resource management (BWDB, 2008). These guidelines apply to BWDB implemented water resource projects and to stakeholders such as local stakeholders, Water Management Organizations (WMO's), Local Government Institutions,flood control and drainage projects, rehabilitation projects, and others. The guidelines also apply to the planning cycle, including participatory monitoring and evaluation, of projects. It is obvious that the guidelines have to be applied for the implementation of Blue Gold, including the M&E process.

The guidelines propose a six step approach as presented below:

Step	Description	Process
1	**Identification/Selection**	• New sub-projects are identified and selected using specific criteria.
2	**Participatory, Multidisciplinary Data Collection/Analysis and Option Development (DCAOD)**	**Problem Identification:** • Primary stakeholders identify the problems they face, analyse causes and effects and identify possible solutions. • Secondary stakeholders join with primary stakeholders to discuss and prioritize problems related to natural resources management and the environment. This leads to identification of the: • Key water management issues in each village • Patterns of leadership • Social conflicts in the area that hinder implementation • Likely levels of support that the project can expect. • Relevant quantitative data collection and processing for analysis of options for solutions.
3	**Formation of Water Management Organisations (WMOs)**	• The BWDB's "Guidelines for Participatory Water Management" are followed. • New BWDB registration provisions are also followed.
4	**Plan Formulation and Finalisation**	**Analysis of Solutions:** • Primary stakeholder groups approach identified solutions to assess the: - Socio-Economic and Gender Issues - Technical Aspects - Economic Aspects - Environmental Aspects - Sustainable Impact of Each Option • Primary and secondary stakeholders jointly review the options and agree upon solutions, which include: • An infrastructure rehabilitation plan. • A Sustainable Environmental Management Plan (SEMP). • Agreement on long-term O&M responsibilities.
5	**Rehabilitation Work**	• BWDB draws on a high standard of technical design in consultation with primary stakeholder groups. • BWDB implements physical work in consultation with WMOs.
6	**Long-Term Operation and Maintenance with Monitoring**	• Operation and Routine Maintenance by the WMO. • O&M plan developed and implemented by WMO in consultation with the BWDB.

The guidelines propose a self –assessment as a participatory monitoring methodology which is aimed to be "transparent, participatory, simple and effective". Information on the key indicators on the following themes is gathered:

- Water management/infrastructure
- Institutional
- Economic
- Social
- Environmental

For each theme a number of indicators are selected; information on the indicators is collected by asking questions to members of WMO's, using a grading scale of 0 to 4 (from no progress to good progress). The results are presented using colour maps of polders for a Water management Group village. The resulting maps give a quick and easily understood overview of progress within each Water Management Association areaon each of the five themes.

1.6. The M&E System of Blue Gold

It is proposed that the participatory monitoring system as proposed in the IPSWAM guidelines (BWDB, 2008) is applied as a self-assessment tool by the Water Management Groups. This monitoring exercise can be carried out semi-annually or annually. This self-assessment exercise needs to be complemented by other M&E instruments which are more process oriented. It is proposed that the components validate the relevance of the themes and the indicators as proposed in the guidelines, and make adjustments before implementing the self-assessment methodology.

The proposed M&E system for the Blue Gold program will have the following components:
1. Impact measurement (including base line an end-line surveys)
2. Self-assessment by Water Management Groups
3. Outcome monitoring based on the methodology of Outcome Mapping
4. Activity and output monitoring (system of annual planning and reporting)
5. Involvement of project stakeholders in critical reflection based on a stakeholder analysis
6. Communication of M&E information based on a stakeholder engagement plan.

More details on the steps in the setting up of the M&E system are presented in ANNEX 1.

1.7.   The M&E framework

The context of the M&E in relation to the intervention logic of the program (logical framework) can be summarized in the Monitoring Framework as follows:

	INDICATOR	BASELINE	TARGET	DATA SOURCE	FREQUENCY	RESPONSIBLE
Goal	Poverty Index	To be established	To be established	Baseline/end-line study	Before and after the project	Team Leader
Outcomes	Index of the progress markers of the boundary partners	To be established	To be established	Outcome Monitoring reports	Semi-annual	M&E Team
Outputs	Outputs of the 5 components	n.a.	Milestones to be defined	Progress reports	Quarterly, semi-annual, annual	Component Leaders

1.8.   Management Information System (MIS)

It is evident that the Blue Gold Program is a complex program, working in different sectors and with a multitude of different stakeholders. Hence, developing a comprehensive and well-functioning Management Information System (MIS) for Blue Gold, to enhance proper management and planning is ever more essential.

The MIS can be defined as a set of formalized procedures to provide management staff with appropriate information, based on data from internal and external sources, to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible. Each project must have record keeping routines for cost accounting, human resource deployment, resource acquisition and stock control, production or delivery of services, correspondence, etc., which together constitute the basic MIS.

The inception report mentions the possibility of using a state-of the-art web based MIS platform like Lizard®, which provides web based MIS/GIS functionalities that could be used for presentation of key performance indicators of Blue Gold. Currently, an inventory is made by Blue Gold of the availability and cost of Geo-Spatial data of Bangladesh' coastal areas, expertise of institutions and/or companies with GIS and mapping experience such as CEGIS, WARPO and IWM and systems developed by other projects (such as the CGIAR consortium) in the Blue Gold project area. Based on the outcome of this inventory - expected in December 2013 - it will be decided whether or not to proceed with the development of a web-based MIS/GIS platform.

2. Impact Measurement

2.1. Program goal and purpose

The **main goal** of the Blue Gold Program is to *'reduce poverty by creating a healthy living environment and a sustainable socio-economic development for 150,000 households living in 160,000 ha polder area'*.

The **program purpose**:
1. To protect the communities and their land located in polders against floods from river and sea (climate change adaptation) and to optimize the use of water resources for their productive sectors.
2. To organize the communities in cooperatives which will have to become the driving force for the natural resources based development (agriculture, fisheries and livestock) whereby the environment, gender and good governance are effectively addressed.
3. To increase the household income derived from the productive sectors.
4. To strengthen the institutional framework for sustained water resources development and related development services in the SW/SC zones.

Based on the above, the program is divided into **5 components**:
- Community Mobilisation and Institutional Strengthening
- Water Resources Management
- Food Security and Agricultural Production
- Business Development
- Cross Cutting Issues (good governance, gender, environment, disaster risk reduction and innovations)

The target group of the Blue Gold Program is the 150,000 households in the (probably 26) selected polders in the 3 districts of Patuakhali, Khulna and Satkhira. We define a household primarily as a group of persons, related or unrelated, living together and sharing the same kitchen. This definition is based on experiences in the field, which has shown it to be difficult to define households on more common parameters; the most practical way to define a household in rural Bangladesh is using the parameter "sharing the same kitchen".

2.2. Expected impact and impact measurement

It is expected that the various program interventions of Blue Gold will contribute to a reduced poverty level by creating a healthier living environment and more sustainable socio-economic development of the households in the targeted polders. Based on the logical framework of the inception report, the following impact indicators have been defined:
1. Households with 5 months or more of food shortage reduced to less than 10%
2. 30% increase in household assets
3. Average household expenditure on housing and education increased by at least 20%
4. Average annual household incomes in Blue Gold polders have increased with Tk 15,000

Note that at this moment, these indicators are still subject to change, as it will depend on how poverty will be defined. The concept of Poverty Index has been explored and is proposed to be introduced as an impact indicator and replace or added to the 4 indicators proposed in the inception report.

The concept of poverty is rather broad as it contains various dimensions. To be able to attribute measurable impact indicators to this broad concept, it has to be further operationalized. We propose to define poverty by applying a standardized poverty index that has been developed to measure poverty in Bangladesh.Examples of such indices are: the Progress out of Poverty Index (PPI), the Human Poverty Index, the Multi-dimensional Poverty Index (MPI) or the Multi-dimensional approach. In Bangladesh the concept of poverty lines has been introduced by the Bureau of Statistics, based on the Household Income and Expenditure Survey.

The **Human Poverty Index (HPI)** was used as an indication of the standard of living in a country, developed by the United Nations in 1997 to complement the Human Development Index (HDI). In 2010 it was supplanted by the UN's Multidimensional Poverty Index. The HPI concentrates on the deprivation in the three essential elements of human life already reflected in the HDI: longevity, knowledge and a decent standard of living.

The **Multidimensional Poverty Index(MPI)** was developed in 2010 by UNDP and uses different factors to determine poverty beyond income-based lists. The MPI is an index of acute multidimensional poverty. It shows the number of people who are multi-dimensionally poor (suffering deprivations in 33.33% of weighted indicators) and the number of deprivations with which poor households typically contend. It reflects deprivations in very rudimentary services and core human functioning for people across 104 countries. The MPI considers the following dimensions and indicators:

Dimension	Indicators
Health	Child mortality
	Nutrition
Education	Years of school
	Children enrolled
Living standards	Cooking fuel
	Toilet
	Water
	Electricity
	Floor
	Assets

A tool for a **multi-dimensional approach to poverty** was developed in Bangladesh by ICDDRB (Journal of Health, Population and Nutrition, June 2007; 25(2): 134-145) which determines an index on the basis of 6 dimensions (education, health, food, shelter, clothing, social participation) and 25 indicators. The study statistically indicates that the index as determined by the tool has a strong correlation with socio-economic status as established in a Participatory Rural Appraisal exercise (PRA). The data requirements especially for the health dimension are to a certain degree beyond the scope of Blue Gold, which makes this tool probably less suitable for monitoring purposes. For more details on the indicators and on the scoring system refer to:
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2753999/

The **Progress out of Poverty Index (PPI)**(Grameen Foundation) is a poverty assessment tool and consists of a simple, country-specific, poverty score card to provide results related to national and international poverty lines. It can be used to track poverty levels over time. The PPI has been

calculated for Bangladesh based on data from the 2010 Household Income and Expenditure Index (HIES). The following table shows the result for 2010.

Poverty rates & lines used in Bangladesh PPI*

Poverty Line Name	Poverty Line Value (BDT/person/day)	Household Poverty Rate (%)	Individual Poverty Rate (%)
National Lower	42.90	15.4	17.6
National Upper 100%	52.64	28.5	31.5
National Upper 150%	78.95	63.3	66.1
National Upper 200%	105.27	80.2	82.2
USAID Extreme	43.04	13.8	15.8
Intl. 2005 PPP $1.25	59.32	39.0	42.2
Intl. 2005 PPP $1.75	83.05	66.9	69.4
Intl. 2005 PPP $2.00	94.91	75.1	77.4
Intl. 2005 PPP $2.50	118.64	85.0	86.6

Source: Progress out of Poverty Index®: A Simple Poverty Scorecard for Bangladesh, based on Bangladesh's 2010 Household Income and Expenditure Survey (HIES).

The following questions are included in the score card:

1. How many HH members < 12 years of age?
2. How many HH members currently attending school?
3. In the past year did any HH member ever do paid work on a daily basis?
4. How many rooms are there in the HH?
5. What is the construction material of the walls of the main room?
6. Does the HH own TV?
7. Does the HH own fans?
8. How many mobile phones in the HH?
9. Are there any bicycles, motorcycles/scooters or motorcars?
10. Does the HH own (or rent/sharecrop/mortgage in or out) 51 decimals of cultivated land?

The answers for the questions of the index could be extracted from the baseline survey of Blue Gold.

Considering the above four methods of poverty measurement or monitoring the PPI Index seems to be the most practical one in terms of data collection. All questions can be easily integrated in the base line study and the results of the survey refer to the poverty definitions as applied in Bangladesh by the Bureau of Statistics.

2.3. The Baseline Survey

In order to understand the effect of Blue Gold's interventions and to assess its contribution towards the impact level, it is essential to assess which changes have occurred in the households of the targeted polders since the beginning of the programme. In order to do so, it is required to conduct an impact assessment which will be done through conducting a baseline and end-line survey.

The baseline survey will not only serve to establish a benchmark for comparing and impact measurement, it will also assess the existing conditions and issues affecting target communities and beneficiaries and provide the Blue Gold Program with an in-depth understanding of the socio-economic situation of the households in the targeted polders.

The **purpose** of the baseline survey is
- To provide in-depth information on the socio-economic situation of the target population at a certain point in time
- To define the benchmark of the socio-economic situation in the selected polders that can be used:
  - As point of reference for monitoring and evaluation purposes
  - For measuring project's achievement at impact level (reduced poverty)

The baseline survey is to be conducted at an early stage of the programme, but at least before the actual programme intervention will take place. The end-line survey will contain the same list of questions and will be conducted after the program intervention. Comparing these two points *in* time, the change *over* time can be measured. During the implementation the household survey can be repeated with a small sample, revisiting some of the same households that were included in the base line survey. During these monitoring surveys changes in the indicators may be detected, which can indicate possible trends, both positive and/or negative.

Throughout the M&E of the programme, different quantitative and qualitative data collection methodologies will be used. For impact measurement purposes, we propose to make use of quantitative primary (our own survey) and secondary data (other studies; bureau of statistics; other programs etc.).

2.3.1.   Sampling

In order to estimate the characteristics of the whole population, it is essential to define a statistically sound sample. However,due to the various variables and complexities that are significant for the Blue Gold Program, the design of such a sample becomes rather complex. Hence, it is advised to hire a statistician who can set up a good sample and at the same time can design the baseline. The sampling will contain the following elements:

i. **Sampling unit**: the baseline survey will be carried out at household level. Generally, if present, the head of the household will be interviewed. Specific questions may be asked to an adult female, if the male head of the household is interviewed.

ii. **Sampling frame**: *the source from which the sample is drawn and facilitating access to the whole sampling unit.* This needs to be defined. Are there any household registers available at village level? It is understood that the activities for a number of polders will only be implemented during the final years of the program. One can understand that the contribution to the overall impact will be very limited due to a shortage of time. The management team of Blue Gold has to decide in which polders the base line survey will take place: in the four polders of the previous IPSWAM project or in 9 polders (4 IPSWAM and 5 'new' polders. It should be realized that the baseline can always be repeated in new polders as soon as they are selected inclusion in Blue Gold, which will eventually be targeted at 26 polders.

iii. **Sample size**: *the number of households that will be interviewed.*The sample size is dependent on a variety of elements, such as the acceptable error margin, the required confidence levels, and the size/amount of change expected in the polders (expected milestones or targets).

iv. **Sampling approach:** *how the sampling unit will be selected* (simple random sampling, cluster sampling, stratified sampling). Depending on resources and time available and the characteristics of the population of interest, it is proposed to opt for stratified random sampling to ensure data disaggregation against gender and other cross cutting issues such as the food security status.

For more details on the goal, purpose, design, sampling frame and methodology reference is made to the survey concept note presented in annex 5.

2.3.2. The baseline survey questionnaire

A draft questionnaire is presented in annex 3. Apart from general household data, specific information is collected on the following topics: community development, poverty index, water, agriculture, and business development. Cross-cutting issues such as gender and environment are integrated in the topics.

2.3.3. Field work data collection

The baseline study will be managed and coordinated by MottMacDonald and the fieldwork will be carried out by enumerators contracted by Blue Gold. Special expertise in the area of the sample stratification, sample size, survey methodology, statistical analysis may be contracted to support the national MottMacDonald and Blue Gold M&E Team.

For the data collection and data entry we propose to make use of a computerised data collection and entry system by means of a mobile device (mobile phone or tablet). By using such a system, data will immediately be entered into a datasheet, saving a huge amount of time and reducing the risk of quality lost.

It is proposed to use OpenDataKit (ODK) software (download from: www.opendatakit.org)to build forms, collect field data on Android-based platforms (mobile phones or tablets), and aggregate these data. ODK is an open-source suite of tools that helps organizations author, field, and manage mobile data collection solutions. ODK Build is the ODK tool that can be used to make data collection forms or surveys. For large forms XLSForm can be used to make forms in excel format, using ODK syntax. Formhub (download from www.formhub.org Columbia University) also provides free software to help author surveys for ODK Collect using xlsform syntax.

ODK Aggregate provides a ready to deploy online repository to store, view and export collected data. ODK Aggregate can run on Google's free infrastructure as well as on local servers. In google's app engine a BlueGold.appspot.com account can be opened to store and export the survey data. From this google app the data can be exported into excel files for final processing.

ODK Collect is a powerful tool to rapidly gather complex data types in the field using Android smartphones or tablets.If external assistance is required for the application of ODK software, Dimagi, a US social enterprise with a presence in Delhi, India (see www.dimagi.com), could be a suitable partner. They have extensive experience with the development and implementation of mobile data systems, including ODK.

2.3.4. Budget and activity planning

It is proposed that the baseline will be managed and coordinated by the Mott MacDonald office in Dhaka, with enumerators contracted by Blue Gold. These enumerators can repeat a small sample (say 100 households) of interviews for monitoring purposes during the implementation of Blue Gold .

In case the baseline survey management cannot be implemented by Mott MacDonald within the required timeframe, Blue Gold may decide thatthe baseline is carried out by external consultants. In that case the data analysis and reporting will be the responsibility of the contractor. The data analysis and survey report will be based on a carefully formulated ToR and on the proposal prepared by the contractor. A provisional ToR is presented in annex 2 in case the survey is contracted to a consulting company.

The ToR should indicate the software to be used for the field work. The hardware (mobile phones or tablets) should be provided by the project as they will later on be used for the annual outcome an output monitoring. The baseline data will reflect the indicators as mentioned in the Logical Framework of the inception report, unless indicated otherwise. ANNEX 4 gives an account of the information required by the log-frame, reflecting the needs of the program components.

A provisional budget for the base line study is presented in Annex 3.Preparatory work for the baseline study such as the preparation of the ToR, the development of the Survey Concept Note, and the drafting of the basic research questions in the areas of water management, community and institutional development, agricultural production, food security, health, education, gender, environment, economic/business development, poverty levels,etc. were carried out in November and December 2013. The information required to determine benchmarks for the various indicators mentioned in the logical framework, were discussed with Component representatives and included in the questionnaire. The baseline study can only be started after the elements of the questionnaire have been defined and agreed by all components, and the operational management of the survey is arranged. It is expected that in January 2014, after the election period, the survey can be implemented.

Over the years, several baseline surveys related to different components of Blue Gold have already been conducted in Bangladesh. These results can be compared with the results of Blue Gold's baseline. Examples of such baselines are:
- ✓ The Multi Indicator Cluster Survey by UNICEF (MICS4 household questionnaire is available, see http://www.childinfo.org/mics4_questionnaire.html for reference and example)
- ✓ Household Income and Expenditure Survey (HEIS)
- ✓ Poverty Monitoring Survey (MAP) by CIRDAP (it is not clear whether this survey system is still operational)

Furthermore, several similar recent surveys were consulted for questionnaire design, for instance the questionnaire that was designed by the Char Development and Settlement Project IV (CDSP IV).
 The indicative activity schedule for the baseline study is presented in the concept note (Annex 5)

3. Stakeholder analysis and engagement planning

Major and complex projects like the Blue Gold Program require the engagement of a wide range of stakeholders for effective and efficient program implementation. Knowing who the key actors are, their level of knowledge, interests, positions, alliances and influence in the program allows program implementers not only to improve project's outcome and impact, but also to interact more effectively, increase support, and build consensus. By communicating with stakeholders early and frequently you can ensure that they fully understand what you are doing, why you are doing it and understand the benefits of the project. Also for monitoring purposes it is necessary to know your key stakeholders as data is only valuable when it is seen relevant and useful to its prospective users.

For these reasons, a stakeholder analysis needs to be carried out at an early stage in the program. If not done properly the following problems may arise:
   o Important interest groups may be overlooked that could contribute significantly to the project
   o The project may not benefit from resources of certain interest groups
   o Project outputs/outcomes may be underutilized if stakeholders feel it was developed without considering their interest and involvement.

Stakeholder analysis consists of the following elements:
   o Identify stakeholders
   o Define their roles and resources
   o Identify dynamics among stakeholders
   o Set the optimum stakeholder group
   o Create an engagement plan

A first draft of this exercise is included in Annex 5, which should be finalised before the end of 2013. This overview provides part of the context for the M&E framework i.e. by defining for instance who needs to use the data and what questions are they seeking to answer and who will (in)directly be affected by the outcome of the program. Based on this, the boundary partners for the outcome mapping have been selected.

4. Outcome monitoring

4.1. Outcome Mapping and the logical framework

In a classical logical framework the purposes and goal (impact) are achieved through inputs and outputs. In complex development processes societal impacts are not achieved but contributed to through processes of social change (outcomes), which can be initiated or stimulated by inputs and outputs of a project. Another important observation is that the sphere of control of a project is mainly limited to inputs, activities and outputs, while the outcomes and impacts belong to the spheres of influence and interest of a project. The outcomes and impacts are mainly the domain of the key stakeholders (the beneficiaries). This can be illustrated as follows:
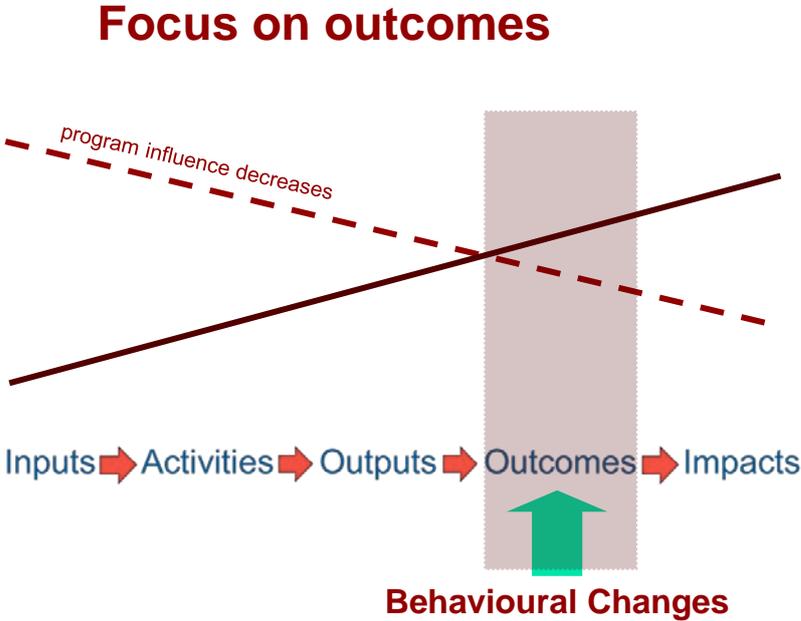
(Reference: www.outcomemapping.ca)

In the logical framework approach it is assumed that impacts can be attributed to various outputs achieved by the project. A linear relation between cause and effect (from inputs create outputs, which cause effects and impacts). It has been argued in section 1.3 that these linear relationships do not exist in complex programs. Positive impacts such as increased production or higher incomes may be negatively influenced by factors outside the control of the project, such as natural disasters (cyclone) or economic factors (recession). It is therefore difficult to attribute negative, neutral, or positive impact to project outputs. If, however, the outcomes, such as behavioral changes with important partners, can be measured and attributed to the outputs of the project, then long term and sustainable impact may be expected, in spite of short term negative influences caused by other factors. Monitoring the outcomes of the key partners in the project will allow a "learning by doing" approach as is advocated in the inception report (see p. 3 of the inception report). In a complex program such as Blue Gold monitoring and evaluation must be focused on contribution (through

outputs of the program) rather than on attribution, as societal impacts are caused under the influence of many factors.

Outcome Mapping

Outcome mapping (OM) is a method for planning, monitoring, and evaluating development activities that aim to bring about social change. It was developed in 2001 by the International Development Research Centre (IDRC) to clarify what human, social, and environmental development projects or programs hope to contribute and then focus monitoring and evaluation on factors and actors within their direct sphere of influence.

Key components of this methodology are:
(1) Identification of key partners, in OM terminology called *boundary partners*,
(2) Description of the *outcome challenge* of these boundary partners, which refers to the ideal future situation in the context of each of these partners,
(3) Formulation of a set *progress markers for each boundary partner*, which can be defined as the indicators along the road to the achievement of the outcome challenge. The set of progress markers describes the desired process of social change for each of the identified key stakeholders.

Monitoring of these progress markers during the implementation of Blue Gold will provide the program with information on the status of the process of social change during the implementation phase. The position of the outcomes and the progress markers in relation with the logical framework can be illustrated as follows:

Logical framework   Introduction of Boundary partners and outcomes
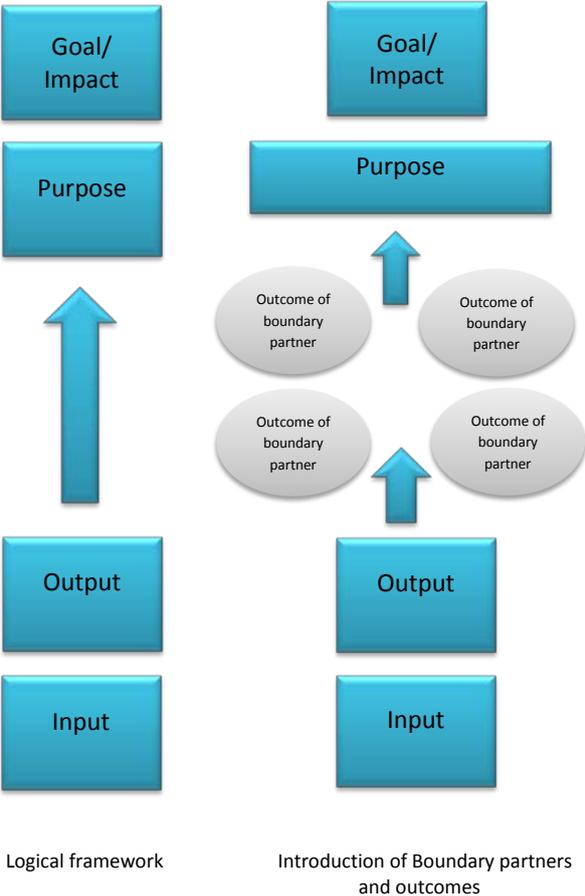
The level of Outcomes is introduced to describe the changes in the behavior of the boundary partners leading to the achievement of the outcome challenge. Information on these social processes provides Blue Gold with the basis to assess whether the outputs generate the desired effects and whether the results achieved are likely to be sustainable. Particular attention can be paid to cross-cutting issues such as gender.

4.2. The Boundary Partners selected for monitoring

Boundary partners are those individuals, groups, or organizations with whom the program interacts directly and with whom the program can anticipate opportunities for influence. These actors are called boundary partners because, even though the program will work with them to effect change, it does not control them. The power to influence development rests with them. The program is on the boundary of their world. The program tries to facilitate the process by providing access to new resources, ideas, or opportunities for a certain period of time. A single boundary partner may include multiple individuals, groups, or organizations if a similar change is being sought in all (for example, water management groups). Generally, a program does not have more than four or five types of boundary partners (although each boundary partner can include multiple individuals, groups, or organizations). When deciding how to group the individuals, groups, and organizations with whom the program works, the crucial feature is that the program truly wants to encourage changes in the behavior, relationships, activities, or actions of that partner(from: Outcome Mapping Manual, IDRC, 2001, www.outcomemapping.ca).

Four Boundary Partners have been selected which are considered of strategic importance for the achievement of the desired outcomes and the societal impacts:

1. **Bangladesh Water Development Board, zonal level**
2. **Farmer Field School Facilitators (DAE Staff)**
3. **Water Management Organizations (in former IPSWAM polders)**
4. **(Village) Multi-purpose Cooperatives (in new polders)**

4.3. Program outcomes

The outcomes for the selected key stakeholders (boundary partners in Outcome Mapping terminology) can be described in qualitative terms as follows:

> **Outcome 1:**
> The Bangladesh Water Development Board at district, zonal sectional level has developed adequate organizational and institutional capacity to carry out its mandate in the O&M of the polders.
>
> **Outcome 2:**
> The Farmer Field School Facilitators (DAE staff) have developed the capacity to set up Farmer Field Schools, to mobilize farmers to adopt improved technologies out of which effective business models with added value have developed and have developed the capacity to identify, prioritize and bring across environmental concerns & points of action relevant to their trainings to Communities.
>
> **Outcome 3:**
> WMO's have developed the capacity (human resource, organizational and institutional) to plan and implement water management activities and contribute to sustainable socio-economic development.
>
> **Outcome 4:**
> Women in the polder areas have improved their socio-economic position and status and have developed the capacity to participate in the decision making processes in the WMO's.
>
> **Outcome 5:**
> WMGs and WMAs have developed awareness and capacity to implement environmental good practices in their daily life activities, as reflected in the Sustainable Environmental Management Plans (SEMPs).

4.4. The Outcome Challenge and Progress Markers for the Boundary Partners

An <u>outcome challenge</u> describes how the behavior, relationships, activities, or actions of an individual, group, or institution will change if the program is extremely successful. Outcome challenges are phrased in a way that emphasizes behavioral change. They should be idealistic but realistic. This is done for two reasons: it stresses that development is done by, and for, people; and it illustrates that, although the program can influence the achievement of outcomes, it cannot control them. The program contributes to the change, but ultimate responsibility and power for change rests with the boundary partners themselves (from: Outcome Mapping Manual, IDRC, 2001).

For each boundary partner the outcome challenge and the progress markers are formulated as follows:

Boundary Partner: Farmers Field School Facilitator

> *Challenge statement*
>
> *Individual and organisational level:*
> Successful FFS facilitators* have acquired high level knowledge on new and improved agricultural production techniques and have applied a diversified curriculum programme. They have developed a set of competencies and skills required for effective and efficient provision of extension services. These include communication, facilitation, presentation, reporting, organising, social and conflict management skills. They are also able to

adapt the services based on the farmers' needs. They have developed a gender sensitive attitude and are actively promoting gender balanced FFS.

At Departmental level (only affecting the DTs), the organisational capacity has been developed and the sustainable performance of the extension worker is secured. A clear vision, mission, strategy and seasonal work plan is in place as well as well-functioning organisational structures and work processes; strong and adequate (financial) management, good working conditions and the availability of tools and equipment. Consequently, the organisation is well embedded in the institutional environment and has developed the capacity to manage the institutional network.

* FFS facilitators are divided into 2 groups: the Departmental Trainers (DTs) who are DAE staff; (2) the Farmer Trainers (FT) who are farmers that have been trained to run FFS; Blue Gold Trainers called FFS organizers are not considered part of the boundary partner as they are employed by Blue Gold.

Performance level:

Based on participatory planning approach with farmers and supervisors, successful FFS facilitators respond to and/or seek administrative (national and local level) and financial support to ensure a viable implementation of the plan. Reports on programme outputs on the performance of farmer groups and individual farmers are available for the supervisor and the programme. FFS facilitators are promoting their services amongst farmers and actively engaging both male and female farmers in the FFSs. FFS facilitators are actively seeking peer support and advice. They participate in professional forums (project, regional, national level) to share and disseminate experiences and lessons learnt. They seek interaction and collaboration with research institutes and other stakeholders.

Progress markers

Level 1: Extension workers/ FSS facilitators are building interest and capacity

1. FFS facilitators (male and (30%) female) are available (DT, FT) and show willingness (FT) to participate in the program
2. FFS facilitators participate in Training Needs Assessments to identify their own training needs
3. *FFS facilitators have developed relevant technical knowledge and facilitation skills(i.e. only 25% have good knowledge; 25-75 good knowledge; >75% have good knowledge)*
4. FFS facilitators keep records in a Farmer Field School register (including the planning of activities (check for availability of work plan, reporting and monitoring system, organisational management. Budget is provided by the Program Management).
5. All FFS facilitators participate in the review and planning workshops to discuss results of previous season and make planning for next season.

Level 2: Extension workers/ FSS facilitators are involved and promoting

6. FFS participants are satisfied about the training approach of the FFS facilitators (by means of a training evaluation)
7. FFS participants are satisfied about the technical knowledge and facilitation skills of the FFS facilitators
8. FFS facilitators use feedback mechanism from FFS participants and disseminate information to DAE (DT, FT) and BG through existing reporting channels
9. FFS facilitators share experiences and lessons learnt with peers
10. FFS facilitators are increasingly approached by farmers who seek technical advice *(within or outside the WMG)*
11. FFS facilitators are actively engaging female farmers (this depends highly on the kind of FFS that is offered (target is 50:50)

12. FFS facilitators score well during monitoring visits of the DAE / Blue Gold (?)

Level 3: Extension workers/ FSS facilitators are owning and sustaining
13. FFS facilitators are actively searching for and introducing innovative agricultural practices in response to farmers' needs to improve production level (0 innovative technologies; 1-2; >3)
14. FFS facilitators adopt and apply new/improved training programs/curricula (diversification)
15. FFS facilitators share their experiences and lessons learnt through local forums.
16. Particular for DTs, adequate organisational and institutional capacity in place to perform the mandate (planning, implementation, reporting, HRM, organisational, financial, operational etc.*(however, the FFS part in BG is relatively small while the DAE is a large organisation. It is doubtful whether change in this respect can be attributed to Blue Gold's activities)*

Boundary Partner: WMO's in IPSWAM polders

Challenge Statement

The villages in the IPSWAM polders have implemented a well-functioning organizational structure of Water Management Organizations (WMO) which are actively engaged in the planning, implementation and O&M of water management infrastructures and which have established effective partnerships with government institutions and other stakeholders. Within this organizational structure, Farmer Field Schools have been established out of which effective business models with added value have been developed. WMO's in have formulated a Polder Development Plan, based on the village action plans developed by the Water Management Groups.

Progress Markers

Level 1: The community is building interest and capacity
1. General members are mobilized (with support of Community Organizer) and elect their WMG executive committee (responsibilities include implementation of the O&M plan as agreed between WMA and BWDB that is routine O&M; taking care of the structures and facilities; supervision of the gatekeepers; participating in O&M plan formulation and implementation with other WMGs in the catchment basin covered by a sluice structure.
2. The community actively participates in problem and needs assessment resulting in an village action plan, which includes enterprise development activities
3. The Executive Committee has elected 2 WMG representatives (1 male; 1 female) plus one representative from the destitute/marginalized group to participate as general member in the WMA.
4. WMA general members elect their WMA executive committee *(main responsibility of WMA is to formulate together with Bangladesh Water Development Board O&M agreement and oversee its implementation)*
5. Around each sluice (serving several WMGs), Water Management Committees (WMC's) are established and mobilized/operational (i.e. they are responsible of the O&M of the sluice and assist in the implementation of the overall O&M plan of their sluice area; gate keepers/operators (2 per sluice) are appointed).
6. Quality Control committees are established and mobilized/operational (containing representatives who are knowledgeable on quality control from WMA and WMGs served by a major structure like the sluice, i.e. they are mainly responsible in checking quality of construction works).
7. The WMGs and WMA formulate and implement polder development plan, addressing prioritized needs and problems
8. Based on the outcomes of the needs assessment, Farmer Field Schools are promoted (through FFS

facilitator) and farmers show a positive response

9. WMG is fully operational and well-functioning and actively implement the village action plan, including enterprise development activities (meetings + minutes, annual plan, budget, monitoring system, subscriptions, effective implementation of plans, etc.).
10. WMG membership is increasing (target at least 50% of all households).
11. Increased participation of WMG female members (target at least 30% of all members).
12. WMG through WMAs entered into an agreement (MoU) on O&M of water management infrastructure with the BWDB.
13. Increased participation of farmers in Farmer Field Schools (target max. 25 per FFS).
14. Increased participation of female farmers in Farmer Field Schools (target 50%).
15. Increased diversification of FFSs (rice, fish, vegetable, chicken, homestead gardening) available.
16. FFS participants apply new and improved agricultural techniques in their production cycle (this should be measured <u>after</u> the FFS training:
17. Increased sharing of knowledge between trained farmers and non-trained farmers.

Level 3: The community is owning and sustaining
18. WMGs have developed a strategic vision.
19. WMGs are legally registered.
20. WMGs and WMAs actively establish partnership with local Government and private institutions and other stakeholders *(measure by what kind of meetings took place/ minutes of meetings, MOUs/contract agreement??).*
21. FFS participants respond to new elements in the curriculum leading to business diversification (added value) and/or intensification, this includes marketing, storage, processing, improved seeds (this can be measured through new initiatives such as lead farmers; cooperatives; producer groups, formal/informal).
22. Producers develop a strategic vision.

Boundary partner: Bangladesh Water Development Board, district/zonal/sectional level

Challenge statement

The Bangladesh Water Development Board (BWDB) at district and zonal level iscapable to analyze water related problems with the Water Management Groups and Associations and facilitates the formulation of water management plans (Polder plans) to upgrade the water management system. BWDB zonal offices together with WMG's formulate annual operations and maintenance plans (O&M). MoU's between BWDB and WMA's are signed. BWDB zonal officescarryout their part of the annual plan through contracting Landless Contracting Societies (LCS) and contractors, with funding secured and timely available through the government annual budget. BWDB zonal offices have formulated a capacity development plan, which is used to plan trainings and workshops. The BWDB has sufficient field staff and equipment in relation to the size of the polder area to carry out their mandate; a HRD-policy is in place in support of career development. The BWDB has developed a strategic vision to support the socio-economic development of the communities in the polders.

Progress markers

Level 1: The BWDB at district, zonal and sectional levelis building interest and capacity
1. BWDB has participated in a capacity needs assessment

4.5. Indexing Progress Markers

In Outcome Mapping the progress made with respect to the progress markers is registered in Outcome Journals, which can be considered as the progress reports of the boundary partners.

It is proposed to grade the progress made in relation to the set of progress markers on a relative scale of: 0-1-2-3, where 0 is non-achieved and 3 is achieved progress (in terms of change of behavior). The monitoring and grading of each partner should be carried on a regular and routine manner in support of the planning and learning process in the project. An example of an outcome journal with a grading (indexing) system is presented below:

Outcome Journal:

	INDEX			
	june 14	dec-14	june 15	dec-15

Level 1: The community is building interest and capacity

1. General members are mobilized (with support of Community Organizer) and elect their WMG executive committee
2. The community actively participates in problem and needs assessment resulting in an village action plan
3. The Executive Committee has elected 2 WMG representatives (1 male; 1 female) plus one representative from the destitute/marginalized group to participate as general member in the WMA.
4. WMA general members elect their WMA executive committee
5. Around each sluice (serving several WMGs), block committees are established and operational
6. Quality Control committees are established and operational
7. The WMGs and WMA formulate and implement polder development plan addressing prioritized needs and problems
8. Based on the outcomes of the needs assessment, Farmer Field Schools are promoted and farmers show a positive response

Level 2: The community is involved and promoting

9. WMG is fully operational and well-functioning and actively implement the village action plan
10. WMG membership is increasing (target at least 50% of all households).
11. Increased participation of WMG female members (target at least 30% of all members).
12. WMG through WMAs entered into an agreement (MoU) on O&M of water management infrastructure with the Water Board.
13. Increased participation of farmers in Farmer Field Schools (target max. 25 per FFS).
14. Increased participation of female farmers in Farmer Field Schools (target 50%).
15. Increased diversification of FFSs (rice, fish, vegetable, chicken, homestead gardening) available.
16. FFS participants apply new and improved agricultural techniques in their production cycle
17. Increased sharing of knowledge between trained farmers and non-trained farmers.

Level 3: WMGs are owning and sustaining

18. WMGs have developed a strategic vision.
19. WMGs are legally registered.
20. WMGs and WMAs actively establish partnership with local Government and private institutions and other stakeholders
21. FFS participants respond to new elements in the curriculum leading to business diversification (added value) and/or intensification
22. Producers develop a strategic vision.

INDEX			
0	1	2	3

Total score				

The grading of progress markers creates the possibility to introduce a quantitative aspect in a largely qualitative approach to outcome monitoring. It is, however, important to define the objectively verifiable differentiating criteria for scoring of 1, 2 and 3 as much as possible. In this way the process of social change can be monitored objectively.

The data on progress markers indices for the boundary partners are supplemented by SMART indicator data, which are collected by the components. These indicators monitor production levels, economic performance, gender aspects, and other elements and will be routinely collected by the components during direct contacts with beneficiaries. In addition results generated by the self-assessments based on the IPSWAM guidelines (see section 1.5.) of the WMG's will be available in the form of maps. These data will support the qualitative information generated through outcome mapping. ANNEX 6 gives an example of the quantitative data collected by component 1.

The outcome monitoring data can be presented in the same format as the self-assessments of the WMG's using Geographic Information Systems (GIS); depending on the outcome of the study on GIS application in Blue Gold (which is currently ongoing), the formats for outcome monitoring should be integrated into the designated GIS software. The GIS capacity is already present in Blue Gold and can be used for geo-referenced data management and presentation.

4.6.   Outcome monitoring data collection

It is proposed that the information collected with the score cards of the progress markers for the monitoring of the changes with the boundary partners is done using the mobile devices and systems developed for the base line study. The software package ODK is considered suitable for this purpose. More information on ODK is presented in section 3.3.2.

4.7.   The M&E field team

4.7.1.   Responsibilities

The M&E team will be involved in the systematic collection of data on the progress made in Blue Gold. The team will be involved at three levels of implementation:

1. **Activity and output monitoring:**
   The team will be involved in the data collection on progress made in the field activities (construction, trainings, field activities, meetings, etc.). Monitoring reports will be made based on the targets or indicators as described in the annual plan of Blue Gold.An activity planning and reporting system, including methods of data capture, processing and communication will be developed.Output monitoring at field level will be carried out using field forms (see section 5). It is proposed that digital formats are developed for the collection and processing of output data, i.e. outputs is a direct result from the activities of the Blue Gold, e.g. yields of FFS farmers, number of members of WMG, etc.

2. **Outcome: monitoring of progress markers:**

    The field team will be trained on the planning, monitoring and evaluation aspects of the outcome mapping methodology. The team will work directly or indirectly with key stakeholders (boundary partners), which are considered to be the most important change agents to contribute to the desired impact. These partners are the (local) BWDB, the Extension Workers, and the communities (villages). On the basis of defined sets of progress markers, which indicate the desired change process of each of the boundary partners, progress will be assessed on a regular basis (twice a year) contributing to the planning and reporting cycle of Blue Gold. Data will be collected during group sessions with Extension Workers and with BWDB. In addition other sources of information will be used: reports on training, progress reports, internal documents, etc. The system in place for the Functionality Assessments carried out by the Community Organizers will be used to collect information on the progress made in relation to the progress markers defined for the villages and report in the Outcome Journals. The field team will make regular visits to the communities to verify and validate the collected information. Information will be summarized (progress index) for each boundary partner. The team will analyze the data and make a consolidated report on the progress made at outcome level. Lessons learned (best practices, constraints, new ideas, etc.) will be formulated and communicated to the management of Blue Gold.

3. **Impact: baseline an end-line study:**

    The field team will be involved in the operational and data processing aspects of the baseline and end-line studies, if required. During annual reviews, which are planned to be carried out by external evaluators some indicators will be selected for analysis, such as Poverty Index and other process indicators, as required by the review team.

4.7.2.   Composition of the team

It is proposed that the team will be based in Khulna at the offices of Blue Gold and consist of the following personnel:

- M&E Expert (team leader), a full time national position; During the international M&E mission in October/November, the national M&E Expert resigned. As of the 1st of December, a new M&E Expert was recruited, Mr Shital Das.
- M&E Expert, part time international position (capacity development)
- 3 M&E regional Field Officers; 1 in each district. Initially 2 regional officers may be employed as the work in the Satkhira District will be initiated later.
- Support staff such as driver, office clerk
- (temporary) position of a statistician (also relevant for the base line study)

Draft Terms of Reference for the M&E team are presented in ANNEX 7.

Other requirements: means of transport (car, motor bikes, office equipment, etc.)

The international expert position is required for a period of 3 years, with a strong presence in the first phase (introduction of the methodology, training of staff, development of systems and working procedures, implementation of the systems, data analysis). In the second and third year the

frequency and duration of the missions can be reduced. After three years only few short missions each year would be required. The following schedule is proposed:

> Year 1: total of 9 months
> Year 2: total period of 6-8 months
> Year 3: total period of 3-4 months
> Year 4 and following: total of 1 month
> End project: 2 months evaluation

4.7.3. M&E Training requirements

It is foreseen that some trainings and/or workshops are required so that the whole team (not only M&E staff) gets acquainted with the different M&E elements. The following sessions are proposed:

- Training in Participatory M&E methodology – M&E team
- Training in Outcome Mapping – M&E team and other interested team members
- Training in ODK form building, data collection, processingand data analysis – M&E team, selected component staff
- Training in Logical Framework Analysis – M&E team, component leaders and other interested team members
- Training of Community Organizers/FFS facilitators – M&E team
- Results Based Management Course by MDF South Asia (course offered in Dhaka) – M&E team and other interested team members

5. Input, activity and output monitoring

Program activities and outputs are planned and implemented through the 5 components of Blue Gold. The components will develop planning and reporting systems, which will provide the information for the management team of Blue Gold to prepare annual plans, and progress reports (monthly, quarterly, semi-annual and annual). Financial reports will be prepared by the accounting departments of Blue Gold and at Euroconsult Mott MacDonald in the Netherlands.

The logical framework provides the basis for the planning system of Blue Gold. It is proposed that outcomes (changes with the stakeholders), outputs (responsibility of the Blue Gold), activities, and activity budgets are listed in the planning system. Such a system can be designed in simple Microsoft Excel software, such as the example below, but also more complex planning software can be developed using Microsoft Access, or other software.Some Blue Gold team members have recently received training in Microsoft Project, which can be used to combine project planning with output monitoring.

Operational plan Blue Gold

Component 4: Business development

Contribute to farm household income from agricultural poduction by expanding business activities and employment through market orientation and private sector develoment

Indicator of the objective:

to be formulated

Results/outcomes	Indicator of the result/outcome	Outputs	output indicator	activity	Budget	targets	j	f	m	a	m	j	j	a	s	o	n	d	2014	2015	2016	2017	observations
4.1.		4.1.1.		4.1.1.1.					x	x													
				4.1.1.2							x												
				4.1.1.3.										x	x								
		4.1.2.		4.1.2.1																			
				4.1.2.2.																			
		4.1.3.		4.1.3.1.																			
				4.1.3.2.																			
				4.1.3.3.																			

Information on specific outputs and the direct response from the beneficiaries or target groups has been generated in the past by the IPSWAM program using field forms. An example of such form is presented in Annex 5. It is proposed that component 1, 2 3 and 4 design monitoring forms for the monitoring of the outputs or the direct response from beneficiaries, e.g. yield levels of FFS, or increased income from businesses supported by Blue Gold.

These field forms can be processed digitally by the monitoring team in Khulna, and data made available to the component and Blue Gold management team. The data collection and processing can be organized using ODK capability, as both the required hardware (android tablets/mobiles) and the knowledge on ODK is available.

6. M&E implementation plan and budget

6.1. M&E action plan

This report describes concepts and methodologies, which could be applied for the M&E system of Blue Gold. However many aspects need to be further explored and developed. Decisions need to be taken at various levels of Blue Gold.

In the following action plan an attempt is made to define the actions to be taken in the coming period:

	Description	When	Responsible/involved
1	Make activity and output plan for BWDB district level capacity development, based on needs assessment	Nov 2013 – Jan 2014	Component 2
2	Update the Logical Framework to reflect on outputs/outcomes		All components
3	Finalize stakeholder analysis and engagement plan	Sept - Oct 2013	Components
4	Formulate a communication plan on the basis of the stakeholder analysis	Dec 2013 – Jan 2014	Communication Expert, National M&E Expert
5	Recruit M&E staff, data processor or statistician (?)	Oct – Nov 2013	Blue Gold Management Team, M&E team
6	Design activity planning and reporting system	Oct- Nov 2013	Management Team, M&E team
7	Design/formulate output monitoring sheets per component and decide whether these sheets should be processed digitally using ODK.	Dec 2013	Components and BG management team
8	Decide on planning software (if required): Excel, Access, MS Project or other.	Oct 2013	Team Leader, M&E team
9	Decide on mobile data software (ODK, or other) and hardware	Oct 2013	Team Leader, M&E team
10	Organize base line survey (select company or consultants); formulate survey questions; design questionnaire, organize the management of the survey, prepare a sampling framework	Oct 2013 – Dec 2013	Team Leader, M&E team in coordination with component managers
11	Decide on the components of the Management Information system	Oct – Dec 2013	Project Management Team
12	Prepare a procedures manual (administrative and financial) as a basis for quality management)	Oct – Dec 2013	Team Leader and appointed Project Procedures Expert

6.2. Blue Gold M&E plan 2013 - 2015

A draft work plan is presented below.

Draft Blue Gold M&E Work Plan (2013 - 2015)

Task	Responsible	2013												2014												2015											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Baseline survey																																					
Design and implementation of survey (refer to section 2.3.1. for detailed activity planning)	Program Manager									█	█	█	█	█	█	█																					
Stakeholder engagement																																					
Stakeholder mapping	Component managers									█	█																										
Stakeholder engagement plan	M&E Team										█																										
Recruitment and training of M&E team																																					
Posting of M&E Coordinator	Program Manager											█																									
Recruit 2-3 M&E Field Officers	Program Manager											█																									
Training - Outcome Mapping	Blue Gold													█																							
Training - Participatory M&E methodologies	Community Development Specialist														█																						
Training - Data processing and analysis	externl trainer															█																					
Training - Logical Framework Analysis	Blue Gold specialist																█																				
RBM course MDF	MDF, South Asia																				█																
Outcome Monitoring System																																					
Formulate outcome callenges and progress markers	Program Manager									█	█	█																									
design e-forms for data collection	consultant											█																									
design data analysis system	consultant											█																									
Training of M&E team in data capture and processing	consultant													█	█																						
(Pre)-Field testing of outcome monitoring system	consultant												█	█	█																						
Outcome Monitoring Implementation in 2 Districts																																					
Purchase of field equipment (2 motorbikes)	Program Manager											█	█																								
Purchase of 1 car	Program Manager											█																									
Purchase of office equipment	Program Manager											█																									
training of community organizers	M&E coordinator															█																					
Posting of M&E Field Officers	M&E coordinator																																				
Field work implementation	M&E coordinator																	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Outcome monitoring workshops with boundary partners																		█	█		█	█		█	█		█	█		█				█			█
Data analysis and reporting	M&E coordinator																				█	█			█	█			█	█			█	█			
Output monitoring																																					
Preparation of output monitoring plan (which outputs, where and when)	M&E coordinator													█	█																						
collection of output progress data	M&E Field Officers and component staff																	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Endline survey and evaluation																																					
Design survey and interviews	M&E coordinator																																				
Recruit data collectors	M&E coordinator																																				
Collect data	M&E coordinator	The endline survey will be carried out in 2019																																			
Enter data	M&E coordinator																																				
Analyse data	M&E coordinator																																				
Write report	M&E coordinator																																				

6.3.   M&E budget

Some budget items for the M&E activities are presented in the table below. The listing of M&E activities and budgets is incomplete and needs further elaboration. A more final budget can be made when decisions on the various elements of the system have been made. Note that estimates on salaries have not yet been included.

Budget estimate

Budget for Oct. 2013 - Oct. 2014				
Activities	**Quantity**	**# of days/month/ year/units**	**Unit cost (€)**	**Total cost (€)**
Baseline				
See baseline budget for details	1	1	52.202,00	52.202,00
endline budget (2019)	1	1	0,00	0,00
M&E staff				
Coordinator	1	1	0,00	0,00
M&E Field Officer	2	1	0,00	0,00
Motorbikes	2	1	1.200,00	2.400,00
Fuel & maintenance	2	1	30,00	60,00
Office personnel (driver)	2	1	0,00	0,00
operational cost	3	10	14,00	420,00
External staff				
Euroconsult advisors	1	9	0,00	0,00
external consultants	1	44	0,00	0,00
SUB TOTAL 1				55.082,00
Training				
MDF training	1	12	350,00	4.200,00
in-service training (3 trainings for 5 persons each)	15	3	50,00	2.250,00
CO (30) and FFS fac. (22) Training (2 trainings during 2 days)	2	2	100,00	400,00
			0,00	0,00
			0,00	0,00
			0,00	0,00
			0,00	0,00
				6.850,00
			0,00	0,00
			0,00	0,00
			0,00	0,00
			0,00	0,00
			0,00	0,00
			0,00	0,00
			0,00	0,00
SUB TOTAL 2				0,00

ANNEX 1: Steps in the setting up of the M&E system

Steps in the setting up of the M&E system

1. *Establish the purpose and scope* – why do we need M&E and how comprehensive should our M&E system be?
    * Review the purpose and scope with key stakeholders
2. *Identify performance questions, information needs and indicators* – What do we need to know to monitor and evaluate the project in order to manage it?
    * Assess the information needs and interests of all key stakeholders
    * Carry out a stakeholder analysis
    * Carry out a **base line survey**
    * Define questions, indicators and information needs for all levels of the objective hierarchy
    * Define methodologies for output/outcome monitoring, such as logical framework analysis (for activity and output monitoring) and **outcome mapping for outcome monitoring.**
    * Verify each bit of information for relevance and end-use
3. *Planning information gathering and organization* – how will the required information be gathered and organized?
    * Plan information gathering and organization in detail (who will do what, how often and when, in data gathering and organization)
    * Check the technical and resource feasibility of information needs, indicators and methods.
    * Develop data formats for data collection and synthesis.
4. *Planning critical reflection processes and events* – how do we make sense of the info gathered and use it to make improvements?
    * Make a list of who needs what information, when and in which format.
    * What is to be done with the info: make a report; provide info for discussion; seek relevant feedback, etc.
    * Make a comprehensive schedule for information production (who does what and by when to have the info ready in time)
5. *Planning for quality communication and reporting* – how and to whom do we want to communicate?
    * Which methods/approaches are used for which stakeholders and for what purpose
    * Establish who is responsible for which reflection moment
    * Make a schedule for all key events and reporting/decision making moments.
6. *Planning the necessary conditions and capacities* – what is needed to ensure the M&E system works?

- Human Resources requirement: Define the number of M&E staff, their responsibilities, linkages, organizational relationships (will there be an M&E unit?), job descriptions/ToR's, type of information management system, detailed budget (including staff allocations)
- What are the existing M&E capacities available to the project
- What training will be necessary
- How will reflection and learning among staff, partners and primary stakeholders be encouraged.
- What is the (appropriate) level of computerization and what expertise will be required to set up the information system?

Various stakeholders need to be engaged in the project for obvious reasons. A **stakeholder analysis** needs to be carried out to improve the project effectiveness, its outcomes and impact. If this is not carried out properly the following problems may arise:
- Important interest groups may be overlooked that could contribute significantly to the project
- The project may not benefit from resources of certain interest groups
- Project outputs/outcomes may be underutilized if stakeholders feel it was developed without considering their interest and involvement.

Stakeholder analysis consists of the following elements:

- Identify stakeholders
- Define their roles and resources
- Identify dynamics among stakeholders
- Set the optimum stakeholder group
- Create an engagement/communication plan

After agreement on the scope of the M&E system a detailed activity plan and budget can be made.

ANNEX 2: Draft ToR for the base line survey

Terms of Reference of the Baseline Survey

1. Project details

Executing agencies:
Partners in the Blue Gold Program
Funding:
Government of the Netherlands
Budget of the Baseline:
The contractor will present a plan and budget

2. Context and project summary

Since around 1975 the Bangladesh and Netherlands Governments are working closely together in the coastal zone of Bangladesh to create an environment conducive for sustainable economic growth with close involvement of the local communities. The Blue Gold Program has been designed taking into account the lessons learnt over the past ten years, the new insights in how to deal with the challenges created by the very dynamic rivers of Bangladesh and the new communication technologies.

Blue Gold became operational in March 2013 and extends over a 6 years period, until March 2019. Its operations concentrate on the polders of three districts: Patuakhali, Khulna and Satkhira. The Program covers 160,000 ha (gross) where an estimated 150,000 household will have direct benefits from the Program.

3. Main objectives and expected impact

The overall objective of the Blue Gold Program is:

"to reduce poverty for 150,000 households living on160,000 ha of selected coastal polders by creating a healthy living environment and a sustainable socio-economic development".

The specific objectives of Blue Gold are:

I. To protect the communities and their land located in polders against floods from river and sea (climate change adaptation) and to optimize the use of water resources for their productive sectors.

II. To organise the communities in cooperatives which will have to become the driving force for the natural resources based development (agriculture, fisheries and livestock), whereby environment, gender and good governance are effectively addressed.

III. To increase the household income derived from the productive sectors.

IV. To strengthen the institutional framework for sustained water resources development and related development services in the SW/SC coastal zones

Based on the above, the program is divided into **5 components**:
- Community Mobilisation and Institutional Strengthening

- Water Resources Management
- Food Security and Agricultural Production
- Business Development
- Cross Cutting Issues (good governance, gender, environment, disaster risk reduction and innovations)

4. Approach

The baseline survey will not only serve to establish a benchmark for comparing and impact measurement, it will also assess the existing conditions and issues affecting target communities and beneficiaries and provide the Blue Gold Programme with an in-depth understanding of the socio-economic situation of the households in the targeted polders.

The **purpose** of the baseline survey is
- To provide in-depth information on the socio-economic situation of the target population at a certain point in time
- To define the benchmark of the socio-economic situation in the selected polders that can be used:
  - As point of reference for monitoring and evaluation purposes
  - For measuring project's achievement at impact level (reduced poverty)

The baseline survey is to be conducted at an early stage of the programme, but at least before the actual programme intervention will take place. The end-line survey will contain the same list of questions and will be conducted after the program intervention. Comparing these two points *in* time, the change *over* time can be measured.

The baseline study will consist of a household questionnaire covering several subjects such as:

- Household (family) info, including education
- Food security
- Household economy
- Gender
- Child welfare
- Wash
- Land tenure, land use
- environment
-

The questionnaire will be designed by the contractor and transformed into a digital format using software, such as freeware ODK Collect (opendatakit.org). The results of the questionnaires can be collected in excel format ready for analysis.

The MottMacDonald Survey team, or a consulting firmif the survey is contracted out, in consultation with the Blue Gold National M&E Expert, will propose the sampling frame, size and approach for approval by Blue Gold. The proposed questionnaire will be tested in a field trial and the final questionnaire will be presented to the National M&E Expertof Blue Gold for approval. The field trial will be used to train staff involved in the field survey.

5. Scope and methodology

a) <u>Sampling</u>: The contractor will propose a sampling method based on a stratification of the target area and propose a sampling frame, size and approach.

b) <u>Indicators</u>: The indicators as identified by Blue Gold need to be addressed in the base line. The information required to determine the indicators, will form the basis for the design of the questionnaire.

c) <u>Field work:</u> The fieldwork will consist of conducting interviews with household representatives. The info will be collected using a handheld field computer (android mobile telephone or tablet). The questionnaires will include GPS info and photographs may be uploaded with the questionnaires. The contractor will propose the survey logistics (composition of field teams, cars, lodging, etc.)

d) <u>Analysis and reporting:</u> The contractor will be responsible for the data analysis and report on the results with the agreed confidence levels and error margins (as reflected by the sample size). Data analysis can be carried out in excel, as the data of the questionnaires may be processed in excel. The contractor may propose the software to be used in the survey. The report should address the indicators and report on household data where relevant. The report should not exceed 25 pages, excluding annexes.

e) <u>Timeframe:</u> The survey, analysis and reporting should be carried out between December 2013 and April 2014

6. Budget
The survey manager will propose a budget covering the following items:

- Accommodation
- Transport
- Personnel
- Supervision
- Other

7. Staff requirements

The survey manager will provide a list of staff and their positions required to carry out the survey. The list will include staff for supervision both during the field survey and the reporting phase.

ANNEX 3: Draft baseline questionnaire

Baseline Survey Questionnaire Format

BASELINE SURVEY	
BLUE GOLD PROJECT	

Note for enumerator: *Before starting the interview, introduce yourself, explain what are the objectives of the survey and ask the person if he/ she consents to respond to the questions. If not, go to the next household.*

	A – HOUSEHOLD COMPOSITION & FOOD SECURITY	
A.1	Name of Respondent(s)	
A.2	Sex	1= male; 2= female
A.3	Age	1= 15-25; 2= 26-45; 3= 46-60; 4= over 60
A.4	Marital status	1= Married ; 2= Unmarried; 3= Divorced; 4= Separated; 5= Widow/widower; 6= Never married
A.5	Formal education	1= Primary school; 2= Secondary school; 3= Higher education 4= illiterate
A.6	Training (multiple answers possible)	1= Agriculture related; 2= IPM; 3= Fish culture; 4= Cattle and poultry rearing; 5= Handicraft and cottage industry; 6= Technical; 7= Business development; 8= Gender ; 9= Project management; 10= Not taken any training; 11= other
A.7	Is interviewee head of household?	1= yes 2= no
A.8	Relation with Household:	1= Wife / Husband; 2= Son / Daughter; 3= Son-In-Law / Daughter-In-Law; 4= Grandchild; 5= Parent; 6= Parent-In-Law; 7= Brother / Sister; 8= Brother-In-Law / Sister-In-Law; 9= Uncle / Aunt; 10= Niece / Nephew; 11= Other relative; 12= Adopted / Foster / Stepchild; 13= Not related; 14= Don't know
	NOTE FOR INTERVIEWER: please indicate whether the interview is held with one or more respondents?	1= interview only held with one individual respondent 2= interview held with more respondents including the wife of the head HH member (in case the head is male) 3= interview is held with more respondents, but the main HH female member is not with the interview
A.9	Address: (GPS!)	Para/Moholla/Somaj: Village: Union: Upazila: District: Polder no.:
A.10	Number of women in HH aged 15-49 years	1= none; 2= one; 3= two; 4= three; 5= more than three
A.11	Number of men in HH aged 15-49 years	1= none; 2= one; 3= two; 4= three; 5= more than three
A.12	Number of children in HH under age 15:	1= none; 2= one; 3= two; 4= three; 5= more than three
A.14	Please indicate which types of land you own (multiple answers possible):	1= Homestead; 2= Agricultural land; 3= Garden area/ Orchard/ Bushes; 4= Gher; 5= Pond/ditch; 6=Fallow or waste land; 7= no land ownership; 8= other
A.15	Ownership of the house?	1= owned by the interviewee's household; 2= rented 3= the house is built on someone else's land; 4= other
A.16	Which is your primary occupation? (one option)	1= student; 2= unemployed; 3= agriculture/crop farming; 4= Dairy/poultry farm work; 5= Livestock rearing; 6= day labor (on another farm); 7= Day labor (non farm); 8= Business; 9= Washerman/barbar/coblar; 10= Cottage industry; 11=

		Construction worker; 12= Brick field labor; 13= Auto driver; 14= Housekeeping; 15= fish farming; 16= fish catching (inshore and artisan; 17= salaried job (business, service); 18= fish drier; 19= small trade; 20= rickshaw/ van puller; 21= boatman or driver; 22=unemployed and/or looking for work; 23= retired
A.17	Secondary occupation? (one option)	1= student; 2= unemployed; 3= agriculture/crop farming; 4= Dairy/poultry farm work; 5= Livestock rearing; 6= day labor (on another farm); 7= Day labor (non farm); 8= Business; 9= Washerman/barbar/coblar; 10= Cottage industry; 11= Construction worker; 12= Brick field labor; 13= Auto driver; 14= Housekeeping; 15= fish farming; 16= fish catching (inshore and artisan; 17= salaried job (business, service); 18= fish drier; 19= small trade; 20= rickshaw/ van puller; 21= boatman or driver; 22=unemployed and/or looking for work; 23= retired
A.18	In which of the following occupations, female HH members are involved?	1= student; 2= unemployed; 3= agriculture/crop farming; 4= Dairy/poultry farm work; 5= Livestock rearing; 6= day labor (on another farm); 7= Day labor (non farm); 8= Business; 9= Washerman/barbar/coblar; 10= Cottage industry; 11= Construction worker; 12= Brick field labor; 13= Auto driver; 14= Housekeeping; 15= fishing; 16= salaried job; 17= fish drier; 18= small trade; 19= rickshaw/ van puller; 20= retired
A.19	For which of the following, female HH members are involved? (multiple answers possible)	1= selecting crop varieties; 2= purchasing machinery; ; adopting new crop technologies; 3= employing labour on the farm; 4= selling of grains; 5= selling of crop residues; 6= using crop residues as feed; 6= deciding what to feed livestock; 7= managing livestock feeding; 8= managing milking; 9= deciding on sale of milk; 10= deciding on use of milk income; 11= deciding on sale of livestock; 12= deciding on use of dung as fuel; 13= deciding on lease/share of land; 14= deciding on sale of land; 15= construction/ repair of house; 16= preservation of agricultural products; 17= how to spend money
FOOD SECURITY		
A.20	What did you eat yesterday? (multiple answers possible)	1= rice, noodles, biscuits, cookies OTHER LOCAL FOODS THAT CONTAIN MILLET, SORGHUM, MAIZE, WHEAT? 2= pumpkin, carrots, squash, sweet potatoes? 3= white potatoes, yams, manioc, cassava OR OTHER FOOD MADE FROM ROOTS OR TUBERS? 4= bean leaves, kale, cowl, spinach, pepper leaves, taro leaves, amaranth leaves or other leafy vegetables 5= beef, pork, lamb, goat, rabbit wild game, chicken, duck or other birds, liver, kidney, heart or other organ meats? 6= eggs? 7= fish or seafood? 8= pulse crops, legumes such as beans, peas, lentils, or nuts? 9= milk or milk products? WHICH MILK PRODUCTS ARE COMMONLY USED? 10= oil? 11= sugar or honey 12= miscellaneous i.e. coffee, tea, powdered spices
A.21	During which of the last 12 months your HH did not have enough food? (multiple answers possible)	1= January; 2= February; 3= March; 4= April; 5= May; 6= June; 7= July; 8= August; 9= September; 10= October; 11= November; 12= December; 13= we had enough food all year round – go to question XX
A.22	Which are the causes for the food shortage?	1= not enough agricultural produce 2= not enough financial resources to buy the needed food 3= both: not enough agriculture produce and financial resources
A.23	Over the last 12 months, did you face some of the following events that resulted in food shortage? (multiple answers	1= yes, flooding due to storm surge in monsoon period resulted in ruined agricultural produce 2= yes, cyclone/tornado ruined agricultural produce

	possible)	3= Yes, mismanagement of water in the polder resulted in loss of agricultural produce 4= Yes, drought resulted in lack of water, which resulted in loss of agricultural produce 5= yes, loss of land/livestock/business/investment resulted in financial loss and consequently lack of resources to buy food 6= yes, lack of job/employment resulted in lack of financial resources to buy food 7= yes, other reasons 8= no
A.24	In occasions that you don't have enough food and financial resources, what do you do to be able to feed yourself and family?	1= eats seeds; 2= eats fruits and vegetables that are unripe; 3= sells land or livestock to be able to buy food; 4= buys food from finances that were meant for other expenditure (i.e. school fees); 5= gets support from an NGO or religious organization 6= applies for a loan; 7= mortgage or leases out of land to get money; 8= borrows money from neighbours or relatives to buy food; 9=temporarily migrates out of area to work elsewhere; 10= eats one meal less a day; 11= other
	B – COMMUNITY	
B.1	Are you or any of HH members involved with any NGO or local level organization?	1= yes 2= no (go to question XX)
B.2	If yes, which ones:	1= NGO; 2= Water Management Group; 3= Water Management Association; 4= Water Management Federation; 5= Local Area Development Committee; 6= Tubewell user group; 7= Farmers Forum; 8= Social Forestry Group; 9= Labour Contracting Society;10= Community Based Organisation
B.3	What kind of support do you get from these organisations?	1= advice on agriculture and other farm activities; 2= trainings 3= input support – seeds; 4= input support – chicken and duck lings; 5= vaccination support for poultry and livestock; 6=health and family planning support; 7= legal support; 8= support for income generating activities; 9= employment; 10= micro credits
B.4	Do you have water management problems in your area?	1= yes 2= no, go to question XX
B.5	If so, what's the problem? (multiple answers possible)	1= waterlogging due to drainage; 2= Waterlogging due to sluice disfunctioning; 3= Canal blockage ; 4= Canals not discharging well; 5= Infrastructures damaged ; 6= Infrastructure is too small 7= Bad operation of infrastructure
B.6	How much have you been in contact with the BWDB?	1= once over the last year 2= once in the last half year 3= not at all
B.7	Did the BWDB bring benefits to your area?	1= yes 2= no
B.8	Have you been involved in WMG or WMA as an active member?	1= yes, WMG 2= yes, WMA 3= no
B.9	Do you have any benefits from the WMG and WMA?	1= yes 2= no

POVERTY INDEX (QUESTIONS TO BE INTEGRATED INTO RELEVANT SECTIONS OF SURVEY)	
How many household members are 12 years old or younger?	A. Three or more (0 point) B. Two (10 point) C. One (16 point) D. None (29 point)
Do all household members ages 6 to 12 currently attend a school/educational institution?	A. No (0 point) B. No one 6 to 12 (3 point) C. Yes (6 point)

	In the past year, did any household member ever do work for which he/she was paid on a daily basis?	A. Yes (0 point) B. No (8 point)
	How many rooms does your household occupy (excluding rooms used for business)?	A. One (0 point) B. Two (3 point) C. Three or more (5 point)
	What is the main construction material of the walls of the main room?	A. Hemp/Hay/Bamboo or other (0 point) B. Mud brick, or C.I. sheet/wood (2 point) C. Brick/cement (9 point)
	Does the household own any televisions?	A. No (0 point) B. Yes (7 point)
	How many fans does the household own?	A. None (0 point) B. One (4 point) C. Two or more (7 point)
	How many mobile phones does the household own?	A. None (0 point) B. One (8 point) C. Two or more (15 point)
	Does the household own any bicycles, motorcycle/scooters, or motor cars etc?	A. No (0 point) B. Yes (4 point)
	Does the household own (or rent/sharecrop/mortgage in or out) 51 or more decimals of cultivable agricultural land (excluding uncultivable land and dwelling-house/homestead land)?	A. No (0 point) B. Yes (7 point)

	C – WATER	
C.1	What is the main source of drinking water for members of your household? (only one option)	1= Khals; 2= Deep Hand Tube Wells 3= Protected Pond water; 4= Untreated Canal/River water; 5= Dug well; 6= Rain Water from the roof; 7= Shallow Tube Wells 8= Untreated Pond Water
C.2	What is the main source of water used by your household for other purposes such as cooking and washing? (only one option)	1= Khals; 2= Deep Hand Tube Wells; 3= Protected Pond water; 4= Untreated Canal/River water; 5= Dug well; 6= Rain Water from the roof; 7= Shallow Tube Wells; 8= Untreated Pond Water
C.3	How far away is it for you to collect drinking water?	1= less than half an hour walk 2= more than half an hour walk
C.4	How do you collect your drinking water in the rainy season?	1= Khals; 2= Deep Hand Tube Wells; 3= Protected Pond water; 4= Untreated Canal/River water; 5= Dug well; 6= Rain Water from roof; 7= Shallow Tube Wells 8= Untreated Pond Water
	Have you faced drinking water shortage over the last year?	1= yes 2= no– go to question XX
	What did you do to obtain drinking water?	1= bought water 2= travelled further to obtain drinking water 3= drank untreated and saline water
C.5	How many times in the last six months has a family member been ill with diarrhea?	1= no one 2= at least one family member 3= more than one family member
C.6	Do you treat water before drinking?	1= yes, cooking/boiling water 2= yes, filtering 3= both cooking/filtering 4= no
C.7	How would you rate the quality of your drinking water? (multiple answers possible)	1= Good, 2= Average, 3= Excess of iron, 4= Saline, 5= Bad smell, 6= Contaminated, 7= Arsenic present (in case of a tube well in or near the bari); 8=Don't know
C.8	Type of latrine used by HH:	1= No latrine; 2= Hanging/open; 3= Ring-slab (unhygienic); 4= Ring-slab (water sealed) 5= Sanitary latrine; 6= Other
C.9	Where does the latrine drain?	1= open ground; 2= soak pit or tank; 3= canal; 4= pond; 5= other
C.10	Do you irrigate your cropping fields?	1= yes 2= no – go to question XX
C.11	If yes, what part of the cropping field do you irrigate?	1= less than a quarter of the land 2= more than a quarter, less than half of the land 3= more than half of the land
C.12	What is the source of water for field crop irrigation (more answers possible):	1= Canal/ Beel; 3= Pond; 4= Groundwater (tubewells);
C.13	How do you retrieve the water for irrigation?	1= tubewell; 3= Pumps; 3= gravity
C.14	What do you use as fuel for irrigation?	1= diesel 2= electricity 3= no fuel, just manual operation
C.15	What problems do you face with irrigation water?	1= water quality problems 2= water quantity – not enough available for irrigation 3= Both water quality and quantity problems 4= No go to question XX
C.16	If yes, what water quality problems?	1= salinity 2= muddy freshwater 3=
C.17	If yes, what water quantity problems? (multiple answers possible)	1= Water doesn't reach land due to land elevation 2= Not enough water available in the dry

			periods to irrigate land …… 3=……..
C.18	Have you experience drainage problems due to waterlogging over the last 12 months?		1= yes 2= no go to question XX
C.19	Have you experienced any kind of flooding over the last 12 months?		1= yes embankment overtopping 2= yes Breach in embankment 3= yes poor operation of gates and sluices 4= no go to question XX
C.20	Are initiatives taken in the dry season for water storage?		1= yes 2= no – go to question XX
C.21	Which are those initiatives?		1= Pond maintenance 2= Canal/Beel maintenance 3= Timely operation of gate 4= other

D – AGRICULTURE, LIVESTOCK, FISHERIES		
D.1	Which type of agricultural land use and ownership applies to you? (multiple answers possible)	1= Share cropped in ; 2= Mortgaged in; 3= Leased/rented in; 4= Share cropped out; 5= Mortgaged out; 6= Leased/rented out 7= owns land and used only by own HH
D.2	Which of the following cropping systems do you apply on your biggest piece of cultivation land? (only one option)	1= T. Aman 2= T. Aman and Rabi 3= T. Aman and Aus 4= T. Aman and Sesame 5=
D.3	Regarding to your biggest piece of cultivation land, which is your most important crop? (only one option)	1= T. Aman 2= Aus 3= Boro 4= Rabi 5= Sesame
D.4	Which is the field size you use for your most important crop? (make sure that it's clear whether the HH answers in biga, hectares, or other measurements, and correctly convert the numbers into decimals)	…. Decimals
D.5	How big was the yield of the last harvest of your most important crop?	…. Maunds – mon??
D.6	What did you do with the last harvested yield of your most important crop?	1= used it entirely for own consumption 2= used it mostly for own consumption, but sold on market also 3= uses for consumption, but most of the yield is sold on market 4= yields are not used for own consumption; everything is sold on market 5= not applicable
D.7	Where do you get your seeds from for your most important crop (multiple options possible)	1= I only use seeds from my own collection (previous yields) 2= I use seeds from my own collection but also buy seeds; 3= I buy most of the seeds, and don't use seeds from my own yields; 4= I get seeds from my neigbhour 5= I receive seeds from another project or NGO 6= other
D.8	Which types of fertilizers do you use for your most important crop (multiple answers are possible):	1= Urea; 2= Gut Urea; 3= TSP; 4= MP; 5= Zink; 6= Cow dung; 7= Compost; 11= FYM; 12= DAP
D.9	How much organic fertilizer and synthetic fertilizer do you use for your most important crop? (one option)	1= only synthetic; 2= only organic; 3= mostly synthetic, also organic; 4= mostly organic, also synthetic

D.10	Have you had problems with pests over last season of your most important crops?	1= yes 2= no – go to question xx
D.11	What did you do to manage the pest problem? (multiple answers possible)	1= applied chemical pesticides ; 2= applied IPM measures; 3= applied both chemical pesticides and IPM measures; 4= did nothing
D.12	If 1 and 3, how many times did you use insecticide in the last season?	… times
D.13	Have you had problems with crop diseases over the last season of your most important crop?	1= yes 2= no – go to question xx
D.14	If yes, what did you do to manage the disease problems?	1= applied chemical pesticides ; 2= applied IPM measures (without chemicals ; 3= applied both chemical pesticides and IPM measures; 4= did nothing
D.15	In last season, did you lose (part of) the yields of your most important crop due to diseases or pests?	1= yes, more than half of my crops 2= yes, less than half, but more than quarter of my crops 3= yes, less than quarter of my crops 4= no
D.16	FOR THE INTERVIEWER: In case the HH only has one major crop, please choose "skip this question"; otherwise, choose "continue"	1= skip the next question – go to question xx 2= continue
D.17	Which is the field size you use for your second most important crop? (make sure that it's clear whether the HH answers in biga, hectares, or other measurements, and correctly convert the numbers into decimals)	…. Decimals
D.18	How big was the yield of the last harvest of your second most important crop?	…. Maunds
D.19	What did you do with the last harvested yield of your second most important crop? (one option)	1= used it entirely for own consumption 2= used it mostly for own consumption, but sold on market also 3= uses for consumption, but most of the yield is sold on market 4= yields are not used for own consumption; everything is sold on market 5= not applicable
D.20	Where do you get your seeds from for your second most important crop (multiple options possible)	1= I only use seeds from my own collection (previous yields) 2= I use seeds from my own collection but also buy seeds; 3= I buy most of the seeds, and don't use seeds from my own yields; 4= I get seeds from my neigbhour 5= I receive seeds from another project or NGO 6= other
D.21	Which types of fertilizers do you use for your second most important crop (multiple answers are possible):	1= Urea; 2= Gut Urea; 3= TSP; 4= MP; 5= Zink; 6= Cow dung; 7= Compost; 11= FYM; 12= DAP
D.22	How much organic fertilizer and synthetic fertilizer do you use for your second most important crop? (one option)	1= only synthetic; 2= only organic; 3= mostly synthetic, also organic; 4= mostly organic, also synthetic
D.21	Have you had problems with pests over last season of your second most important crops?	1= yes 2= no – go to question xx
D.22	What did you do to manage the pest problem? (multiple answers possible)	1= applied chemical pesticides ; 2= applied IPM measures; 3= applied both chemical pesticides and IPM measures; 4= did nothing
D.23	If 1 and 3, how many times did you use insecticide in the last season of your second most important crop?	… times
D.24	Have you had problems with crop diseases over the last season of your second most important crop?	1= yes 2= no – go to question xx
D.25	If yes, what did you do to manage the disease problems?	1= applied chemical pesticides ; 2= applied IPM measures (without chemicals ; 3= applied both chemical pesticides and IPM measures; 4= did nothing

D.26	In last season, did you lose (part of) the yields of your second most important crop due to diseases or pests?	1= yes, more than half of my crops 2= yes, less than half, but more than quarter of my crops 3= yes, less than quarter of my crops 4= no
	[ADD LIST FOR THIRD MOST IMPORTANT CROP]	
D.27	Apart from your most important crops, which other crops do you cultivate on your fields?	1= Pulse crops; 2= ; 3= jute; 4= oil seed; 5= soybean; 6= wheat; 7= maize; 3= others; 4= Not applicable
D.28	Have you faced any of the following challenges with any of your crops over the last year, apart from pests/diseases?	1= floods; 2= non availability of quality seed; 3= lack of irrigation facilities; 4= draught; 5= lack of fertilizer; 6= unavailability of storage facilities; 7= not adequately equipped for proper harvesting, seeding, transplanting, etc; 8= drainage problems; 9= other; 10=no – go to question xx
	Did these challenges result in a loss of your crops?	1= yes, more than half of my crops 2= yes, less than half, but more than quarter of my crops 3= yes, less than quarter of my crops 4= no
D.29	Which kind of vegetables do you grow in your homestead garden?	1= Betel leaf; 2= pumpkin; 3= beans; 4= Cucumber; 5= potato; 6= tomato; 7= chili; 8= Phnui shak; 9= Data shak/ lalshak; 10= brinjal; 11= sweet gourd; 12= cauliflower; 13= cabbage; 14= carrot; 15= radish; 16= Other; 17= not applicable – go to question XX
D.30	Which kind of fruits do you grow?	1= Coconut; 2= Lemon; 3=Guava; 4=Papaya; 5=Banana; 6=Water melon/ melon; 7= Mango/ Jack fruit; 8= Tal/ Date palm; 9= Bettelnut; 10= Amra; 11=Other; 13= not applicable – go to question XX
D.31	Do you grow trees, fruits or vegetables on the pond dike or alongside the gher?	1= yes 2= no
D.32	Do you mostly use your homestead vegetables and fruits for own consumption or do you also sell on markets?	1= only for own consumption 2= mostly for own consumption, but sells on market also 3= uses for consumption, but most of fruits and vegetables are sold on market
D.33	How many adult chickens do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own chickens
D.34	How many adult ducks do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own ducks
D.35	How many adult geese do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own geese
D.36	How many adult pigeons do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own pigeons
D.37	FOR THE INTERVIEWER: In case the HH doesn't own any poultry, please choose "skip this question"; otherwise, choose "continue"	1= skip the next question – go to question xx 2= continue
D.38	Do you use eggs for own consumption, and/ or do you sell them?	1= only for own consumption 2= own consumption, and sells less than a quarter 3= own consumption, and sells more than a quarter but less than half 4= own consumption, and sells more than half 5= own consumption, and sells more than three quarters 6= my poultry does not produce eggs
D.39	Do you use poultry meat for own consumption or do you sell?	1= only for own consumption 2= own consumption, and sells less than a quarter 3= own consumption, and sells more than a quarter but less than half 4= own consumption, and sells more than half 5= own consumption, and sells more than three quarters 6= other
D.40	What do you feed your poultry?	01-Water, 02- Rice bran, 03- wheat bran, 04- Oil Cake (khoil), 05-Broken wheat/ maize/rice, 06- Crushing

		oyster/ouster; 07- Salt, 08- Feed Additives, 09- Prepared Branded feed, 10- Rice, 11- Paddy, 12= Others
D.41	Do you vaccinate your poultry?	1= yes 2= no
D.42	If you don't vaccinate your poultry, why not?	1= Vaccine not available, 2= Vaccinator/ veterinarian not available, 3= too expensive, 4= distance to vaccination facility is too far; 5= vaccine is not much effective; 6= Not interested
D.43	Do you face challenges regarding poultry diseases?	1= yes 2= no go to question xx
D.44	Were you able to give treatment to the sick poultry?	1= yes 2= no – go to question xx
D.45	Who treated the poultry?	1= self; 2= DLS; 3= NGO; 4= Village L/P worker 5= private practitioner; 6= input seller; 7= other
D.46	How many poultry have died over the last year due to diseases?	1= no poultry died because of disease (but for other reasons, i.e. old age or fatal accident) 2= one poultry; 3= two poultry; 4= between three and 5 poultry; 5= between 6 and 10 poultry; 6= more than 10 poultry
D.47	How many cows do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own any cows - go to question xx
D.48	How many <u>milking</u> cows do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own any milking cows
D.49	How many goats do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own any goats
D.50	How many sheep do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own any sheep
D.51	How many pigs do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own any pigs
D.52	How many buffalos do you own?	1= one; 2= between 2 and 5; 3= between 6 and 10; 4= between 11 and 20; 5= more than 20; 6= I don't own any buffalos
D.53	Do you use milk for own consumption/ sell?	1= only for own consumption 2= own consumption, and sells less than a quarter 3= own consumption, and sells more than a quarter but less than half 4= own consumption, and sells more than half 5= own consumption, and sells more than three quarters 6= my livestock doesn't produce milk
D.54	What do you feed your livestock?	1= fodder; 2= straw; 3= concentrated food; 4= water 5= rice/ wheat/ pulse bran; 6= oil cake (khoil); 7= rice gruel (mar); 8= broken wheat/ maize/ rice 9= molasses; 9= urea; 10= salt; 11= green leaves 12= branded animal feed; 13= other
D.55	Do you vaccinate your livestock?	1= yes 2= no
D.56	If you don't vaccinate your livestock, why not?	1= Vaccine not available, 2= Vaccinator/ veterinarian not available, 3= too expensive, 4= distance to vaccination facility is too far; 5= vaccine is not much effective; 6= Not interested
D.57	Do you face challenges regarding livestock diseases?	1= yes 2= no go to question xx
D.58	Were you able to give treatment to the sick livestock?	1= yes 2= no – go to question xx
D.59	Who treated the livestock?	1= self; 2= DLS; 3= NGO; 4= Village L/P worker 5= private practitioner; 6= input seller; 7= other

D.60	How many livestock have died over the last year due to diseases?	1= no animals died because of disease (but for other reasons, i.e. old age or fatal accident) 2= one animal 3= two animals 4= between three and 5 animals 5= between 6 and 10 animals 6= more then 10 animals
D.61	Have you applied Artificial Insemination over the past years?	1= Yes 2= No
D.62	Do you own or share a pond?	1= Yes, HH owns a pond 2= yes, share a pond with other households under multi ownership; 2= yes, lease in the pond; 3= yes, lease out the pond; 4= yes, private mortgage in the pond; 5= yes, mortgage out the pond; 6= yes, share out the pond; 7= yes, private leased in the pond; 8= yes, private shared in the pond; 9= yes, institutional leased in; 10= yes, khas leased in; 11= yes, institutional/khas freehold 12= no – go to question XX
D.63	Which is the pond type that you use?	1= duba; 2= pond; 3= dighi; 4= borrow pit; 5= canal/khal; 6=other
D.64	What size is the pond? (please make sure that the measures given are converted to decimals)	… decimals
D.65	Does this pond have a dike?	1= yes 2= no
D.66	How do you operate the pond?	1= single 2= multiple
D.67	How do you use the pond? (multiple answers possible)	1= drinking water; 2= washing; 3= bathing; 4= fish culture; 5= fish nursery; 6= prawn nursery; 7= homestead irrigation; 8= paddy irrigation
D.68	Are you or any member of your HH involved in pond fish culture?	1= yes 2= no, go to question XX
D.69	If yes, which type of culture?	1= Traditional method (only stocking, harvesting, and no feeding or fertilizing applied; no monitoring of species is applied) 2= Semi Intensive/ poly culture (combination of species and their density is monitored, irregular feeding and fertilizing) 3= Intensive (combination of species and densities is properly monitored, regular feeding and fertilizing applied)
D.70	Do you apply a combination of poly and golda (freshwater prawns) culture in your pond?	1= yes 2= no
D.71	Do you apply integrated polyculture in your pond?	1= yes, chicken and ducks roam around the pond; 2= yes, cowshed is located at the pond; 3= yes, grows vegetables on bank of the pond; 4= yes, grows fruit (trees) on the bank of the pond; 5= no
D.72	What do you do to maintain your pond?	1= regular weeding; 2= cut branches of large trees around the pond; 3=
D.73	Do you cultivate shrimp or saltwater prawns?	1= yes 2= no – go to question xx
D.74	If so , how do you take the saline water?	1= cutting the embankment and install private pipes 2= directly from the canal just outside the pond/gher
D.75	Have you faced challenges over the last year regarding the salt water needed for your shrimp or saltwater prawns?	1= not saline enough; 2=; 4= Water pollution; 5= too Saline; 6= Other; 7= No problems; 8=
D.76	Do you intend to continue shrimp and/or saltwater prawn culture in the future?	1= Yes - go to question xx 2= No
D.77	If not, what are the reasons?	1= Shrimp diseases 2= Prawn diseases 3= The low salinity levels of the water result in low productivity 2=….

D.78	Which of the following challenges have you faced regarding fishing culture in the last year?	1= the flooding of ponds/ditches during high tide 2= insufficient availability of fingerling or other input 3= fingerling or other input was too expensive 4= insufficient availability of fish feed; 5= fish feed was too expensive; 6= pond dried up; 7= theft of fish 8= low profit/ return; 9= water is too saline 10= water pollution due to weeds and water hyacinth 11= water pollution, the water looks green or grey-green; 12= other
D.79	Have you had problems with diseases in your pond over the last year?	1= yes, fish diseases 2= yes, shrimp diseases 3= yes, prawn diseases 4= yes, other 5= no – go to question xx
D.80	Did you treat for the diseases?	1= yes, produced medicine/chemical; 2= yes, adopted local method; 3= Didn't do anything; 4= Other

E – BUSINESS & FINANCES		
E.1	Which are your HH sources of income (monetary)?	1= Agriculture from field crops; 2= agriculture from homestead (surplus); 3= retailer; 4= trader; 5= Wage Labor; 6= Income from rent; 7= Income from organizational work/ NGOs; 8= Government activities (LCS?); 8= Gathering/collecting; 9= selling of fish; 10= services (i.e. mechanical)
E.2	Which source of income is the most important?	1= Agriculture from field crops; 2= agriculture from homestead (surplus); 3= Own shop (trade/ business/ industry); 4= Wage Labor; 5=Income from rent; 6= Income from organizational work; 7=Government activities (LCS?); 8= Gathering/collecting; 9= selling of fish
E.3	Are you a trader (buyer) or retailer (selling)?	1= yes trade 2= yes retail 3= no 4=
E.4	How many family members are involved in income generating activities (monetary)?	1= one; 2= two; 3= three; 4= four or more; 5= no one– go to question XX
E.5	Are both male and female involved in income generating activities?	1= yes, both males and females 2= no, only males are involved – go to question XX 3= no, only females are involved
E.6	In case females are involved, how many females in your HH are involved in income generating activities?	1= one 2= two 3= three or more
E.7	How many times over the last 12 months did you apply for a loan?	1=once; 2=twice; 3=three times 4=did not apply for loan (go to question XX)
E.8	In which form(s) did you loan money?	1= Commercial bank; 2= Cooperative bank; 3= NGO/ CBO's; 4= Traditional money lender 5= Trader; 6= Friend & relatives-With interest 7= Friend & relatives-Without interest; 8= Samity
E.9	How big were those loans?	Loan 1:……………..taka Loan 2:……………..taka Loan 3:……………..taka
E.10	Where did you use the loans for?	1= Purchasing of seed, plant etc; 2= Purchasing of agricultural implements; 3= Purchase of livestock; 4= Purchase of food; 5= Social/religious event ; 6= Education cost for children; 7= Loan repayment 8= Land purchase; 9= Land mortgage; 10= Rent of land 11=Trade/business; 12= House repairing; 13= Medical cost; 14= bought transport vehicle; 15= bought or rented storage space for agricultural outputs; 16= bought irrigation pump
E.11	If you didn't apply for loans, did you make any of the following investments recently?	1= land acquisition; 2= invested in trade, business, shop 3= bought transport vehicle; 4= bought/ rented storage space for agricultural outputs; 5= bought livestock 6= bought irrigation pump; 7= invested in house

		repairment; 8= bought input for agricultural activities (this can be fertilizers, pesticides, seeds, land preparation material/labour); 9= no
E.12	How much did you spend on education over the last year, in total for all HH members?	…. Taka
E.13	How much did you spend on household assets over the last year?	…. Taka
E.14	How much did you spend on house improvement over the last year?	…. Taka
E.15	How much money did you spend on buying food over the last month?	…. Taka
E.16	How much did you spend on seeds over the last year?	…. Taka
E.17	How much did you spend on labour for your agricultural activities over the last year?	…. Taka
E.18	How much did you spend on fertilizer and pesticides over the last year?	…. Taka
E.19	Where do you sell your poultry and eggs? (multiple options possible)	1= neighbour/ own house; 2= own village 3= other village; 4= local hat/ market (distance less than 5 km); 5= distance hat/ market; 6= other; 7= doesn't own poultry – go to question xx
E.20	Have you faced problems in selling your poultry products this last year?	1= yes 2= no – go to question xx
E.21	Which problems?	1= markets far; 2= market inaccessible due to poor infrastructure; 3= market inaccessible due to lack of means for transportation; 4= poor communication 5= high competitiveness in prices; 6= lack of extension services; 7= unavailability of storage facilities; 8= other
E.22	Where do you sell your livestock? (multiple options possible)	1= neighbour/ own house; 2= own village 3= other village; 4= local hat/ market (distance less than 5 km); 5= distance hat/ market; 6= livestock farm (distance less than 5 km); 7= livestock farm (far) 8= other; 9= doesn't own livestock – go to question xx
E.23	Have you faced problems in selling your livestock this last year?	1= yes 2= no – go to question xx
E.24	Which problems?	1= markets far; 2= market inaccessible due to poor infrastructure; 3= market inaccessible due to lack of means for transportation; 4= poor communication 5= high competitiveness in prices; 6= lack of extension services; 7= unavailability of storage facilities; 8= other
E.25	Where do you sell your agricultural crops? (multiple options possible)	1= Local market; 2= Rich farmer ; 3=Dadon (contractual) 4=Local miller ; 5=Local buyer (Paiker/ farm gate) 6=Other 7= does not sell agricultural crops – go to question xx
E.26	Have you faced problems in selling your crops over the last year?	1= yes 2= no – go to question xx
E.27	Which problems?	1= markets far; 2= market inaccessible due to poor infrastructure; 3= market inaccessible due to lack of means for transportation; 4= poor communication 5= high competitiveness in prices; 6= lack of extension services; 7= unavailability of storage facilities; 8= other
E.28	Where do you sell your fish and/or prawns, and/or shrimps? (multiple options possible)	1= Mohajon; 2= Local market; 3= Distant market; 4= Other; 5= doesn't sell fish/prawns/shrimps – go to question xx
E.29	Have you faced problems in selling your fish/prawns/shrimps over the last year?	1= yes 2= no – go to question xx

E.30	Which problems?	1= markets far; 2= market inaccessible due to poor infrastructure; 3= market inaccessible due to lack of means for transportation; 4= poor communication 5= high competitiveness in prices; 6= lack of extension services; 7= unavailability of storage facilities; 8= other
E.31	Where do you get your fingerlings from?	1= From vendor; 2= From Govt. hatchery/ nursery; 3= From private nursery/ hatchery; 4= From other place 5= Collected from wild (PL); 6= From natural sources; 7= other
E.32	How do you acquire the food for your livestock?	1= buys food; 2= cultivates food on own land; 3= buys most of the food and cultivates some of the food; 4= cultivates some of the food but buys most of it
E.33	Which inputs do you use for your fish and shrimp?	1= Processed feed; 2= oil cakes; 3= polished rice; 4= molasses; 5= wheat bran; 6= wheat; 7= fishmeal; 8= Meat of mud snail; 9= cow dung; 10= poultry drops; 11= compost; 12= pesticide/ rotenone; 13= pelleted feed; 14= grass/ leaves; 15= other
E.34	Where do you get your seeds from for your crops (multiple options possible)	1= I only use seeds from my own collection (previous yields) 2= I use seeds from my own collection but also buy seeds; 3= I buy most of the seeds, and don't use seeds from my own yields; 4= I get seeds from my neigbhour 5= I receive seeds from another project or NGO 6= other
	Problem ranking:	1= water 2= soil 3= labour 4= capital

ANNEX 4: Base line survey budget

Baseline Survey Budget

Activities	Quantity	# of days/units	Unit cost (€)	Total cost (€)
Questionnaires development and translation				
Project Manager Day Rate	1	5	0,00	0,00
Translation into national language	1	2	0,00	0,00
Questionnaires Piloting				
Project Manager Day Rate	1	3	0,00	0,00
Transport	1	1	0,00	0,00
Adaptation of questionnaire				
Project Manager Day Rate	1	2	0,00	0,00
Translation	1	2	0,00	0,00
SUB TOTAL 1				0,00
Training of enumerators				
Project Manager Day Rate	1	5	0,00	0,00
Field Manager Day Rate	1	5	0,00	0,00
Supervisors Day Rate	3	5	0,00	0,00
Trainers Day Rate	1	5	0,00	0,00
Field staff Per Diem	30	5	0,00	0,00
Enumerator Day Rate	24	5	0,00	0,00
Printing Questionnaires (?)			0,00	0,00
Field Test				
Project Manager Day Rate	1	5	0,00	0,00
Field Manager Day Rate	3	5	0,00	0,00
Supervisors Day Rate	3	5	0,00	0,00
Field staff Per Diem	31	5	0,00	0,00
Enumerators Day Rate	24	5	0,00	0,00
Transport			0,00	0,00
Adaptation of questionnaire after field test				
Project Manager Day Rate	1	2	0,00	0,00
SUB TOTAL 2				0,00

Data entry template development (e-form)				0,00
Software specialist	1	3	0,00	0,00
Data Manager Day Rate	1	3	0,00	0,00
Date entry training and pre test of the template				
Software specialist	1	3	0,00	0,00
Data Manager Day Rate	1	3	0,00	0,00
Data Entry Personnel	25	3	0,00	0,00
data processing test				
Project Manager Day Rate	1	2	0,00	0,00
Software specialist	1	2	0,00	0,00
Data Manager Day Rate	1	2	0,00	0,00
SUB TOTAL 3				0,00
Household Sampling				
Project Manager Day Rate	1	3	0,00	0,00
Field Manager Day Rate	1	3	0,00	0,00
Supervisors Day Rate	1	3	0,00	0,00
Staff Per Diem	26	3	0,00	0,00
Enumerators Day Rate	24	3	0,00	0,00
Transport (12 motorbikes fuel)	24	3	0,00	0,00
Field work				
Project Manager Day Rate	1	15	0,00	0,00
Field Manager Day Rate	1	15	0,00	0,00
Data Manager Day Rate	1	15	0,00	0,00
Supervisors Day Rate	1	15	0,00	0,00
Staff Per Diem	24	15	0,00	0,00
Enumerators Day Rate	24	15	0,00	0,00
Transport (24 motorbikes fuel)	24	15	0,00	0,00
SUB TOTAL 4				0,00
Equipment and consumables				
Field Team Equipment			0,00	0,00
Motorbikes rent	24	18	0,00	0,00
Laptops			0,00	0,00
Mobile phones/tablets/simcards)	12	1	0,00	0,00
Solar battery chargers	12	1	0,00	0,00
SUB TOTAL 5				0,00
Logistic and administration				

Office Coordinator (printing, purchasing, etc)			0,00	0,00
SUBTOTAL 6				0,00
Data analysis and report writing				
Data Manager	1	15	0,00	0,00
Project Manager	1	15	0,00	0,00
			0,00	0,00
SUB TOTAL 7				0,00
TOTAL GENERAL				0,00

population size	150.000 households @ 5p per HH = 750.000 persons
sample size:	600 (estimate)

Enumerators	4 polder areas, 3 teams of 2 enumerators, 2 motorbikes per team
Field work	3 teams per polder, 15 interviews per day each polder, total of 60 interviews per day, 10 days for 600 interviews

ANNEX 5: Concept note for the base line survey of Blue Gold

1. Introduction

This note describes the conceptual framework for the base line survey to be carried out under Blue Gold. It is planned that the base line survey is repeated at the end of Blue Gold as an endline survey. It is further poposed that (an) intermediate survey(s) are carried out during programme implementation in order to assess progress. It is therefore necessary that the survey is not a one-time activity but undertaken so that a sustainable household database can be maintained by Blue Gold.

The sample frame of the survey is composed of the total number of households in the polders targeted by Blue Gold. A control group is not foreseen as it is difficult to select areas where no other programs will be implemented during the same period. The total number of households can be extracted from the HIES census 2011 conducted by the Bureau of Statistics. This survey gives information on the number of households and number of people for each village in the target polders.

This note further provides the framework for the design of the survey, the outlines the goal and purpose, selection of benchmark indicators (chapter 2), the sampling frame and sample size (section 2), elements of the survey questionnaire (chapter 3), survey instruments (chapter 4) and planning, management and implementation of the survey (chapter 5).

2. Survey Purpose and Goal

The purpose of the survey is to provide quantitative and qualitative data on the households in the target polders that allows an assessment of the institutional, agricultural production, water management, business and livelihood characteristcs in the target areas. The goal is to have a clear understanding of the livelihood attributes of the households and to obtain a set of benchmark indicators based on those data. Based on the results of the survey development plans can be

fomulated which include policies, strategies and intervention mechanisms for implementation in order to reduce poverty in the target areas by enhancing the livelihood of the rural population, through more efficient water resources management and increased productivity of crops, fishery and livestock in the polders and by empowering the communities.

The household assessment needs to be carried out periodically in order to capture trends, identify lessons learnt and make comparisons over time. This periodic assessment requires institutionalization of the survey, including the survey methodology and its associated database. This capacity needs to be established in Blue Gold, which will require training at various levels, including enumerators, data processors and data analists.

The base line will provide a "zero measurement", while the end line survey gives information on the situation at the end of the project, thus providing a basis for the assessment of impact. It may however be difficult attribute impact to intervention of Blue Gold, as many other influences other than Blue Gold interventions must have taken place during project implemention. In order to track changes during Blue Gold implementation a small sample of selected households will be monitored periodically. This monitoring will occur next to other types of monitoring such as outcome mapping, which will track the changes in behaviour of selected key partners, for instance water management groups at village level.

The baseline survey will not only provide general information on the livelihood of the households in the selected polders of Blue Gold, but also provide insight in the performance of various sectors relevant for the socio-economic development and enrironmental/water management in the polders. Key indicators are selected in the following areas: general household information (including occupation, food security, education, poverty/well being, etc.); community organization; water (household water, surface water, water management, etc.); agriculture, livestock, fisheries; business and finance. A number of individual indicators may be aggregated to a higher level, such as the poverty index, and household food securty. Gender and other cross-cutting elements will also be addressed by indicators.

The indicators selected for the baseline include among others the following:

General household information
- Household composition
- Occupation
- Formal/informal education
- Income and expenditure
- Food security
- Poverty index

Community
- Community organization
- Community support

Water (household and village/polder)
- Household drinking water (including quality)
- Distance to water source
- Sanitation
- Ghers and ponds
- Irrigation water

Agriculture, livestock and fisheries
- Cropping system
- Land use
- Production
- Marketing
- Crop management
- Animal production
- Fish/shrimp production

Business and finance
- Economic activities (trading, retailing)
- Loans
- Investments

Analysis of the survey data will provide information on options for development at household level and identify possible constraints. Potential productivity levels may be assessed, and opportunities for business development explored. Data on gender equity may be inferred from the base line, which could be used as an input for the annual planning of activities supporting specific gender objectives.

The survey should provide information to assess to what extent access to markets, agricultural inputs and technology, land, education and training, is a limiting factor to development. Analysis of the present levels of input in relation to the potential production (productivity) will allow an assessment of agricultural business potential (trading and retailing) at polder level.

The survey data will give insight in the present constraints in terms of infrastructure (irrigation and drainage, as well as the production potential, if the constraints are mitigated. This analysis will also provide information on the infrastructure of storage capacities (household, community level) and transport (roads, etc.).

Based on above information adequate strategies policies and intervention mechanisms can be explored, which can be used as an input for the formulation of polder development plans.

3. Sampling Frame and Sample Size

The sampling frame of the baseline survey is constituted by the total number of households in 9 (11) polders which will initially be included in Blue Gold. When new polders are selected for inclusion in the program, the base line can be carried out for those polders. It is proposed that the geographic stratification is applied for the determination of the sample size. In the case of Blue Gold polders are selected as the stratum for the Survey. Within each polder a two stage selection will take place:

- Stage 1: random selection of villages
- Stage 2: random selection of households

The sample size would depend on the following elements:

- the number of households in the polders
- the initial or *baseline* level of the indicator (estimate)
- the magnitude of change expected to be reliably measured
- the degree of confidence with which it is desired to be certain that an observed change would not have occurred by chance (the level of statistical significance)
- The degree of confidence with which it is desired to be certain that an actual change will be detected (statistical power).

The sample frame can be determined using HIES data from the 2011 census. The number of households in each of the villages in all polders can be established. This sample frame will be the basis for the determination of the sample size.

Blue Gold aims at the improvement of poverty, which may be expressed by the poverty index. Other indicators will further illustrate trends in the process of social change (improved performance of farmers and businesses, increased gender equity, improved water management). All these trends do not require high levels of statistical significance or statistical power. Also it is not likely that all changes can be attributed to the interventions of Blue Gold as many other actors are active in the same target areas, making attribution difficult to assess. Based on this consideration the sample size may be limited. The actual sample size, however, will be determined by the consultant statistician.

4. Survey instruments

The logial framework of Blue Gold provides the basis for the set of questions of the questionnaire used in the survey.

A draft questionnaire is attached to this note as an annex, which includes questions on:

- Household composition and food security
- Poverty Index
- Community
- Household water
- Water management in the polders
- Agricultural production
- Fish/shrimp production
- Land use
- Business and finance

5. Planning, management and implementation of the survey

The introduction, implementation and completion of the survey need a careful planning and coordination. The work program should be such that it takes account of two important elements of the survey aims, that of (i) ensuring collection of reliable and accurate records and (ii) institutionalizing the process within Blue Gold during data collection, processing, data storage and analysis.

Mott MacDonald Bangladesh in cooperation with the Blue Gold M&E team will be responsible for the management (survey manager) and coordination of the base line survey (survey coordinator). It is proposed that Blue Gold will recruit additional Community Organizers, budgeted for in Component 1, who will be trained as enumerators and work with the survey team for the duration of the field work. The number of CO's to be recruited will depend on the sample size. After the survey field work these CO's will be integrated in Component 1.

It is proposed that an international statistician is contracted for the preparation of the sample frame, stratification and size, in order to guarantee required accuracy and confidence levels.

A work program indicating the tasks and timetable for completion is outlined in the schedule below. This draft workplan is to be reviewed by the Survey manager of MottMacDonald Bangladesh and agreed upon by the Team Leader of Blue Gold. The timetable is tentative and will probably need to be adjusted prior to starting critical phases of the survey.

Once the sample size and survey methodology are established a budget can be prepared for the base line survey.

#	Activities	Dec	Jan	Feb	Mar	Apr	May
1	Compose survey team	▓					
2	Make detailed work plan	▓					
3	Contract sample frame consultant	▓					
4	Make sample frame, stratification and size	▓					
5	Design survey methodology	▓					
6	Make final questionnaire	▓					
7	Recruit enumerators	▓					
8	Train enumerators		▓				
8	Design digital form, and data collection, aggregation and processing systems using ODK	▓	▓				
9	Purchase android mobile systems (phones or tablets)		▓				
10	Carry out pilot survey		▓				
11	Carry out field work			▓	▓		
12	Data aggregation, processing, analysis, report writing				▓	▓	

ANNEX 6: Logical framework indicators

Information require by the indicators in the logical framework for 3 components

COMPONENT	CODE	Output	Outcome	Impact	INDICATORS	District	Polder	Village	Household	BASELINE	TARGETS AND MILESTONES	DATA COLLECTION METHOD	RESPONSIBILITY	TIMING	STATUS	DOCUMENT OVERVIEW
		LEVEL 1				LEVEL 2										
C1	C1.1	×			# of WMGs established and operational		×			tbd	600 new WMs + 246 re-activated IPSWAM	DoC register/ Monitoring data				
	C1.2	×			# of WMAs established and operational	×				tbd	tbd	DoC register/ Monitoring data				
	C1.3	×			# of female WMG members			×		tbd	At least 40% of the members					
	C1.4	×			# of woman in WMG executive committee			×		tbd	At least 30%					
	C1.5	×			# of woman in WMA executive committee		×			tbd	At least 30%					
	C1.6	×			satisfactory performance of O&M activities by WMGs			×		tbd	At least 80% of total WMGs	Functionality assessment				
	C1.7	×			satisfactory performance of O&M activities by WMAs		×			tbd	At least 80% of total WMAs	Functionality assessment				
	C1.8	×			# of MoUs signed between WMA and BWDB	×				tbd	All WMAs					
	C1.9	×			# of WMGs performing economic activities			×		tbd	At least 30% of total WMGs	Functionality assessment				
C2	C2.1	×			kind of economic activities performed by WMGs			×		n.a.						
	C2.2	×			water management infrastructure fine-tuned		×			tbd	135,000 ha					
	C2.3	×			polders rehabilitated		×			tbd	25,000 ha					
	C2.4	×			work carried out by LCS		×			tbd	At least 50% of all earthwork					
	C2.5	×			# of female LCS workers		×			tbd	At least 40% female LCS workers					
	C2.6	×			water logging reduced in Blue Gold polders		×			tbd	At least with 50%					
C3	C3.1	×			# of FFS implemented			×		tbd	At least 1400					
	C3.2	×			# of FFS participants			×		tbd	At least 25 per FFS					
	C3.3	×			# of femal FFS participants	×				tbd	Ratio of total FFS participants is 50:50					
	C3.4	×			# of Departmental Trainers trained	×				tbd	At least 50					
	C3.5	×			# of Farmer Trainers trained			×		tbd	At least 150					
	C3.6	×			# of advanced FFS performing Participatory Action Research			×		tbd						
	C.7	×			# of new curricula developed			×		tbd						
	C3.9		×		ton/ha rice produced			×		tbd	Increased with 8%	Baseline / endline				
	C3.10		×		ton/ha high value crops produced			×		tbd	Increasted with 15%	Baseline / endline				
	C3.11		×		ton/ha eggs produced			×		tbd	Increasted with 50%	Baseline / endline				
	C3.12		×		ton/ha fish produced			×		tbd	Increased with 10%	Baseline / endline				
	C3.13		×		ton/ha vegetables produced			×		tbd	Increased with 15%	Baseline / endline				
	C3.14		×		ton/ha fruits produced			×		tbd	Increased with 15%	Baseline / endline				
	C3.15		×		production intensity per polder		×			tbd	Increased with 20%	Baseline / endline				

ANNEX 7: Stakeholder Analysis Matrix and Engagement Plan

Name of stakeholder, organization, group or individual National, regional or local?	Stakeholder description Primary purpose, affiliation, funding	Potential role in the activity Vested interest in the activity	Level of knowledge of the project Specific areas of expertise	Level of Commitment Support or oppose the project to what extent, and why?	Available resources Staff, volunteers, money, technology, information, influence	Constraints Limitations: need funds to participate, lack of personnel, political or other barriers
Government Sector						
Bangladesh Water Development Board (BWDB) (incl. 2 zones, 3 Circles and 7 Divisions and Departments of Planning & Design units)geographical area covering 3+1 part districts	-Part of Ministry of Water Resources (MoWR) -Executing agency on behalf of GoB -Focused on (integrated) water resources management. -Divided in Zones, Circles, Division and local offices.	Implementation of Water Management component Coordination of the contributions of involved GoB agencies at national level Specific activities: - Engineering designs - O&M of water infrastructure in the polders - tendering of civil works - supervision of construction works - payment of contractors' invoices.	High	-Support and active participation. -All designs are made by Design Cell in Dhaka -Identification of O&M needs done by - -Divisional Offices (with the support from WMOS), headed by XEN (Executive Engineer)	Staff: as per DPP, total about 60 staff Money: EURO 15,750,000 from Dutch Grant plus approx. EURO 7,5 mln from GoB contribution High influence	-Lack of motivated staff Suffocating bureaucratic procedures for fund placing and contract awarding -Lack of operational funds (cars, salaries, office equipment, and so on) Transparency
Department of Agricultural Extension (DAE) (incl. 3+1 part districts and 25 upazilas)	-Part of Ministry of Agriculture (MoA) -Executing agency – DAE with separate DPP to implement TOT, FFS and other activities in	Supporting agency of Food Security component through the Upazila offices and coordination at district level	Medium	Support	Staff: as per DPP, Money: EURO 1,000,000 from Dutch Grant plus approx. EURO 161,000	Implements several other projects, partly overlapping in Blue Gold area

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	crops agriculture - Focused on agricultural extension in crops agriculture - Divided in Regions, Districts and Upazilas				from GoB contribution Information Medium influence	
Bangladesh Agricultural Research Institute (BARI)	Variety development and research in multiple crops including cereals and vegetables	Obtaining information on potentially relevant agricultural production practices for farm trials	Low	Support	Information	Limited linkage and coordination between DAE and BARI and for Up scaling the research results/output
Bureau of Statistics	Gather and generate Household and Village Level data	Providing secondary data on socio-economic conditions in Bangladesh	Low	Neutral	Information	n.a.
Bangladesh Rice Research Institute (BRRI)	Variety development and research in rice	Obtaining information on potentially relevant agricultural production practices for farm trials	Low	Support	Information	Limited linkage and coordination between DAE and BRRI and for Up scaling the research results/output
Department of Livestock Services	Responsible for extension and services related to livestock production (cattle, small ruminants, poultry, etc.)	-Supporting the Food security component through the Upazila offices and coordination at district level -Technical advices; curriculum development;	Medium	Support	Staff Information Medium influence	Limited staff and lack of resources for extending Technical services and dissemination of improved technical information

Name of stakeholder, organization, group or individual National, regional or local?	Stakeholder description Primary purpose, affiliation, funding	Potential role in the activity Vested interest in the activity	Level of knowledge of the project Specific areas of expertise	Level of Commitment Support or oppose the project to what extent, and why?	Available resources Staff, volunteers, money, technology, information, influence	Constraints Limitations: need funds to participate, lack of personnel, political or other barriers
		information sharing; livestock training courses				
Department of Fisheries	Responsible for extension and services related to fish production	Supporting the Food security component through the Union offices at district level. Technical advice; curriculum development; information sharing; fish training courses	Medium	Support	Staff Information Medium influence	-Limited staff and lack resources for extending -Technical services and dissemination of improved technical information
Department of Cooperatives	Cooperative development on behalf of GoB in accordance with Coop Law. Offices at district level.	-Registration of the WMO under the Cooperative Law. -Training of WMOsConducting annual audits -Update the records of enrollment of members and reelected committees	Medium/ High	Neutral, to dis-interested considering the type of coops WMG are, their number putting claims on their resources, etc.	Registrar Staff Cell Resources to be arranged to ensure commitment, were expecting this to be part of project formulation	-But require increased number field staff, operating funds, and transport -MoU to be arranged to extend some logistic support
Local Government Engineering Department	The main functions of LGED are local and urban infrastructure development and small scale water resources management.	-Collaboration based on a MoU between BWDB and LGED providing information and data -Construction of roads on embankments and water management	Low	Neutral to negative	No resources for LGED through Blue Gold	-Lack of communication and coordination between and BWDB. LGED has own program, not always in line with BWDB/Blue Gold. -Takes decisions without consulting BWDB zonal offices;

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		infrastructure with the polders				overrules XEN: see example of bridge in embankment in polder 43/2A
Department of Environment	Aimed at reduction of environmental pollution of the country and on preservation of ecological systems	DoE must give environmental clearance for Blue Gold implementation of civil works.	Low	-Will approve TOR for EIA and after submission of EIA will approve EIA and provide environmental clearance -Oppose or support Blue Gold depends on how they are approached	No resources other than needed for approval of EIA.	- TOR for EIA are diffuse - Necessity to outsource EIA to CEGIS (Centre for Environmental and Geographic Information Systems) - Transparency **Potential showstopper due to its role!**
Political Sector (Local Government Institutions)						
Local Government Organizations (District, Upazila and Union level)	-Active under the umbrella of Ministry of Local government (MoLRDC) Independent management at District, Upazila and Union are formed by direct election as local govt. institutions. -Responsible for planning and implementation of rural development activities –	-Coordination of BG interventions with District and Upazila level development agencies. -Participation of BG representatives in coordination meetings. -Cooperation between Union Parishad and WMG's is most important.	Low/Medium at District and Upazila levels Medium/High at Union Parishad level	Support, but needs encouragement and pro-active approach from Blue Gold	-Union Parishad has some funds (food for work, cash for work programs, 100 days employment schemes). -Knowledge and capacity is low. EKN is formulating plan to support capacity building at Union level. -Union's influence at polder level is high.	-District and Upazila very political -Concentrate on Union -Union lacks resources and capabilities -Sometimes Union Chairman tries to 'hijack' successful WMG's

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	development of socioeconomic situation , rural infrastructure, and good governance					
Commercial Sector						
Finance Institutes (Commercial Banks, microfinance)	Financial Service providers	Provision of rural finance.	None	To be developed as appropriate	Staff Funds Knowledge Financial products	Cost of transactions in rural areas
Traders and suppliers	Private sector service providers	Actor in the value chains, inputs & outputs, embedded services	None	To be developed as appropriate	Staff Funds Product Knowledge Products& services	Cost of transactions in rural areas, economies of scale
Agro-industries	Supply or demand firm at higher level	Lead firms in value chains, embedded services and/or standard for produce for market access	None	To be developed as appropriate	Staff Funds Product Knowledge Products, network & services	Cost of transactions in rural areas, remoteness of BG
Chamber of Commerce, Sector Associations, etc.	Membership Organisations, service providers	Lobby for improving Business Enabling Environment.	None	To be developed as appropriate	Sector Knowledge Network, & services Influence	Resource constraints, possibly lack of interest, elite captured?
Non-Governmental Sector						
Other projects (in particular BRAC WASH II; Max Foundation; SAFAL; MAR; FAO; PROOFS)	Dutch-funded projects	WASH and VC activities in parts of the same polder as BG; Exchange of information and harmonization of interventions.	Medium/High	Support and cooperate	All Dutch funded project have sufficient (not to say abundant) funds. Influence is high if cooperation leads to synergy.	In principle no constraints (all Dutch funded projects in MASP). FAO project has different philosophy (relief-mode against

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		Creating of synergies				participation-mode).
Target organizations						
Water Management Organizations (WMA and WMG)	(legal) entity to organize the communities so that they can become an effective partner in the development process of the polders and increase their income.	-O&M responsibilities Contribute to development of village action and polder development plan -Quality control of construction and maintenance work -Assist LCS groups in group formation Sign MoU with BWDB	Medium	Participate	Villagers	-Lack of money to effectively carry out its roles -Many other projects targeting also the WMOs hence confusion on different approaches might appear
Farmer Field School – producers	Groups of 25 producers with a common interest (crop or fish or livestock)	-Participants in training -Increased knowledge and skills leading to increased production -Sharing information with other villagers	Medium	Participate Share knowledge with other WMG members Initiate collective action.	Information	
FFS facilitators	Facilitating Farmer Field Schools. These are DAE field staff (Departmental Trainers) and Farmers (Farmer Trainers)	Facilitating FFS and conducting training to farmers. Exchange of information. Facilitate study visits for farmers. Facilitate Participatory Action Research.	High	Support	Information Knowledge	Time constraints (in case of Departmental trainers) Depend on support from their superiors
(International) Donors						
Other donors, in	Donors active in the	Similar activities in	Medium/High if	Support and	No resource	-Limited time to induce

Name of stakeholder, organization, group or individual National, regional or local?	Stakeholder description Primary purpose, affiliation, funding	Potential role in the activity Vested interest in the activity	Level of knowledge of the project Specific areas of expertise	Level of Commitment Support or oppose the project to what extent, and why?	Available resources Staff, volunteers, money, technology, information, influence	Constraints Limitations: need funds to participate, lack of personnel, political or other barriers
particular DANIDA and USAID	same region and sectors	the area; exchange of information and harmonization of approaches or donor coordination. Creating synergy. Division of tasks.	working is Southwest Low if not working in Southwest	cooperation	constraint in donor funded projects	or orient other players/ projects -Log frame flexibility Different approaches
EKN	Implementation of MASP	-Program approval, monitoring and supervision. Initiation/approval of innovations. -Disbursement of funds to TA and BWDB and DAE	High	-Active support Coordination with other Dutch-funded projects -Coordination with other donors and GoB, f.i. through LCG (Local Consultative (sub-) Group	2 x First Secretary plus 1 x Advisor Water plus 1 x 2nd Secretary Funds High influence	No constraints, really Limitation: flexibility in dealing with BWDB 'encouragement'.
International Rice Research Institute	Research institute developing new varieties and production methodologies in rice	Research	Low	Neutral	Knowledge	Possibly limited knowledge of FFS approach
Swiss Agency for Development Cooperation	Donor	Activities for good governance through Helvetas/ Inter-cooperation; exchange of information	Low	Neutral; Through Helvetas/ Inter-cooperation possible synergy in field of local government capacity building	n.a.	n.a
IFIs such as World Bank; ADB	Funding of program	Private Sector Development programmes, Coop	Medium	Neutral, Medium for ADB	Program staff Knowledge (experience)	Donor coordination committee not very active on PSD,

Name of stakeholder, organization, group or individual National, regional or local?	Stakeholder description Primary purpose, affiliation, funding	Potential role in the activity Vested interest in the activity	Level of knowledge of the project Specific areas of expertise	Level of Commitment Support or oppose the project to what extent, and why?	Available resources Staff, volunteers, money, technology, information, influence	Constraints Limitations: need funds to participate, lack of personnel, political or other barriers
		development and WRM				knowledge sharing to be facilitated
World Fish Centre	Extension in fish production	Training of fish producers Support to service providers	Low-Medium	Support	Information Lessons learnt	Not known
Wageningen University and Research Centre	Knowledge Centre	Support to extension services; research; source of innovations	Low	Medium	Staff Knowledge Innovative ideas	Require funding from BG or EKN to get involved.

Stakeholder Engagement Plan

Stakeholder organization, group or individual	Potential role in the activity	Engagement strategy How will you engage this stakeholder in the activity?	Follow-up strategy Plans for feedback or continued involvement which can be used as the basis for the Communication Plan
Donor			
EKN	-Programme approval, monitoring and supervision. -Initiation/approval of innovations. Disbursement of funds to TA and BWDB and DAE	-Observer of IMSC or member -Co-Chair of LCG or sub-group -Bi-weekly coordination meetings at EKN -Regular field visits -Annual reviews	-IMSC meetings (at least once a year) -Progress Reports and Annual Plans -Mission reports and field visit reports -Regular LCG meetings (not very important)
Government sector			
Bangladesh Water Development Board	-Executing agency of BG on behalf of the GoB, implementation of Water Management component -Coordination of the contributions of involved GoB agenciesat national level. O&M responsibilities	-Member Secretary of IMSC (Inter-Ministerial Steering Committee) -Chairman of PMC -Program Coordinating Director (PCD) -Informal updates -Technical Meetings at zonal level (to be initiated) -Annual reviews	-IMSC meetings (at least once a year) -Progress Reports and Annual Plans -PMC meetings (at least every 3 months) -Informal meetings through mail/phone/face-to-face -Technical meetings (approval of designs, reimbursement of expenditures)
Department of Agricultural Extension	Supporting agency of Food Security component through the Upazilaoffices and coordination at district level. Technical advice. Training of Trainers. Organize FFS in crops and homestead vegetables and on-farm demonstrations.	-Member of IMSC -Member of Project Management Committee -Project Director for DAE's DPP -Annual reviews	-IMSC meetings (at least once a year) -Progress Reports and Annual Plans -Regular coordination meetings -Informal meetings with PD
Department of Livestock	Supporting the Food security component through the Upazilaoffices and coordination at district level Technical advices; curriculum development; information sharing; livestock training courses	-Member of IMSC -Member of Project Management Committee -MOU (being prepared) -Annual reviews	-IMSC meetings (at least once a year) -Progress Reports and Annual Plans -Regular coordination meetings
Department of Fisheries	Supporting the Food security component through the Upazila offices and coordination at district level	-Member of IMSC -Member of Project Management Committee	-IMSC meetings (at least once a year) -Progress Reports and Annual Plans -Regular coordination meetings

Stakeholder organization, group or individual	Potential role in the activity	Engagement strategy How will you engage this stakeholder in the activity?	Follow-up strategy Plans for feedback or continued involvement which can be used as the basis for the Communication Plan
	Technical advices; curriculum development; information sharing; fish training courses	-MOU (being prepared) -Annual reviews	
Department of Cooperatives, through Water Management Cooperatives Cell	-Registration of the WMO under the Cooperative Law -Training of WMOs - Conducting annual audits -Update the records of enrollment of members and reelected committees	-Member of IMSC -Member of PMC -Establishment of a Zonal Coordination Committee (representative from relevant agencies, e.g. BWDB, DAE/livestock/fisheries at Upazila/district level. DoC, Blue Gold zoal team) - MoU (being prepared)	-IMSC meetings (at least once a year) -Progress Reports and Annual Plans -Zonal coordination meetings (once per month or quarterly?)
Bangladesh Agriculture Research Institute (BARI) / Bangladesh Rice Research Institute (BRRI)	Obtaining information on potentially relevant production practices for farm trials. Obtain improved varieties of rice, high value field crops, and vegetables	Contacts through DAE or through Bangladesh Agriculture Research Council (BARC)	Invite and encourage them to make trials and demonstration plots in our polders
Political sector			
Local Government Organizations (District, Upazila and Union Parishad)	-Orientation to the District, Upazila and Union Parishad about the objectives of Blue Gold Program -Coordination of Blue Gold interventions with District and Upazila level development agencies -Participation of BG representatives in coordination meetings at District, Upazila and Union Parishad	-Contact directly or through upazila parishad. Conduct consultation meeting with UP. -Interaction with the UP and Upazila Parishad and participate in their Coordination meetings -Invite the UP/ UZ. chairman in WMA meetings	-Program orientation and planned involvement -Discuss and keep informed the Union Parishad regarding the planning and implementation process -Involve Upazila/Union Parishad in O&M activities in Polders -Involve Union Parishads in conflict resolution
Commercial sector			
Finance Institutes (Commercial Banks, microfinance)	-Source of information -Exploring appropriate financial products -Identified actor in selected value chain	Value chain development – actor workshops – financial service supplier	-Blue Gold project information – leaflet or brochure at introduction. -Ongoing Value chain development communications.

Stakeholder organization, group or individual	Potential role in the activity	Engagement strategy How will you engage this stakeholder in the activity?	Follow-up strategy Plans for feedback or continued involvement which can be used as the basis for the Communication Plan
	at local level.		-Business profiles
Traders and suppliers	Identified actor in selected value chain at local level. Provider or buyer of goods and provision of embedded service.	Value chain development – actor workshops – service supplier	-Blue Gold project information – leaflet or brochure at introduction. -Ongoing Value chain development communications.
Agro-Industries	Identified actor in selected value chain at higher level. Performing as lead firm providing embedded services and/or standards for produce for market access	Value chain development – actor workshops – service supplier/ market access provider	-Blue Gold project information – leaflet or brochure at introduction -Ongoing Value chain development communications
Chamber of Commerce , Sector Association	To be informed of BEE constraints and suggestions for improvement, to be put on agenda for reform with public sector	Approach as needed	-Blue Gold project information – leaflet or brochure at introduction -Information on BEE issues
Non-governmental sector			
Other Dutch-funded programs (BRAC WASH II; Max Foundation; SAFAL; Unicef/Acacia Water, PROOFS, FAO)	WASH and VC activities in parts of the same polders as Blue Gold; Exchange of information and harmonization of interventions.	Approach as needed	-Website -Newsletter -Progress reports -Regular joint field visits
Other project and programs in the project area such as IRRI, WorldFish, CSISA.	Exchange of information and harmonization of interventions.	Approach as needed	Website -Newsletter -Progress reports -Regular joint field visits
Target organizations			
Water Management Organizations (WMA and WMG)	-O&M responsibilities -Contribute to development of village action and polder development plan -Quality control of construction and maintenance work -Assist LCS groups in group formation and monitoring VCS works -Sign MoU with BWDB	-Problem and needs identification -Functionality assessment -Awareness campaign -Brochures, leaflets, posters -Training courses -MoU with BWDB	-Providing results on functionality assessment to WMG/WMA executive committee -Regular contacts with Community Organizers through field visits and meetings -attend WMO meetings
Producer Groups and/or WMG sub-committees	-Engage in enterprise development activities	-training (technical, value chain aspects, management, etc.)	- activities based on enterprise development strategy of Blue Gold.

Stakeholder organization, group or individual	Potential role in the activity	Engagement strategy How will you engage this stakeholder in the activity?	Follow-up strategy Plans for feedback or continued involvement which can be used as the basis for the Communication Plan
		-	
(International) donors			
Other donors like DANIDA, WB, ADB, FAO, DFID, SDC and USAID	Similar activities in the area; exchange of information and harmonization of approaches or donor coordination	Member of Local Consultative Group (LCG)	-Information sharing through website -Newsletter -Regular donor coordinating meetings -Regular Local Consultative Group meetings -Website

ANNEX 8: Information on Water Management Organizations

Polder-wise Up-to-date Positions of WMOs under Blue Gold Programme																											
District/Zone: _____												Month: _____															
Polder	No. of WMGs			No. of WMAs		No. of households	No. of potential WMG members	No. of members enrolled up to the last month			No. of members enrolled during the month			No. of registered members (Cooperative members)			No. of meetings held during the month				Deposits during the month				Total Shares and Savings of WMG Members up to this month		
	Target	Achievement	Having received Coop. Registration	Target	Achieve-ment			Male	Female	Total	Male	Female	Total	Male	Female	Total	WMG		WMA		Shares (Tk.)		Savings (Tk.)		Total Amount (Tk.)	Deposit in Bank (Tk.)	Invested in IGAs (Tk.)
																	Monthly	Special	Regular	Special	Male	Female	Male	Female			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Total																											

ANNEX 9: ToR's for M&E

Terms of reference and key tasks for Monitoring & Evaluation (see IFAD manual, 2002)

Office of the M&E coordinator

M&E Responsibilities:
- Establish the office structure for M&E
- Appoint key M&E staff to the project an supervise their activities
- Guide the establishment of (component) M&E systems
- Coordinate the revision of the project strategy with key stakeholders to ensure updated and shared understanding of the strategy
- Negotiate approval for changes to the project strategy and processes with donor and partner institutions
- Disseminate the M&E information (annual reports, financial reports, baseline surveys, reviews, etc.) to key stakeholders.

M&E Coordinator

General scope

The M&E coordinator is responsible for guiding the overall M&E strategy and implementation of related activities within the project and via partners, plus providing timely and relevant information to project stakeholders. This entails close communication with all involved in M&E design and coordination: project staff; steering committees; representatives of primary stakeholder groups; project director; external consultants and field staff.

Critical tasks for the coordinator are setting up of the M&E system and ensuring it is implemented effectively. This is undertaken through the development of a shared M&E system, based on formal mechanisms and systems.

The coordinator analyses M&E data for specific purposes and prepares reports for key stakeholders and on request.

Responsibilities and tasks:

Setting up the system
- Help revise the project logframe, particularly in the areas of objectives hierarchy, indicators and monitoring mechanisms.
- Provide input to the annual work plan and budget
- Develop or revise the overall framework for M&E, such as annual reviews, impact assessments, process monitoring (outcome mapping), operations monitoring (output) and lessons learned workshops.
- Guide the process of identifying and/or revising the key indicators and progress markers for each component to record and report progress against annual targets (outputs) and desired outcomes.
- Clarify the core information needs of the project management, the steering committees, donor, and partner institution.

- Review the quality of existing social and economic data in the Blue Gold areas, methods of collecting it and the degree to which it will provide goo baseline statistics for impact evaluation
- Based on review of existing data draw up the TOR, design and cost estimate (budget) for a baseline and end-line survey.
- Identify other M&E staff and guide recruitment.
- Recruit, guide and supervise organizations and/or consultants that are contracted to implement special surveys and studies required for M&E and evaluation.
- Develop a plan for M&E related capacity building including computer-based support that may be required.
- Organize and undertake training with stakeholders in M&E skills, including participatory aspects

Implementation of M&E
- Based on the project budget design the framework for the monitoring of outputs and outcomes
- Guide staff and implementing partners in preparing their progress reports, and together analyze these reports in terms of problems and actions needed. Prepare consolidated reports for project management to submit to relevant authorities, in accordance with approved formats and timing
- Review monitoring reports, and identify possible bottlenecks in project implementation
- Identify the need and draw up TOR's for specific M&E studies
- Ensure that monitoring arrangements comply with provisions in the donor agreement and are observed in the design of the M&E system (financial/budget provisions, output targets, etc.)
- Inform, join and facilitate external review and evaluation missions
- Organize and provide refresher training in M&E for project staff, partner staff and other stakeholders
- Plan for the identification of lesson learned and implications for follow-up steps in the project

Communication
- Prepare reports on M&E findings, working closely with project component staff, financial staff and implementing partners
- Undertake regular visits to the field to support implementation of M&E and to identify where adaptation may be needed
- Guide the regular sharing of M&E findings with project staff, implementing partners and primary stakeholders
- Assure that monitoring data are timely discussed in the appropriate forum in terms of implications for future action.
- Facilitate external mission members' access to M&E data.

Qualifications and experience required

Suitable candidates have a degree in a field related to development and/or management and experience in field research, and some years of proven experience with:

- Planning and management systems such as: logical framework approach and outcome mapping
- M&E methods and approaches (including quantitative, qualitative an participatory)
- Designing, planning and implementation of M&E systems

- Training in M&E development and implementation
- Facilitation of learning oriented analysis sessions of M&E data with multiple stakeholders
- Information analysis and report writing
- Data processing with computers (such as excel and/or, SPSS or CSPRO)

He/she must also have:
- A solid understanding of rural development, with focus on participatory processes and gender issues
- A supportive attitude towards processes of strengthening local organizations and building local capacities for self-management
- Wiling to undertake regular field visits and interact with different stakeholders, including primary stakeholders
- Computer skills
- Leadership qualities, personnel and team management

Duty station: Dhaka

M&E Field (District, Regional) Officer

The Field Officer is in charge of all monitoring and data collection activities, survey work and analytical sessions undertaken at his/her level.

Organizational relationship
The Field Officer is expected to work closely with and be answerable to the M&E coordinator.

Responsibilities and tasks:
He/she is responsible for data gathering, district/regional facilitation, scheduling, sampling, quality of lower field staff/assistants, and ensure data quality, accuracy and completeness, and that primary stakeholders are involved when possible.

Qualifications and experience required:
- Experience in participatory assessments, monitoring and evaluation, training and facilitation, data processing or analysis.
- Some computer experience
- Ability to organize field surveys
- Ability to organize and train (village) staff.
- God contextual knowledge of local issues, community priorities, organizational relationships, social and cultural constraints and realities, and environmental conditions.

Draft Terms of Reference Survey Sampling Expert / Statistician

For impact measurement purposes the Blue Gold Program will conduct a baseline survey in the targeted polders. It wishes to employ a Survey Sampling Expert/ Statistician who will be responsible for defining the sampling method and setting the sampling frame, sampling size and sampling approach. He/she will also support the development of baseline survey.

Specific tasks:

- Assess the completeness and quality of secondary data on households in relation to data needs (i.e with Bureau of Statistics; previous baseline studies; etc);
- Setting up an integrated database for data analysis and statistical reporting;
- Recommend appropriate sampling frame;
- Set sample size for 95% confidence level plus or minus 3;
- Liaise with the Blue Gold team and help design the questionnaire to capture the data elements, using the sampling frame;

Qualifications and skills
- An academic degree, diploma or equivalent in a field related to statistics;
- Fluency in both written and spoken English.

General professional experience
- Demonstrated experience in survey sampling and sampling frame design;
- General knowledge of baseline survey design;
- Working experience in Bangladesh or countries with a similar context is an asset.

Specific professional experience
- At least 10 years professional experience in socio-economic research;
- At least 8 years professional experience in sampling frame design;
- At least 5 years professional experience in baseline survey design

ANNEX 10: Mission activities

Activities during M&E mission 1

date	description	who	place	People met
28 Aug	Arrival Dhaka – introduction to Blue Gold	Junior M&E expert intl	Dhaka	Dirk Smits, Team Leader
29 Aug	Introduction to Blue Gold – continued and introduction to Blue Gold team	Junior M&E expert intl	BG office	Dirk Smits, Team Leader Alamgir Chowdhury; component leaders and other technical staff
1-4 Sept	Review of Inception Report; Programme Documents; logical framework Revision of logical framework and indicators planning of activities for next mission	Junior M&E expert intl	BG office	Component Leaders
09 Sept	Introduction to Blue Gold	Senior M&E expert intl	hotel	Dirk Smits, Team leader
10	Introduction to Blue Gold office staff	Senior M&E expert intl	BG office	BG staff
10	Meeting with Deputy Team leader	Senior M&E expert intl	BG office	Mr. Alamgir Chowdhury
11	Introduction of Outcome Mapping to Junior Consultant	Senior & Junior M&E experts intl	MottMacD. office	
12	Report writing and formulation challenge statements 1	Senior experts intl	office	-
13-14	Weekend – preparation powerpoint/report	Senior & Junior M&E experts intl	Hotel	-
15	Powerpoint presentation to BG staff on outcome mapping Report writing (tor for M&E team)	Senior & Junior M&E experts intl	BG office	BG staff
16	-Introduction of the poverty index -Formulation of Progress markers	Senior & Junior M&E experts intl	BG office	-
17	Component 3: progress markers Report writing	Senior & Junior M&E experts intl	MottMac Office	Hein Bijlmakers Muhammad A. Islam
18	-discussion on progress markers in Component 1	Senior M&E expert intl	MottMacD office	Mrs. Vicky
19	Base line design	Senior & Junior M&E experts intl	MottMacD office	-
20	Weekend		hotel	-
21	Weekend – report writing	Senior M&E expert intl	hotel	-
22	Powerpoint presentation of draft M&E proposal Component 2: progress markers	Senior M&E expert intl	Neth. Embassy BG office	Martin Bos, Dirk Smits Mr. Mofazzal Ahmed
23	Component 4: progress markers Report writing	Senior M&E expert intl		Karel T'Jonck

24	Report writing	Senior M&E expert intl	BG Office	-
25	Upgrade logframe of Blue Gold - contintued Selection of indicators	Senior & Junior M&E experts intl	BG office	Blue Gold staff
26	Edit draft report, Present report for comments	Senior & Junior M&E experts intl	BG Office	- BG Team leader
27	departure		-	-

Activities during M&E mission 2

date	description	Who?	place	People met
1-15 Nov (3 days)	Review of M&E report, collection of background data for baseline survey	Junior International M&E expert	BG office	Blue Gold staff
15 Nov	Arrival International M&E expert	-	-	-
16 Nov	Revision of draft M&E report	International Senior M&E expert	BG office	-
17	Staff meeting Meeting on method of self-assessment of WMG in IPSWAM	International Senior M&E expert	BG office	Blue Gold staff Hero Heering
18	Report writing	International Senior M&E expert	BG office	Input of BG staff
19	2nd draft M&E report	International Senior & Junior M&E expert	BG office	Input of BG staff
20	Base line design	International Senior & Junior M&E expert	BG office	-
21	Discussion on GIS Meeting with IRRI GIS specialist Meeting with GIS specialist	International Senior & Junior M&E expert	BG office	Parvesh Chandna (IRRI) Bastiaan Roos (Nelen & Schuurmans)
22	weekend	-	hotel	-
23	Form design	International Senior M&E expert	Hotel	-
24	ODK form building, data collection	International Senior & Junior M&E expert	BG office	
25	Baseline Survey questionnaire	International Senior &	BG office	Components input

		Junior M&E expert		
26	Discussion on base line study Concept note writing	International Senior & Junior M&E expert	MottMacD	Farook Chowdhury Adeeb Choudury -
27	Draft concept note baseline study Interviews with candidates for M&E positions in Blue Gold	International Senior & Junior M&E expert	MottMacD	- Together with senior MottMacD staff
28	Team meeting Report writing	International Senior & Junior M&E expert	Dutch club MottMacD	Components leaders and deputy leaders -
29	Weekend	-	hotel	-
30	Finalize M&E report	International Senior M&E expert	Hotel	-
1 Dec	Departure	International Senior M&E expert		
1 Dec-13 Dec (7 days)	Finalization of draft baseline questionnaire, organisational set-up for survey management, supporting the new National M&E expert with start-up of activities	Junior International M&E expert	BG office and MottMacD office	Component leaders, subject matter specialists, Team Leader, MottMacD staff, National M&E expert