



Blue Gold Program

Technical Report 12

Partnership Strategy 2014 - 2019

December 2014

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

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





Green corner – Save a tree today!

Mott MacDonald is committed to integrating sustainability into our operational practices and culture. As a world leading consultancy business we are always seeking to improve our own performance and reduce the environmental impact of our business. Meanwhile, many of our staff are committed to living sustainably in their personal lives – as an employee-owned company Mott MacDonald shares their concerns. We feel an ethical obligation to reduce our emissions and resource use and have committed to reducing our per capita carbon footprint by a minimum of 5% year on year.

We print our reports and client submissions using recycled, double-sided paper. Compared to printing single sided on A4 virgin paper, double sided printing on recycled paper saves the equivalent of two trees, over a ton of CO₂ and a cubic metre of landfill space for every 100 reams. By choosing the greener path we have been able to achieve efficiencies benefiting both Mott MacDonald and our customers.

We would like to share some of the principles of our own 'Going Green' initiative:

- When possible we scan rather than print and consider what really needs to be on paper
- We use electronic faxing when practicable
- We work on e-forms
- We use recycled paper when possible and print on both sides
- Reducing paper in the office creates a better working environment for our staff and our clients

We believe that you, as one of our esteemed clients, will share our concern to conserve precious resources for the benefit of our planet and its inhabitants.

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
01	November 2014	Aowlad Hossain			Final Draft of Technical Report 12 2015
02	January 11, 2015	Aowlad Hossain	Proteeti Masud; Dirk Smits	Dirk Smits	Technical Report 12 - Final

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Table of Content

Chapter	Titel	Page No.
1.	Introduction	3
2.	Program Principles	4
3.	Development Coordination	5
3.1	Related Projects _____	5
3.2	Other Projects, Organizations and Programs _____	6
3.3	Donor Coordination _____	8
4.	Highlights on Area Specific Cooperation	10
4.1	Food Security and Agriculture _____	10
4.2	Aquaculture _____	10
4.3	Livestock _____	11
4.4	FFS topics/modules _____	11
4.5	Value Chains _____	12
4.6	Environment _____	13
4.7	DRR _____	13
4.8	Governance _____	13
4.9	Gender _____	13
4.10	Communication and Knowledge Management _____	14
5.	Innovations	15
6.	Collaboration with other organizations and projects	18
7.	Cooperation with Government Agencies (Institutional Strengthening)	20
7.1	Bangladesh Water Development Board (BWDB) _____	20
7.2	MoWR – WARPO _____	20
7.3	Department of Agriculture Extension (DAE) _____	20
7.4	Other Government Agencies _____	20
7.5	Stakeholder Engagement Plan _____	22
7.6	Outcome Monitoring/Mapping _____	23
Appendix		
	Appendix 1. Role of Union Parishad for Participatory Water Management	24
	Appendix 2. Power point on linkage with Stakeholders	26
	Appendix 3. Notes on the Blue Gold Program Introduction for Union Parishad Functionaries (Example)	27
	Appendix 4. References	28

List of Abbreviations

ADP	Annual Development Plan
AEO	Agricultural Extension Officer
BWDB	Bangladesh Water Development Board
CAHW	Community Animal Health Worker
CBO	Community-Based Organisation
CDMP	Comprehensive Disaster Management Program
CDSP IV	Char Development and Settlement Project Phase IV
CEGIS	Center for Environmental and Geographic Information Services
CEIP	Coastal Embankment Improvement Project
CGIAR	Consultative Group on International Agricultural Research
CIMMYT	International Maize and Wheat Improvement Center
CO	Community Organizer
CSISA	Cereal Systems Initiative for South Asia
CUB	<i>Concern Universal Bangladesh</i>
CWM	<i>Chief Water Management (BWDB)</i>
DAE	Department of Agricultural Extension
DLS	Department of Livestock Services
DoC	Department of Cooperatives
DoF	Department of Fisheries
DP III	Directorate of Planning III
DPP	Development Project Proforma
DRR	Disaster Risk Reduction
DTL	Deputy Team Leader
ECHO	European Community Humanitarian Office
EKN	Embassy of the Kingdom of the Netherlands
FFS	Farmers Field School
FGD	Focus Group Discussion
FO	FFS Organiser
FY	Financial Year
GAP	Gender Action Plan
GESAP	Gender Equality Strategy and Action Plan (of BWDB)
GDP	Gross Domestic Product
GoB	Government of Bangladesh
GoN	Government of the Netherlands
GPWM	Guidelines for Participatory Water Management
HH	Household
IFMC	Integrated Farm Management Component
IGA	Income Generating Activity
IPSWAM	Integrated Planning for Sustainable Water Management
IPSWARM	Guidelines for Integrated Planning for Sustainable Water Resources Management
IRRI	International Rice Research Institute
IWM	Institute of Water Modelling
IWRM	Integrated Water Resources Management
LCG	Local Consultative Group
LCS	Labour Contracting Societies
LGED	Local Government Engineering Department

LGI	Local Government Institutions
MMC	Mass-line Media Centre
M&E	Monitoring and Evaluation
MoU	Memorandum of Understanding
NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
PCD	Project Coordinating Director
PD	Project Director
PDP	Polder Development Plan
PMC	Project Management Committee
PSC	Program Steering Committee
SAFAL	Sustainable Agriculture, Food security and Linkages
SDE	Sub-Divisional Engineer
SME	Small and Medium Enterprise
SSSWRDSP	Second Small-Scale Water Resources Development Sector Project
SSWRDSP	Small Scale Water Resources Development Sector Project
SWAIWRPMP	Southwest Area Integrated Water Resources Planning and Management Project
TA	Technical Assistance
TL	Team Leader
TNA	Training Needs Assessment
TOT	Training of Trainers
UAO	Upazila Agricultural Officer
UDMC	Union Disaster Management Committee
UP	Union Parishad
VAP	Village Action Plan
VC	Value Chain
VCA	Value Chain Analysis
VCD	Value Chain Development
VCS	Value Chain Selection
WASH	Water Sanitation and Hygiene education
WMA	Water Management Association
WMG	Water Management Group
WMIP	Water Management Improvement Project (World Bank)
WMO	Water Management Organisation
WUR	Wageningen University and Research Centre
XEN	Executive Engineer (BWDB)
ZSE	Zonal Socio economist

1. Introduction

A large number of stakeholders are working in the coastal areas of Bangladesh and several ongoing and planned projects are being implemented in the coastal areas. Different innovative good practices/learning have generally emerged during implementation of different projects, those might be useful for other similar projects and initiatives. But if these are not documented and shared with other stakeholders for replication and improvement in their relevant areas these are lost in the passage of time. On the other hand new projects/ initiators in some cases have to start from the beginning/ piloting similar approaches and activities, which leads wastage of time, resources and energy, whereas utilization of tested approaches/ experiences/ good practices could result in more chances of sustainability. Furthermore, Local Government Institutions (LGI) can play a very important role in successful implementation of development activities and sustainability. For mutual benefits and sustainability, cooperation, coordination and partnership among the stakeholders are very important. The Blue Gold Program is considering such cooperation and partnership with relevant stakeholders in a very positive manner. This document is prepared to highlight the scope and opportunities of such cooperation and partnership with relevant stakeholders during implementation of project activities. This document will give a brief outline of scope and opportunities of cooperation and partnership with the Blue Gold Program to the other concerned stakeholders.

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 households will have direct benefits from the Program.

The overall objective of the Blue Gold Program is:

“to reduce poverty for 150,000 households living on 160,000 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 organize 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

2. Program Principles

An overarching principle in the Blue Gold approach is that harmonization will be actively promoted, i.e. linking up to already tested and ongoing experiences, initiatives, and results and to build synergies through collaboration with other ongoing programs whenever relevant. This will be done by:

appropriating experiences from IPSWAM, CDSP, SSWRSDP, Southwest Project, WMIP and other similar projects about the organization of communities, registering these organizations under Cooperative Law or BWDB and promoting broad based socio-economic and gender equality development through these organizations;

Cooperating with CDSP, Southwest Project and WMIP to continue the process of embedding the participatory approach for the development of FCD/I projects managed by BWDB;

cooperating with other relevant projects (notably CEIP) and institutions to address technical water management issues that have a bearing beyond the Blue Gold Program (e.g. the problems of concrete measures for climate change adaptation, siltation of river courses in the coastal area and how to protect the polders against unabated river bank erosion);

cooperating with agricultural development projects supported by other development partners, (notably FAO and DANIDA), that have extensive experiences with Farmer Field Schools, including exchanging experiences and harmonizing approaches.

cooperating with agricultural crop improvement and technology development projects working in the project area such as the Cereal Systems Initiative for South Asia (CSISA) in Bangladesh, and the Agriculture and Nutrition Extension Project. In these projects the CGIAR institutes (CIMMYT, IRRI and World Fish) are involved in community based participatory demonstrations and adaptive research trials.

For the implementation of the project a process oriented approach is used which is based on 'learning-by-doing' principles. This entails that changes can be made as a consequence of experiences obtained from the field. This dynamic way of working provides much needed flexibility and allows Blue Gold to make adjustments based on the conditions faced in the field. It also means that the overall implementation approach and methodology in itself can be further developed and adapted when applied in various areas with different socio-economic conditions.

3. Development Coordination

3.1 Related Projects

Several projects are currently implemented in the coastal zone and elsewhere in Bangladesh that could have an influence on the implementation of the Blue Gold Program. We will actively promote harmonization, i.e. linking up to already tested and ongoing experiences, initiatives, and results and to build synergies with other ongoing programs whenever relevant. In addition we will take notice of the lessons learned from these projects and incorporate the outcomes in our approach to project implementation. Below an overview is given of the most relevant projects in relation to community organization, participatory water resources management, food security and agricultural development, business development and /or private sector involvement.

South-West Area Integrated Water Resources Planning and Management Project (SAIWRPMP)

The goal of the project is to reduce poverty incidence in terms of incomes and nutritional status of the population. The purpose of the project is to institutionalize effective mechanisms for enhancing and sustaining the performance of FCD/I systems. The intermediate objective is to enhance and sustain water security and livelihoods of rural people within the hydrological boundaries defined by existing low-performing FCD/I systems.

Water Management Improvement Project (WMIP)

The outcomes expected from WMIP are to reduce vulnerability, but at the same time enhance livelihood opportunities for the beneficiaries, and the creation of a favorable institutional environment for improved water resources management.

Char Development and Settlement Project Phase IV (CDSP IV)

The fourth Char Development and Settlement Project (CDSP-IV) is to continue the work of char development and settlement which has been supported by the Netherlands since the 1980s. The overall objective of the project is to reduce poverty and hunger for people living on newly accreted coastal chars. Security for people and livelihoods is to be provided via a climate resilient infrastructure and by providing poor households with a legal title to land.

Small Scale Water Resources Development Project (SSWRDP)

The objective of this project which is financed by Japan Bank for International Cooperation (JBIC) is to increase and streamline agriculture and fisheries production through effective utilization of water resources by developing small-scale infrastructure for control of water resources in the North Central, North-Eastern Region Zone and central region South-Western Zone (greater Faridpur area), and thereby contribute to the economic and social development as well as poverty reduction in these regions. The Local Government Engineering Department (LGED) is implementing the project.

Other Related Projects

SAFAL	implemented by Solidaridad for value chains with focus on aquaculture, dairy and horticulture (Khulna and Satkhira Districts).
Max Foundation	Max Value for WASH (Patuakhali District)
BRAC	WASH II (Khulna District)
UNICEF and Acacia	Managed Aquifer Recharge – MAR (Limited interventions)
FAO	Enhancing Food Security through Crop Water Management (Khulna District)
PROOFS	The Profitable Opportunities for Food Security (PROOFS), project aims to improve the food and nutrition security and WASH status of 80,000 households in SW (Barisal, Bhola and Patuakhali) and NW Bangladesh through enhancement of farming systems and value chains. The project started on 01 July 2013 and will run for four years and is implemented by ICCO and iDE.
CGIAR	Consultative Group on International Agricultural Research (WorldFish, CIMMYT and IRRI) – several projects
WorldFish	Contract signed for SHHP in April 2014 under Productive Sectors Innovation Fund

3.2 Other Projects, Organizations and Programs

A large number of stakeholders are engaged in the coastal areas in addition to the projects mentioned under 3.1. Blue Gold will link up with them as much as practicable to join forces and avoid duplication. First and foremost come the programs funded by EKN and active in the Southwest coastal areas.

Important for tackling climate change issues (developing new design standards, sharing increased cost of infrastructural works, awareness creation) are projects like:

CTIIP	Coastal Towns Infrastructure Improvement Project
CCRIP	Coastal Climate Resilient Infrastructure Project
MDSP	For cooperation in the field of food security, agricultural production and business development Blue Gold will establish working relations with (amongst others):
RED	Rural Enterprise Development
Nobo Jibon	(Save the Children) – food security in Barisal Division
ASPS	Agricultural Sector Program Support (DANIDA)
AGEP	Agriculture Growth and Employment Program (DANIDA)
FtFAq	Feed the Future Aquaculture (USAID) through WorldFish

Coastal Climate Resilient Infrastructure Project (CCRIP)

The Coastal Climate Resilient infrastructure is an ongoing project, duration 2013-2019. The project is financed by the ADB through the ADB Strategic Climate Fund, (IFAD and KfW). The project aims at raising incomes in the selected 12 south-western coastal districts of Bangladesh vulnerable to climate change.

The key objectives are to:

- improve rural connectivity and upgrade market services through development of climate proofed Upazila roads, Union roads and Village roads with drainage structures, as well as Growth centers and Rural markets for enabling access of small producers and the poor to markets.

- enhance climate change adaptation capacity and increase safety of population during extreme climatic events through increased availability of disaster/cyclone shelters. Strengthen the institutional capacity of LGED, LGIs and other stakeholders with particular emphasis on climate resilience and adaptation measures.
- create employment opportunities through project interventions.

Agricultural Sector Program Support (ASPS)

The DANIDA funded ASPS had two components, the Agricultural Extension Component (AEC, crops) and the Regional Fisheries and Livestock Development Component (RFLDC, fish and livestock). AEC works within DAE and organizes FFS in Integrated Crop Management, usually in rice but occasionally also in other field crops. RFLDC (2007-2013) has developed FFS in aquaculture and livestock, often targeting female farmers. For the last two years, AEC and RFLDC together have been developing and testing a new FFS curriculum on Integrated Farm Management (IFM), which consists of several modules combining the crops, fish and livestock sectors in one FFS.

Timeline: 2007- June 2013.

The next phase (2013 – 2018) called the Agriculture Growth and Employment Program (AGEP) consists of 3 components, the Integrated Farm Management Component (IFMC), the Agro Business Development Component (ABDC), which will be implemented through Katalyst and the Agriculture and Food Security Project (AFSP) which is limited to Chittagong Hill Tracts area.

WorldFish and its CGIAR partners CIMMYT and IRRI are also operating in the Blue Gold area. Some of the projects under implementation are:

Agriculture and Nutrition Extension Project (ANEP)

ANEP aims to improve food and nutrition security of poor and vulnerable households in Bangladesh and Nepal, with focus on women and children. The objectives are: (1) improve the food security and nutrition of smallholders; and (2) create/improve market linkages to improve food and nutritional security of both rural producers and urban consumers in four districts in Nepal and one district in Bangladesh. Timeline: 2012 - 2014

Increasing the Resilience of Agricultural and Aquaculture Systems in the Coastal Areas of the Ganges Delta: G2 - Productive, profitable and resilient agriculture and aquaculture systems

This project seeks to develop and disseminate productive and resilient intensified and diversified production systems. It builds on community managed water infrastructure strategies to develop and disseminate agriculture technologies and cropping systems for the saline influenced areas of the coastal Ganges Basin (Bangladesh and India). WorldFish leads all aspects of aquaculture/fisheries research, ensuring high scientific quality and relevance. Timeline: 2011 - 2014

Cereal Systems Initiative for South Asia (CSISA) in Bangladesh (CSISA-BD)

WorldFish, together with IRRI and CYMMIT, is managing CSISA-BD which is being implemented in 6 hubs, four in southern and two in northern Bangladesh. CSISA-BD aims to increase farm household income and productivity, principally focusing on improved cereal cropping systems but also including fish and other high value agriculture opportunities. Donor: USAID through IRRI. Timeline: 2010 - 2015

The National Food Policy Capacity Strengthening Program

The National Food Policy Capacity Strengthening Program, supported by EU, FAO and USAID, helps build Bangladesh's institutional and human capacities to design, implement, and monitor food security policies. Its immediate objective is to strengthen the capacity of the Food Planning and Monitoring Unit - the Government unit for food security policy support - and its collaboration with the policy wings and planning units in the Government of Bangladesh to:

- effectively implement the National Food Policy, its associated Plan of Action, and the Country Investment Plan; and
- plan, monitor and assess food security situation and interventions in order to improve food availability; enhance physical, social and economic access to food; and promote food safety and better nutrition for all.

The ADB funded Coastal Towns Infrastructure Improvement Project (CTIIP) aims to address issues relating to climate change adaptation along with social, environmental and institutional constraints to develop coastal towns. It concerns development of urban water supply, sanitation and drainage infrastructure in the coastal city corporations of Khulna, Chittagong and Barisal and is expected to be implemented from 2014.

The recently (July 2013) started World Bank funded Coastal Embankment Improvement Project-Phase 1 (CEIP) 1, will increase the resilience of coastal population to climate change and natural calamities. The project development objectives are to (a) increase the area protected from tidal flooding and frequent storm surges; (b) improve agricultural production by reducing saline water intrusion; and (c) improve GoB's capacity to respond promptly and effectively to an eligible crisis or emergency.

IDA funded Multipurpose Disaster Shelter Project (MDSP) will improve and construct cyclone shelters, roads, bridges and culverts in 20 coastal districts of the Khulna, Barisal and Chittagong divisions.

Rural Enterprise Development (RED) is a component of "Market Infrastructure Development Project in Charland Regions (MIDPCR)" funded by GoN, GoB and IFAD, implemented by LGED. RED team, based at Noakhali and Barisal regions aims to develop national market linkages, add value to produce and build local capacity of smallholders.

Feed the Future of USAID aims to help an estimated 879,000 vulnerable Bangladeshi women, children and family members escape hunger and poverty.

3.3 Donor Coordination

Several ongoing and planned projects are being implemented in the coastal areas. GoB and donors have focused on key areas of strengthening physical planning for improved coastline and increasing livelihoods of the coastal population, such as:

- To ensure coastal towns and rural areas have improved infrastructures that are resilient to climate change and can minimize risks of disaster and loss of assets and life.
- To establish water supply, sanitation, drainage infrastructure, roads, cyclone shelters, and market buildings that can withstand impacts from climate change vulnerabilities.
- To protect the coastline from tidal flooding and frequent storm surges
- To improve agricultural, livestock and fisheries production to increase town and rural businesses and incomes.

A large number of stakeholders are engaged in the coastal areas. In addition to EKN, WB, ADB, IFAD, DANIDA, USAID, KfW, DFID, ECHO, FAO, GIZ as well as a large number of public sector agencies and departments are engaged in those projects. In 2014, FAO has published the Master Plan for Southwest Bangladesh. There is a need to coordinate different ongoing and planned activities within the areas covered by Blue Gold. More importantly there is an increased opportunity to collaborate between the different projects in order to complement tasks and enhance results. This could be achieved through a structured process such as the formation of a special Local Consultative Group (LCG) for the development of the coastal areas. Multilateral and bilateral development partners participate together with senior government representatives. These LCG's provide a forum in which the government and development partners can achieve a consensus on policies and programs to harmonize and coordinate related development activities. We recommend that LCG is formed for the development of coastal areas and that EKN chairs the LCG meetings.

4. Highlights on Area Specific Cooperation

4.1 Food Security and Agriculture

4.1.1 Field crops

An important step for the Farmer Field School (FFS) groups is to start experimenting with new ideas, such as System of Rice Intensification (SRI), testing of new varieties, and mechanization (e.g. simple weeding equipment) and to strengthen their position in the value chain(s).

FFS in Rabi crops or Boro rice will be designed to make optimal use of the improved water management in the polder. Optimizing the use of scarce irrigation water will be at the heart of these FFS. Compared to rice, there is relatively little experience with FFS in Rabi crops. DAE has some experience with FFS in potato, cabbage, wheat and beans. Curricula for other crops will have to be designed.

All “crops modules” will be designed building on experiences in IPM and ICM FFS. It is understood that while the FFS may focus on one crop, the farmers will also develop knowledge and skills which they can use in other crops.

4.1.2 Homestead gardens

The existing module on homestead gardens (as in DANIDA’s IFM curriculum) can be used but will be adapted in Blue Gold. Developing the homestead module will be done in close collaboration with IFMC.

Topics on “pesticide risk reduction” will be included in all crops modules (rice, field crops, homestead gardens) and includes messages related to health risks, use, storage, disposal of containers, handling equipment, etc.

4.2 Aquaculture

4.2.1 Ponds Fisheries

Pond fish production rate in Blue Gold polders is below the national average, there is a scope for higher production through farmer education programs like FFS and on-farm activities. Existing training modules of different development projects (SAFAL, RFLDC, World Fish and SW project) will be adapted for use in the Blue Gold Program.

4.2.2 Seasonal ponds / ditches

An integrated farming approach will be followed, which includes growing vegetables on pond dykes (e.g. bean, bottle gourd, Indian spinach and white gourd). Indigenous species (mola) and valuable fish (sing, magur and koi) will be introduced in the polder areas. Existing training modules of development projects can be used but will be modified and adapted for use in Blue Gold. The training modules will be developed in close cooperation with DOF and World Fish.

4.2.3 Cage culture

Introduction of cage culture will be carried out wherever feasible in rivers, canals or other water bodies. A group of WMG members, especially the women and poor people, will be organized for conducting the work. Existing modules of CARE and World Fish will be adapted in the project area.

4.2.4 Mud crab

The easy availability of natural crab seeds, high demand, and good market price made mud crab culture and fattening very popular. Emphasis will be given to selecting suitable sites for crab fattening by WMOs. Cooperation with BFRI of DoF in this regard will be explored.

4.2.5 Integrated fish farming: Rice-Fish culture

More production can be achieved in Rice-Fish culture when compared with rice culture alone. Existing training modules of the Greater Faridpur Fisheries Development Project (GFFDP) will be adapted and modified for Blue Gold polder areas.

4.2.6 Community based water bodies management

Some parts of water bodies (canals, beels and floodplains) can be used for introduction of Daudkandi style community based fisheries management practices, which can significantly increase fish production by organizing WMOs member into an effective fish production team. If properly organized, this can also be turned into an enterprise sort of effort, in which also poor farmers can participate. Sharing of experience of DoF and NGOs will be explored.

4.3 Livestock

4.3.1 Poultry, chicken, ducks and pigeons

FFS modules on poultry are available and have been very successful in DANIDA's RFLDC component. These modules are especially relevant for poor farm families, landless families and for LCS women groups, as a source of extra income and improved nutrition (eggs, meat) for their own family. Existing modules will be updated and used in the Blue Gold Program.

4.3.2 Small ruminants, goats, sheep

Small ruminant modules in the FFS developed by RFLDC can be used in Blue Gold. They will be reviewed and learning sessions will be modified to fit to the context of the polder areas.

4.3.3 Large ruminants, beef, milk

The large ruminant module for FFS for Blue Gold will be based on the modules which were developed by RFLDC and deal with milk production as well as beef fattening. These FFS modules are suitable for participants at least having one cow per family. Women will be the main participants in learning sessions. The learning session for milk production and beef fattening will be reviewed where necessary.

4.3.4 Community Animal Health Workers

To support small-scale livestock production and strengthen the value chain(s), the project will train 52 Community Animal Health Workers (CAHW) and supply them with CAHW kits. This training will be developed and implemented in collaboration with DLS and FAO and will draw on experiences with the establishment of livestock healthcare system in Gopalganj district (Kotalipara and Tungipara Upazilas).

4.4 FFS topics/modules

4.4.1 Nutrition

A nutrition module in the FFS has been developed by the DANIDA projects, but has been used mainly for female FFS participants. Blue Gold will use a similar module, but will also try to reach more male participants and educate them on the need for balanced food.

An adapted nutrition module/session for men will have to be developed and this will be done in close collaboration with IFMC.

Agricultural production of the WMG will be addressed by a sequence of activities:

Curriculum design for FFS / Adapting and developing FFS modules

- FFSs will be largely based on existing modules in DANIDA's IFM FFS. Further development or adjustments will be made in coordination with IFMC and other organizations involved in farmer education (e.g. WorldFish)
- Blue Gold will design several additional FFS modules, for example for FFS in other field crops, for training related to farming innovations, or related to business development and value chain improvements.
- FFS budget issues will as far as possible be harmonized with DANIDA and other projects involved in FFS programs.

4.4.2 Planning of training courses / Curriculum design for TOTs

- ⇒ Curriculum design will be done in collaboration with DAE and DANIDA, DOF, DLS, WorldFish, FAO, etc.

4.4.3 Implement FFS

- ⇒ Monitoring and evaluation and backstopping (DAE, DOF, DLS)

4.5 Value Chains

Value Chain Selection: Regarding Value Chain Selection (VCS) or focus in Blue Gold, it is worth to note that a variety of producer group and business or market development initiatives are undertaken and/or planned in the Blue Gold program area. It is imperative that cognisance is taken of these existing or envisaged programmes and activities are coordinated and harmonised to the extent required. Of some concern are the relief mode and top-down operations versus the private sector development initiatives, as they could be the source of confusion, of distortive market impacts and ultimately of debilitating programmes. From an efficiency perspective we will pay particular attention to the coordination with the SAFAL program. Within this program aquaculture, dairy and horticulture value chains will be pursued. While the geographic overlap is not complete, Blue Gold will initially focus on crops and coordinate with SAFAL with respect to their value chains in the remaining area. Some value chain experiences are thereby more easily replicable than others and various ways of cooperation and coordination can be thought off, depending on the context.

Value chain – Market orientation: A new FFS module will be developed with Component 4 to be included in the FFS curriculum. Each group of FFS participants (whether working on homestead level production or involved in more commercial farm activities) will analyze constraints and opportunities for improvement and upgrading in the value chain they relate to. Issues such as availability and quality of farm inputs, opportunities to add value and relationships with buyers of farm produce will be discussed. To mitigate these obstacles generally faced by small-holders and reduce transaction costs, special attention will be given to the opportunities offered by collective action in different forms of association and coordination.

Value Chain- Employment generation: Value chain analysis together with Component 4 and SAFAL project will identify possible interventions that may lead to employment, for example in input supply (e.g. seed, fertilizer, fingerlings, fodder, irrigation equipment, vaccine, feed), services (e.g. poultry vaccination, post harvest activities, farm mechanization) and marketing (e.g. processing, transport, storage)

Coordination with on-going efforts: The Polder Development Plan will result in a shortlist of priority value chains covering both food security and surplus production aims. Besides defining Blue Gold's FFS programme, it will also identify the presence or intentions of other development actors with a focus on agricultural, horticultural and fishery productivity improvements, e.g. SAFAL, Feed the Future and DANIDA's FFS. To avoid duplication and make optimal use of other programmes, care will be taken to coordinate and harmonise with these programmes when starting the value chain analyses. It is agreed that Blue Gold will focus its analyses programme on crops. In light of future requirements programme staff should be involved in the process to a considerable extent. It will facilitate in-depth understanding of constraints, the identification of and response to opportunities and most importantly the establishment of relationships with market players.

4.6 Environment

Plan of environmental actions regarding Component 3 activities, based on environmental reviews and outcomes of water and soil quality tests, which are either carried out by Blue Gold staff or readily available from other organizations (i.e. World Fish, BRR, SRDI)

4.7 DRR

Some NGOs are working on DRR issues in Blue Gold polders. Scope to collaborate with these NGOs will be explored to strengthen the gap and to avoid any kind of duplication. DRR activities at WMG level will be linked with Union Disaster Management Committee (UDMC) and DRR Volunteer groups will be developed at WGM levels. Cooperation on DRR activities with Concern Universal Bangladesh (CUB) and Shushilan are moving ahead. Selection of DRR volunteers at WMG level is progressing. WMGs are selecting the volunteers following certain criteria. Selected volunteers will be provided training on disaster management and disaster risk reduction to build their capacity to respond effectively in time. They will work closely with UDMC and the UP standing committee on disaster management.

4.8 Governance

The Program supports Good Governance at several levels. It is concerned most directly with the Governance of the water sector itself. For this purpose the TA team will make use of the Annotated Water Integrity Scan (AWIS) developed by the Water Integrity Network (WIN). This approach is based on a participatory assessment of working practices in the water sector. In principle the AWIS presents an analysis of the Transparency, Accountability and Participation of the following elements governing the water sector: Policy and Legislation, Regulations, Investment projects and program, Service provision, Anti-corruption framework.

For application in the context of the Blue Gold Program, the TA team will seek support from WIN expertise to adapt the approach to the specific situation in the Program area and train some of its staff in the implementation of the AWIS. Initial contact is established with BAWIN to promote integrity in the water sector. BAWIN will come up with a detailed proposal for discussion.

4.9 Gender

Coordination with other field level programmes being implemented in the same polders will be pursued to reduce the risk of overlaps and to promote synergy in all aspects, including gender. In particular, this concerns Max Foundation (MF) and SaFaL. MF's drinking water supply activities are highly complementary to Blue Gold's water management interventions and will be especially in demand by women. It is desirable that the planning of such activities will be done jointly and involving the WMGs to ensure a common and effective approach, also to reduce the risk of overloading women and men with meetings and sessions as

well as the risk of confusion. Cooperation with SaFaL may involve pursuing a similar gender approach for similar interventions.

4.10 Communication and Knowledge Management

High mobile phone penetration rates and progressive reduction on the price of smart phones are the greatest opportunities for communication activities in the area. It will be explored – perhaps using the budget for innovation – whether and how mobile phones can be used to disseminate information to the target groups. One idea is to develop audio-visual content and store this on micro SD memory cards for use in mobile phones. Subsequently, all community organizers could be equipped with a low-end smart phone featuring a dual SIM-card. Together with a battery-run amplifier and possibly a hand-held micro projector, an excellent state-of-the-art medium for disseminating information could thus be established. The use of micro-SD cards to distribute audio-visual materials to target audiences has proven a great success in the on-going DFID-funded English in Action project in Bangladesh.

South-West Bangladesh has an age old tradition of using traditional media- Pot song, Gajir Gan etc, - for information dissemination packed in an entertaining tone. Blue Gold finds such traditional enter-educational media as an area to explore and use in its communication and knowledge management support. Therefore, there is scope for combining traditional, conventional and modern media in Blue Gold's communication activities and knowledge management.

There is enough scope of collaboration and coordination with Community Radio Stations, local cable TV networks, Union Information and Service centres, local cultural groups, NGOs within the Blue Gold areas for message and information dissemination regarding community mobilization, awareness raising and governance and other cross cutting issues. Establish linkages with different development Networks.

Aligning to such scope and possibility, Blue Gold is already collaborating with Lokobetar, a community radio in Barguna, in piloting a three months radio program disseminating DRR messages. Six Radio Listener's Club have been formed with WMG and UP members with an objective to encourage community actively participate in listening radio programs and joining post-dialogue after broadcast in order for knowledge producing dissemination of information. Experience of the pilot program will provide directives for appropriate collaboration with community radio and similar organizations.

5. Innovations

Introducing innovative technologies and approaches to accelerate the development process in the Program area is one of the spearheads of Blue Gold. Two separate Innovation Funds are created within Blue Gold, one with focus on water management and the other one for the productive sectors (food security and business development). Innovations may emerge from other projects/programs or organizations in Bangladesh, or from Dutch (knowledge) institutions or enterprises. During the formulation of the program a number of interesting opportunities for relevant contributions of expertise and innovative technologies in particular from The Netherlands has been identified. Two examples of potential Innovations:

Water Management

Study on siltation in the coastal areas (Deltares and IWM)

To devise solutions or adaptations to this situation, the dynamics of rivers in the coastal area need to be studied. This study will be undertaken jointly by Deltares and the IWM. The outline of the study will be developed jointly by the Blue Gold management and both institutes.

Food Security

Support to strengthen extension services (Wageningen University)

Strengthening extension services and developing options for diversification is the core of the food security component. Wageningen University has expertise in both fields. This expertise will be mobilized under Blue Gold to conduct training and support field testing of production options.

Possible topics for other innovations that can be explored include:

Crops

1. Testing by farmers of crops or crop varieties that need less water or that are saline tolerant
2. Improved irrigation systems, e.g. drip irrigation or sprinklers
3. Village level planning of the use of water resources (e.g. water stored in canals)
4. SRI (System of Rice Intensification) which uses less water than current rice cultivation techniques.
5. Soilless agriculture, hydroponics, for high value crops. (Note that this is advanced technology that may be tested/demonstrated on small scale, but is at this moment not feasible for up-scaling. Input supply and high initial investment costs are among the limiting factors.)
6. Fodder crops (for poultry, fish, livestock) during the Rabi season

Fish

1. Different fish species and stocking densities
2. High value fish (cat fish, koi)
3. Indigenous fish species in ponds
4. Integrated farming (vegetables) on dikes and borders of ponds
5. Tilapia in cages (in rivers or canals)
6. On-farm testing of fish feed from different sources

Livestock

1. Fodder crops
2. Women group for two cows (or more) milk production for marketing
3. Homemade curd marketing
4. Animal health card for record keeping
5. Pigeon farming
6. Duckling hatchery through Rice Husk Technology
7. Commercial egg production (e.g. 100 layers) by rural women
8. Commercial chicken production (e.g. 100 local or 100 broiler) by rural women
9. Integrated community aquaculture (Carp ,Prawn, Ducks and Jarman fodder) in water logged areas

In Blue Gold, innovations will be developed and tested on-farm together with the farmers, using the Participatory Action Research (PAR) approach. For this, strong support and collaboration with research institutes such as IRRI, CIMMYT and WorldFish will be developed so that these development partners will be efficiently linked with advanced FFS groups and WMGs.

Some other innovative technologies and approaches include:

- Geodata for Agriculture and Water (G4AW)
- research results to maximize the use of available fresh water after the monsoon period (water storage and crop diversification);
- Building with nature
- Dredging technology and systems
- improved drainage by pumping, using renewable energy (solar, wind, tidal)
- cage fishing;
- saline tolerant rice varieties and other crops;
- Improved cropping system and technologies;

- dealing with the siltation problem in water courses;
- Web based GIS/MIS Information Platform
- Mobile phones for training (audiovisuals on micro SD cards)
- Agro machinery
- Processing crop and fish
- Cooperative banking
- Crop storage, including cold storage
- Corporate Social Responsibility Investments

May also be included:

- Disaster resilient Ponds
- Disaster resilient Latrines
- Low cost rain water harvesting/recharge of aquifer with rain water/safe drinking water options

Considering the scarcity of drinking water in some polders Blue Gold initiated piloting of safe water options like Solar Desalination/Purification Unit.

6. Collaboration with other organizations and projects

Blue Gold works in an area where many other organizations and projects are having similar activities. Harmonization and collaboration with these partners in development is necessary to avoid problems (e.g. overload of farmers or extension workers, different allowances, different messages, etc.) and to benefit from each others' experiences (e.g. existing training curricula, involvement of research organizations in innovations, etc.).

DAE/DANIDA: Within Blue Gold DAE has the responsibility for about 1000 FFS. At the same time, DAE will work with DANIDA's IFMC to organize thousands of FFS in IFM throughout the country. Harmonization and collaboration with IFMC is essential to the Blue Gold FFS program.

Regular meetings between management and staff of Component 3 and IFMC will be organized to harmonize and streamline collaboration. Topics of harmonization include curriculum design, shared use of facilitators (DTs FTs), FFS budgets and training allowances, etc.

SAFAL: Closely linked to Blue Gold, SAFAL will focus on Aquaculture, Horticulture and Dairy value chains in the Satkhira and Khulna districts.

CGIAR: Several of the CGIAR research organizations are present in the Blue Gold area (WorldFish, CIMMYT and IRRI) which opens opportunities of collaboration with Blue Gold.

WorldFish implements the Feed the Future-Aqua project (FtF-Aqua) which organizes group based training courses on shrimp and fish production in ponds. These training courses are very similar to the aquaculture module in the FFS curriculum. Possible points of collaboration between Blue Gold and FtF-Aqua were discussed and include:

- Selection of farmer groups: In areas where the projects overlap we can agree how to do farmer selection. The WorldFish project can select farmers for fish/shrimp training within a WMG (for example if Blue Gold has FFSs that focus on other topics) or alternative, they could stay out of a WMG if there would be too many activities at the same time going on.
- Training of Facilitators: The WorldFish project has a lot of experience and expertise with fish/shrimp training and can assist during training courses for facilitators.
- Curriculum design: The WorldFish project can assist in design of curricula for fish/shrimp related modules.
- Fingerlings/shrimp and fish seed: Quality inputs for stocking ponds can be obtained from input suppliers that were trained/supported by the WorldFish project.

Agricultural productivity can benefit from good collaboration between farmers, extension and research. Researchers, extension agents and farmers need to collaborate more effectively together in a triangular relationship to ensure they are interacting and changing information with each other during the entire research to extension process.

Blue Gold will promote these "triangular relationships" especially by bringing advanced FFS groups and their facilitators in contact with CGIAR researchers and their national research partners to work on innovations through Participatory Action Research (PAR).

A joint program of the CGIAR including IWMI, IRRI, CIMMYT and WorldFish is the Aquatic Agriculture Systems project (AAS). This project currently works with Participatory Action Research (PAR) in a limited number of villages in Khulna, Satkhira and Barguna, testing bottom-up processes of research with farmers supported by diverse research teams. The project also looks at how information flows between farmers and communities, in relation to the spread and adoption of new technologies. The project has strong interest to work together with Blue Gold, especially to initiate more PAR with advanced FFS groups.

The Cereal Systems Initiative for South Asia (CSISA) works in South-West of Bangladesh partly overlapping with Blue Gold polders. Activities include the promotion of mechanized farming (axial flow pumps, planting and harvesting equipment, power tillers) and introduction of new rice varieties of shorter duration, which shorten the season and create opportunities for more intensive cropping systems. CSISA has interest to work with Blue Gold, where especially the advanced FFS groups could be linked with their farm mechanization activities.

7. Cooperation with Government Agencies (Institutional Strengthening)

7.1 Bangladesh Water Development Board (BWDB)

Cooperation with BWDB is laid down in the DPP for Blue Gold Program (BWDB Component): Program for Integrated Sustainable Economic Development by Improving the Water and Productive Sectors in Selected Polders, recast May 2013. BWDB is the main implementing agency.

7.2 MoWR – WARPO

WARPO was as clearing house for macro water planning involved in the clearance of the Blue Gold program in an earlier stage. In line with WARPO's tasks, WARPO is interested to share its data base with Blue Gold and wants to be informed about the progress and outcomes of Blue Gold. WARPO will in its monitoring and evaluation approach process this information and report regularly to the Executive Commission of the National Water Resources Council (ECNWRC) to which they form the Secretariat.

7.3 Department of Agriculture Extension (DAE)

Cooperation with DAE is laid down in a separate DPP: Transfer of Technology for Agriculture Production under Blue Gold Program (DAE Component), recast May 2013. DAE is fully committed to the Blue Gold Program. DAE however may have a preference to make one uniform type of FFS, while Blue Gold is looking for more flexibility, for example by including “advanced FFS”. The FFS concept is not new. FFS have already been used in DAE since 1995, and the FFS program has been expanding over the years and is now very large. DAE implements not only the DANIDA FFS program, but has also its own (GOB funded) IPM project, which runs many FFS and which also has Training of Trainers courses to develop DAE staff as FFS facilitators. Reportedly, by now every Upazila has at least a few staff trained to run FFS. Also other projects in DAE (such as DCRMA) have FFSs and work with clubs that were formed from FFSs.

7.4 Other Government Agencies

Cooperation with other Government Agencies is not governed by separate DPP's, but is included as part of the DPP for the BWDB component.

7.4.1 Department of Cooperatives (DoC)

According to the Project documents the responsibility of DoC related to Blue Gold comprises registration, auditing, training and monitoring of WMO / cooperatives. These functions will be carried out by the District and Upazila offices of DoC. Close cooperation between DoC and Blue Gold is needed. But these responsibilities of DoC have been shifted to BWDB through circulation of the Participatory Water Management Rules 2014 on 2 February 2014 through a Gazette notification of the Government. After circulation of the PWM Rules 2014 all water management organizations (WMG, WMA and WMF) will be registered in BWDB. Auditing, training and monitoring of the WMOs will be done by the BWDB. The Water Management Department of BWDB will carry out these responsibilities. Responsibility of DoC is no longer

visible under the changed situation for implementation of Blue Gold Program. But the long experience of DoC may be useful for the BWDB.

The Water Management Department of BWDB has started their new role of registration process of the WMOs. Blue Gold Program provided support for preparation of draft By-laws. New important features of the PWM Rules 2014 are- 3 tier Water Management Organizations (WMG, WMA and WMF); inclusion of at least 55% households of the area in the WMG; without registration with BWDB no WMG will be allowed to participate in participatory water management activities; BWDB Executive Engineer will sign a contract with WMG and WMG will sign a contract with LCS to implement earth work through LCS.

7.4.2 Departments of Fisheries (DoF) and Livestock Services (DLS)

Upazila and District level officers of DoF and DLS will be involved as trainers/facilitators in fish and livestock training courses. For example they will be invited as specialists to contribute in Training of Trainers courses or in courses to develop Community Animal Health Workers (CAHW) and Farmer Trainers. They will also be asked as occasional monitors or back stoppers for fish or livestock related modules in the FFS.

Upazila, District level officials will participate in Upazila and district development and coordination meetings and field staff will participate in the Union development and coordination meetings highlight the fisheries and livestock related activities under Blue Gold Program and sought necessary cooperation from line departments, LGIs, NGOs and others concerned.

MOU's have been signed with the Department of Livestock Services (DLS) and Department of Fisheries (DoF). Each Department has already nominated one officer who acts as a focal person to liaise with Blue Gold.

Unlike DAE, the Departments of Fisheries and Livestock do not employ extension workers and their staff cannot be used as FFS organizers. Therefore, budgets for fish FFS and livestock FFS (200 each) are included in the budget for Component 3 of Blue Gold, as well as a small budget for office equipment to support their Upazila and District level officers.

7.4.3 Local Government Engineering Department (LGED)

The broad objectives of LGED's development activities are to improve the socio-economic condition of the country through supply of infrastructures at local level and capacity building of the stakeholders.

The main functions of LGED are local and urban infrastructure development and small scale water resources management. In connection with this, LGED is extensively involved in rural infrastructure maintenance programs throughout the country. The main interventions of LGED for rural infrastructure development programs are to develop rural road transport networks to improve accessibility to Growth Centers (GCs), important social and administrative points and also the development of GCs to expand marketing facilities of farm and non-farm products of the rural areas.

Coordination of these activities in relation to Blue Gold is needed. The MoU between LGED and BWDB should be utilized in this way in Blue Gold interests. The issues of activating this MoU, collaboration with LGED, use of data and possible needs for strengthening need to be further explored.

7.4.4 Department of Environment (DoE)

The DoE policy is aimed at reduction of environmental pollution of the country and on preservation of ecological systems. Beside other issues, DoE is involved in ecological matters like wetland conservation, electricity generation and manure production from municipal wastes, making rivers pollution free, making ship breaking activities environment friendly, etc. Some of these issues are already in implementation.

Environmental clearance is required for working in the polders and assessments will be conducted to obtain environmental clearance from DoE. Blue Gold Program has awarded a contract to CEGIS for conducting an Environmental Impact Assessment (EIA) study in five polders in Khulna and Patuakhali. The polders are 22, 30, 43/2A, 43/2D and 43/2F. Upon completion of this work a second contract will be signed with CEGIS for implementation of EIA's in seven more polders. .

7.4.5 Local Government Institutions (LGIs)

Involvement of local government institutions is important in connection to community mobilization, participation in water management organizations. The chairman of the Union Parishad (UP) participates in the WMG-meeting as advisor. Another aspect is the development of a Polder Development Plan and LGI's part of the process with sharing meeting/ workshops, posters, etc. UP Chairman/Members are the advisors of the WMOs.

With the decentralization of power, the Union level plays a more important role, more decisions have to be taken and services to be delivered. Besides, many national policies and development projects come up with programs in which local government organizations are involved. Strengthening and development of local government will be further explored in relation to the possibilities of Blue Gold.

A unique coordination mechanism of Government line departments, NGOs, CBOs at local level through Union Development Coordination Committee Meeting under the leadership of UP has been created by the Government recently. Representation of WMOs in UDCC can create scope of required coordination and support for the WMG. This mechanism also ensured accountability of GO, NGOs, CBOs at local level. Highlighting of Blue Gold activities in Upazila Development and Coordination Committee Meeting in reference to the minutes of UDCCM and through UP Chairmen as the member of the committee.

UPs usually include schemes on digging/re-excavation of canals, ponds, raising of embankment around ponds used for collecting drinking water, pond sand filter units, tree plantation and sanitation, women development, disaster management etc. in their ADP and implement those with community participation. UPs have disaster management plans. WMG might benefit from these schemes through close cooperation and participation with UPs. UPs are implementing activities like Food for Work, Cash for Work and Social Safety Net programs and they have the authority to select schemes in any sector. WMAs/WMGs can utilize these resources for repair and maintenance for water management infrastructures through some sort of mutually agreed arrangement of cooperation with UPs. It might create accountability to some extent and scope of sustainability in the long run. It may be mentioned that in addition to its own resources UPs are playing significant roles regarding the utilization of resources of Upazila Parishad.

UP has been identified as boundary partner of the Blue Gold Program and will be included for outcome monitoring. Activities such as briefing, training, workshop, frequent meeting and promotional activities are planned for strengthening cooperation and partnership between UP and WMOs regarding implementation of Blue Gold activities. Introduction of the Blue Gold Program to UP representatives to establish linkages and institutionalization of certain activities related to water management is initiated at polder level.

7.5 Stakeholder Engagement Plan

Blue Gold Program has prepared a Stakeholder Engagement Plan to maximize the cooperation and coordination among the concerned stakeholders in a systematic way. Stakeholders, their potential roles, engagement strategy and follow-up strategies are identified in the plan. The stakeholders are EKN, BWDB, DAE, DLS, DoF, DoC, LGIs, BARI, Commercial sectors, traders and suppliers, Agro-Industries, Chamber of Commerce, NGOs like BRAC, Max Foundation, SAFAL, Unicef/Acacia Water, PROOFS, FAO, other projects like IRRI, WorldFish, CSICA, WMG, WMA, FFS Groups, other donors like DANIDA, WB, ADB, FAO, DFID, SDC and USAID.

7.6 Outcome Monitoring/Mapping

The key components of outcome mapping/ monitoring are:

- (a) Boundary Partners- those are individuals, groups or organizations with whom Blue Gold interacts directly,
- (b) the outcome challenge of these boundary partners, which refers to the ideal future situation in the context of each of these partners,
- (c) a set of progress markers for each boundary partner, which can be defined as the indicators along the journey to the achievement of the outcome challenge.

Outcomes describe the changes in the behaviour of the boundary partners leading to the achievement of the outcome challenge. Information on this social process provides Blue Gold with the basis to assess whether the outputs generate the desired effects and the results achieved are likely to be sustainable. BWDB at local level, DAE staff, WMG and Union Parishad (UP) are selected as Boundary Partners for outcome monitoring.

Appendix 1. Role of Union Parishad for Participatory Water Management

“ Union Parishad will provide the supporting/facilitating/coordinating assistance for project/sub-project/scheme covering one union for participatory water management. On behalf of the Union Parishad, the Standing Committee on Agriculture and other development works will provide such functions”. -GPWM, Ministry of Water Resources, 2000, page 6 and PWM Rules 2014.

As advisor to the WMOs Union Parishad can provide necessary assistance through following activities:

- Conflict resolution regarding water management;
- Clearing obstructions in water bodies;
- Cleaning water hyacinth from water bodies and compost production;
- Digging and re-excavation of canal (not covered by Blue Gold);
- Plantation in the side of roads and in the berms of the embankment;
- Construction/re-construction of earthen roads, drains, culverts;
- Arrangement of safe water and sanitation;
- Income generating activities for poor;
- Connecting the market places, improvement of management and facilities of market places;
- Formation of Union Resource and Service Unit (Agriculture, Fisheries and Livestock) and allocation for agri. Development in UP budget;
- Participate in WMO meetings as advisor;
- Activation of Standing Committees and inclusion of WMO representatives;
- Activation of Union Disaster Management Committee and inclusion of WMO representatives;
- Assist for O&M of Water Management facilities;
- Invitation of WMO representatives in Ward meeting and open budget meeting;
- Sharing the important issues and achievements of WMOs/Blue Gold in Upazila and District Development and Coordination meeting;
- Encourage farmers for increase production (through organizing fair and rewarding);

- Conservation of local variety of fish and promote to increase fish production and promote for livestock production;
- Offering of physical facilities (Meeting room) for use by the WMOs;
- Activation of Union Development and Coordination Committee (UDCC) and inclusion of WMO representatives;
- Mutual sharing of plans of UP and WMOs, make necessary adjustment and coordination of activities;

Following steps may be taken for capacity building of Union Parishad:

- Inclusion of UP representatives in Participatory Water Management, Environment, DRR and Gender training program;
- Facilitate for activation of Standing Committees, UDMC, UDCC;
- Facilitate to establish linkage with WMGs and Volunteer Groups;
- Facilitate for establishment of Union Agriculture Resource and Service Unit
- Facilitate/support for mutual experience sharing on successful initiatives;
- Highlighting of successful joint initiatives of WMOs and UPs in different forums and Networks;
- Facilitate to connect the interested UPs with different effective Networks;
- WMOs can support UP in planning and implementation of different schemes of UP as organized groups towards capacity building on citizen's engagement;

Appendix 2. Power point on linkage with Stakeholders

Linkage with Stakeholders



Links between Stakeholders

- Links between stakeholders:
- O&M agreement between WMO and BWDB: routine maintenance by WMO, regular maintenance and repair by BWDB
 - Union Parishad represented as advisor in Executive Committees (EC) of the WMO
 - Inclusion of WMO representatives in (activated) Union Development and Coordination Committees (UDCC) and Union Parishad Standing Committees



Version: 21.10.2014

Appendix 3. Notes on the Blue Gold Program Introduction for Union Parishad Functionaries (Example)

Gangarampur is one of the three UPs in polder 30 under Batiaghata Upazila of Khulna district. Activities under Blue Gold program are ongoing in this polder. So, information regarding the Blue Gold Program for the UP representatives became necessary as the UP representatives were not well aware about the program objectives, targets, activities, process, stakeholders, role of different stakeholders, role of UP and cooperation mechanisms.

Orientation for the UP functionaries was held on 7 September 2014 at Gangarampur UP auditorium as a joint effort of all the components of Blue Gold Program. UP Chairman, all UP members (female and male), UP Secretary, WMA representatives, officials of DAE and DLS joined in the orientation. Participants were briefed on the project area, objectives, targets, duration, activities, process, stakeholders, role of different stakeholders, role of UP, possible areas of cooperation etc. All 4 Components presented their activities and possible areas of cooperation. Similar presentations were held on Gender, Environment and DRR and role of UP as advisor to the WMOs and possible areas of cooperation and institutional issues were discussed. Different queries of the UP representatives were answered during the Q&A session.

The UP representatives thanked the Blue Gold team for organizing the meeting; they also informed that through this orientation they became aware about the project, role of UP and possible areas of cooperation. They expressed their commitment to support implementation of project activities and cooperation among the stakeholders. They assured to include WMO representatives in UP Standing Committees, Union Disaster Management Committee (UDMC), and Union Development Coordination Committee (UDCC) and establish links with the WMG based DRR Volunteer Groups for better coordination.

The Upazila Agriculture Extension Officer mentioned that prior to this introductory meeting she was only aware of the DAE part (Agriculture and Food Security) of the Blue Gold program, now she got the full picture of the Blue Gold program as a whole. Both the officials of DAE and DLS assured to extend cooperation regarding implementation of the Blue Gold Program.

Appendix 4. References

1. Guidelines for Participatory Water Management, Ministry of Water Resources- April 2001
2. Guidelines for Integrated Planning for Sustainable Water Resources Management To be used for FCD and FCDI Projects, September 2008
3. Project Document, Blue Gold Program, August 2012
4. Development Project Proforma, (BWDB component) Blue Gold Program- May 2013 (Recast)
5. Development Project Proforma for Transfer of Technology for Agriculture Production under Blue Gold Program, (DAE component) - May 2013 (Recast)
6. Inception Report, Blue Gold Program - November 2013
7. Participatory Water Management Rules, February 2014