23 Outreach and Outcomes of Commercialisation Interventions

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Briefing Materials

The following materials illustrate concepts, interventions, outcomes and lessons learnt, including through stories from community members.

Slide decks

- Lessons learnt
- Improving the productivity of land in coastal Bangladesh: outcomes of Blue Gold interventions 2013-2019
- Commercialisation of agriculture: improved water management conditions driving reductions in poverty (long)

Thematic brochures

- Commercialisation of agriculture: improved water management conditions driving reductions in poverty
- Outcomes of fisheries interventions to increase production, food security and incomes
- In-polder water management: maximising returns from agriculture and aquaculture
- Outcomes of livestock interventions in improving livelihoods and access to markets
- Improving the productivity of land in coastal Bangladesh: outcomes of interventions 2013-2019

Case studies

- Cropping intensity initiative: Rudhagara WMG increasing production of crops by effective water resources management
- Community-led agricultural water management at Uttar Khekuani
- Transformation from resource farmer to micro-entrepeneur
- Improving supply chain efficiency for rice farmers: Anowar's story
- Commercialising watermelon farming
- Impact of water resource management at Amadkhali, Satkhira
- Women in collective action and market linkages: increasing benfits and empowerment
- Feminisation of agriculture and the impact on women's workload

Many of the terms used for rice crops and seasons are explained in this schematic representation

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Impacts of the commercialisation interventions[edit | edit source]

The information presented in this section on outcomes and outreach of Blue Gold interventions on commercialization has been taken from various documents that documented the economic changes and significant income increases brought about by changes in cropping patterns. In particular the findings of BGP's Technical Report 26 on Improving Productivity – Outcomes of Blue Gold Interventions (of November 2019) are discussed. This report presents the findings of a survey in 2019 gathering data from all WMGs within the 22 BGP polders, comparing the situation before Blue Gold with the situation in 2019. The information on cropping intensity from TR26 is supplemented with similar data derived from satellite images (the Satelligence Report – Earth Observation for Monitoring and Evaluation of Blue Gold Interventions of July 2019), which compared baseline data from 2011-2015 (pre-BGP) with 2017/2018 data.

This section occasionally also refers to Technical Report 25 (TR25), which presented Blue Gold outcome data similar to TR26, but collected in 2018 and among a selection of BGP polders and WMGs.

Changes in land use[edit | edit source]

The WMG survey results of Technical Report 26 (TR26) show that since the start of BGP changes in land use were significant. The report distinguishes 3 categories of land use: paddy (rice), other or non-rice crops, and fish/shrimp *ghers* (ponds). This schematic presentation shows the cropping seasons (*kharif-1*, *kharif-2* and *rabi)* and the rice crops (*aus*, *aman* and *boro*) within the Bengali and the Gregorian calendars.

In Khulna, where BGP worked in 11 polders, the biggest change has been the increase in the area under fish *ghers*, with about 5% in the *rabi* season (up to 16% of the available land), and about 10%

in both *kharif-1* and *kharif-2* (up to 43 and 40% of the land, respectively). There was also a net increase in the area of paddy because of the significant expansion of *boro* rice from 28 to 47% of the land, despite a decrease in *aman* paddy from 57 to 48%. The land used for other crops did not change much. The available land that remained fallow decreased in all seasons, with the biggest reduction in *rabi* (from 35 to 16%).

In Satkhira, where BGP worked in one polder (polder 2), the increase in area under fish *ghers* was even bigger and the area has doubled. Both in *kharif-1* and *kharif-2* the area used for *ghers* increased from about 25% to over 50%. In Satkhira the area under *boro* paddy also increased, i.e. from 75% to 85%. Changes in the area under other crops were minor. The land that stayed fallow reduced in all seasons, with the biggest reduction in *kharif-1* (from 68 to 34%).

In Patuakhali, where BGP worked in 10 polders, fish *ghers* are virtually absent. There was a little net increase in the area of paddy, with a small reduction in *aus* paddy land in *kharif*-1, which was compensated with a similar increase in *aman* paddy in *kharif-2*. The most significant change in Patuakhali was the increase in area of non-rice crops in the *rabi* season (from 53 to 85% of the available land), which resulted in a great reduction of fallow land in this season (from 46 to 12%). In *kharif-1* there was some increase in fallow land (from 75 to 81%); in *kharif-2* some reduction, with less than 1% remaining fallow.

Combining all seasons in the three zones, there have been (net) increases in in the total areas with paddy, non-rice crops and fish *ghers* as per 2019; but the increase in area under fish *ghers* was greater than the combined increase in paddy and non-rice crops. It can therefore be concluded that on average the expansion of fish *ghers* did not mean a reduction in cropped areas. However, in 23% of the WMGs in Khulna and Satkhira (excluding polder 28/2) the increase in the area of fish *ghers* led to a reduction of the cropped area. This suggests that some switching is taking place from crops to fish.

The Satelligence report of 2019, comparing baseline data of 2011-2015 with data of 2017/2018, had similar findings on changes in land use, such as the reduction in fallow land.

Changes in crop types[edit | edit source]

In all zones there has been a move to more productive types of paddy as demonstrated by the 2019 WMG survey findings. In both Khulna and Satkhira most of the *boro* is now of the more productive hybrid type, which has replaced much of the HYV *boro*; in Patuakhali very little *boro* is grown. The only areas with a significant proportion of *aus* paddy, grown in *kharif-1,* are in Patuakhali, where there has been a sharp switch from local varieties to HYV. *Aman* is grown in all three zones and there was a clear trend towards HYV, although local *aman* is still grown in Khulna in Patuakhali despite a substantial reduction: from 72% to 47% of all *aman* in Khulna and from 84 to 44% of all *aman* in Patukhali. In Satkhira already two thirds of all *aman* was HYV before the start of BGP.

Although the changes in total area of non-rice crops were not big in two of the three zones (Patuakhali being the exception), there were considerable changes in crop types. In Khulna there was a sharp drop in sesame and also in mung bean (though not so much was grown there), against an increase in more profitable vegetables and watermelon, whereby the cultivation of the latter was concentrated in a few polders. In Satkhira non-rice crops were only grown on a small area, which were mainly vegetables (which slightly increased) and jute (slightly declined).

The non-rice crops are most important in the *rabi* season in Patuakhali, where their total area has increased from just over half of cultivable land to 85% in this season. Prior to BGP, the main non-rice crop used to be *keshari*, a local pulse crop, which had almost disappeared by 2019. It has been

replaced by the more profitable mung bean, which now accounts for 70% of the area of non-rice crops. Relatively small but increasing areas of groundnut, watermelon and chilli were also grown, whereas areas under sesame and sweet potato declined. As compared to the 2018 survey (TR25), the area under mung bean declined somewhat in 2019, whereas the area under watermelon and groundnut increased.

Increase in cropping intensity[edit | edit source]

Cropping intensity refers to the number of crops from a same area during all seasons of one agricultural year. Within Blue Gold the land used for *ghers* is also included in the determination of cropping intensity. In Blue Gold polders two crops are possible per year; in some parts of the polders even three crops per year are possible where the situation allows this, e.g. on higher lands and/or near a good source for irrigation water (canals).

The findings from the 2019 WMG survey (TR26) demonstrate that on average the overall cropping intensity in the Blue Gold polders increased by 41% from 187% before BGP to 228% in 2019, but with differences over the three zones. Increases in cropping intensity were reported by 80% of the 511 WMGs and for all polders, apart from polder 28/2, where the cropping intensity fell with 34% due to land being absorbed by urban expansion of Khulna city. On average WMGs with a greater improvement in water management problem scores (i.e. a greater reduction of their problems) also have a larger increase in cropping intensity and a bigger increase in area under high yielding and high value crops. However, there is considerable variability in this correlation, so the relationship is not strong.

In Khulna the average cropping intensity has increased with 38% from 199% before BGP to 237% in 2019 (TR26). This means a further increase in cropping intensity as compared with the 2018 data (in TR25), which were collected in five of the ten Khulna polders, when the average cropping intensity in 2018 was established at 215%. In the 2019 survey 8% of the Khulna WNGs reported a fall in cropping intensity as compared to before BGP, against 14% in 2018. The Satelligence data for the Khulna polders also showed a substantial increase in average cropping intensity (i.e. crops and *ghers)* of 57% between baseline and 2017/2018 data, though from a lower baseline value, i.e. from 138 to 195%.

The 2019 survey (TR26) showed a considerable larger increase in cropping intensity in Satkhira with 76%, largely due to the expansion of fish *ghers* in polder 2. The pilot survey of 2018 (TR25) showed a more modest increase of 31% but this was based on only 6 WMGs in the central part of the polder (beel area), which were not representative for polder 2 as a whole. Data from Satelligence, covering the entire polder 2, showed a higher increase in cropping intensity than the data of the 2018 survey, i.e. of 50%, and from a lower pre-project value (130%) to a slightly higher end value in 2017 (180%). It should be noted that at the time that the Satellingence end value data were collected (2017/2018) and the TR25 data (2018), the drainage improvements in Satkhira were not yet completed.

The 2019 survey results (as in TR26) demonstrate that in the 10 BGP polders in Patuakhali the average cropping intensity increased with 31% from 173 to 205%. This end value is somewhat lower than the findings of the 2018 WMG survey (which did not cover all polders) and which showed an overall increase in cropping intensity of 34% from 181% to 214%. The Satelligence data for the Patuakhali polders showed a considerable higher increase of 71%, but from a much lower baseline value (136%) to a similar end value of 207%.

Comparing the cropping intensity data from the two WMG surveys with the data in the Satelligence report, see also table 23.1, it can be concluded that the end values in 2017/2018 of cropping intensity found in the Satellingence report are quite close to the end values of the 2018 WMG

survey, especially for Satkhira and Patuakhali. The 2019 WMG survey demonstrated an increase in average cropping intensities in all zones from 2018 to 2019.

Table 23.1 Average cropping intensity (in % of available land) before and after BGP interventions for the three zones, based on three assessments

	TR25[Notes 1]			TR26			Satellingence		
Zone	**before 2018**		**change**	**Before 2019**		**change**	**Before 2017/18**		**Change**
Khulna	178	215	36	199	237	38	138	195	57
Satkhira	141	172	31	176	252	76	130	180	50
Patuakhali	181	215	34	173	205	31	136	207	71

The Satellingence study also used comparison or control polders (i.e. non-Blue Gold polders). On average a similar increase in cropping intensity was found for non-BGP polders as compared to the average for the BGP polders, however, with lower values both for the baseline and for the 2017/2018 data.

Crop Yield Increase[edit | edit source]

There has been a substantial increase in the productivity of paddy as per 2019 data from TR26. Apart from a switch to more productive HYV and hybrid varieties, average yields of each type of paddy increased by between 10% to 25% per unit of land. Differences in yield levels between zones are usually small, with *boro* yields being slightly higher in Satkhira and HYV *aman* yields higher in Patuakhali. In general, a higher proportion of the WMGs reported increases in yields of *boro* and *aman* in Patuakhali than in the other two zones.

However, the picture regarding the 2019 yields of non-rice crops was more mixed, with significant falls in yields of some of the key crops, including mung bean and sesame, whereas the 2018 survey had reported significant yield increases for most non-rice crops. Farmers interviewed as part of the 2019 survey said that the unpredictable weather conditions during the growing season (excessive drought, unexpected and heavy rainfall) adversely affected non-irrigated *rabi* crops. This seems a valid explanation because the 2018 WMG survey (TR25) found a significant increase in mung bean yields as compared to the pre-project situation, i.e. 34% in Khulna and 39% in Patuakhali. This confirms that measuring outcomes of agricultural development based at one point of time after interventions can give a distorted picture of the achievements if the weather conditions were rather exceptional at that time. However, the overall picture was mixed as some non-rice crops demonstrated a good increase in yields as per 2019, in particular sunflower (with 130% increase) and chilli (42%).

The production of fish g*hers*, as reported in TR26, showed a significant increase of about 40% per unit of land in the *kharif* seasons, the seasons with the largest area under aquaculture.

Feedback from FGDs with farmers on outcomes of BGP interventions[edit | edit source]

In the Khulna zone better water management, resulting in improved irrigation water supply, allowed increased cultivation of *boro* paddy in the *rabi* season. This replaced sesame, which was previously grown as a main crop in the rabi season, but was risky due to erratic rains prior to harvest damaging the sesame crop and reducing its yields.

In the Patuakhali zone farmers reported that better water management brought more land under cultivation in *rabi* season, and allowed the adoption of HYVs in the *aman* and *aus* seasons. Better

drainage allowed the expansion of *rabi* crops; the increased supply of fresh water in *khals* allowed the irrigation of watermelon and *boro* paddy in some locations.

The 2019 WMG survey (TR26) identified which improved methods and technologies for crop production, introduced and disseminated through the Farmer Fields Schools, were best adopted. These were line sowing of paddy, improved paddy seedbed management, the use of improved seeds and varieties, and perching branches for birds, all mentioned in at least 21 of the 24 Focus Group Discussions (FGDs) held. Use of light trap, proper seed preservation and balanced fertilizer were mentioned as adopted technologies in half or more of the FGDs.

Adoption rates of improved fish production technologies were generally higher than for most crop production technologies, with the use of improved fingerlings / spawn, balanced feed for fish and liming of fish ponds as the most commonly adopted technologies.

In the 2019 survey farmers were also asked for their most pressing problems, which turned out to be dominated by economic issues such as falling prices of farm products and increased costs of labour and farm inputs. In 2018 farmers had been benefiting from a spike in paddy prices following poor harvest in the preceding year. This encouraged increased paddy production, and the market seemed to become oversupplied; as a consequence farmers interviewed in 2019 no longer thought that paddy was such a profitable crop.

A main production-related problem was identified as pests and diseases, as well as increased damage by rats. Over half of the FGDs also reported that drought had been a problem. But few FGDs reported salinity, water logging and/or excess rainfall as problems, even though there was also reporting that unexpected rains in winter had damaged *rabi* crops.

Increase in farm income[edit | edit source]

The increased area of crops, improved cropping patterns and increased yields contributed to an increase in farm incomes. In TR26 this has been calculated based on budgets for the main crops in each zone, also estimating the net income 'before BGP'. The results of these calculations showed that the total net farm income has almost doubled with an increase of 89%. More comes from aquaculture than from crops – and aquaculture contributes over half the increase in farm income. However, in relative terms the increase has been higher for paddy and for other crops. The relative increase has also been higher in Patuakhali zone (with 165% increase), and lowest in Khulna (77% increase); in Satkhira the farm income increase was calculated as 117%.

The overall increase in net farm income was compared with the total BGP costs, including TA, per polder to assess the payback period. For almost all Khulna polders the payback period was less than two years, and for many even less than one year. For polder 2 in Satkhira the payback period was calculated as less than two years. For Patuakhali, however, the payback periods per polder were in excess of 5 years, with the exception of 3 polders that had a payback period of 1 – 3 years.

Other benefits and impacts[edit | edit source]

Increased paddy production has greatly reduced or even eliminated food insecurity for households with access to land, while the cultivation of high value crops, especially rabi crops, provide more cash income. Although there is a general trend for more households to have non-farm incomes, agriculture remains the major source of income in most villages. Improvements in agriculture even meant a stronger focus of farmers on agricultural production. Apart from households deriving income from field crops, an increasing number of landless households benefited from increased income from agricultural wage labour, as the demand for such wage labour considerably increased.

Apart from spending more on food, additional farm income usually is spent on children's education and improved housing and sanitation, but also invested in farming, which includes land leases, purchase of livestock and investments in high value crops requiring more costly inputs. People are also saving more.

Household outreach of commercialisation interventions[edit | edit source]

Blue Gold's initial Household Survey (Baseline study of 2014) across eight polders indicated that between 45% and 65% of the households had access to land and relied on farming for their livelihoods. As a rough estimate, Blue Gold considered 55% of the households in its 22 polders (with 185,000 households in total), corresponding to just over 100.000 households, as households owning or leasing land and therefore directly benefiting from water management interventions through better opportunities for field crop production.

Table 23.2 provides an overview of Blue Gold's cropping system interventions and their outreach. A distinction is made between the 1358 FFS type interventions (984 crop FFS, 142 CAWM FFS and 232 MFS), the 67 large and 628 small demonstrations, and the various Horizontal Learning events including FFS and Demonstration Farmer Field Days (FFD), Melas (farmer fairs) and Exchange visits.

Table 23.2 Blue Gold's cropping interventions and their outreach

Key activity	#	# participants / activity	Total # of participants	# households directly reached[Notes 2]	Total # attendants Horizontal Learning[Notes 3]	# households indirectly reached and affected[Notes 4]
Crop FFS	984	25	24600	**19680**	4920	**4920**
Crop FFS FFD	964	100			96432	**24108**
Melas	8	3000			24000	**5760**
CAWM FFS[3]	142	50	7100	**3550**		
CAWM FFD		100			7100	**2485**
CAWM exchange visits					1563	**1563**
MFS	232	25	5800	**2175**		
MFS FFD		100			5220	**1305**
CII demonstrations	67	6	402	**402**		
CII demo HL events	34	100			3350	**1005**
Small demos	628	3	1884	**1884**		
Small demo HL events	628	20			12560	**9420**
Total hh = 78257				**27691**		**50566**

With respect to outreach, BGP distinguished between:

1. **The number of households directly reached**. These are the households of whom at least

one member participated in an FFS (either crop FFS, CAWM FFS or MFS) or was actively involved as a demonstration farmer, either in Cropping Intensity Initiatives (CII) or in smaller demonstrations. Usually 25 households were represented per FFS. After applying a correction for duplication / multiple participation (i.e. when two members of one household participated in any FFS or a same farmer participated in two activities) on the total number of direct participants in FFS and demonstrations, it was estimated that 27,691 households were directly reached by BGP interventions on commercialization of agriculture, and are applying at least part of the learnings.

2. **The number of households indirectly reached through horizontal learning**. These are the households of whom at least one member took up improved practices for commercialization through participating in Farmer Field Days, exchange visits, attending demonstration events and/or learning from neighbours who had been FFS participants. It is estimated that 50,566 households were indirectly but effectively reached. This number was determined by applying a correction factor on the total number of persons who attended Horizontal Learning events; the correction factor depending on the nature and the participants of the HL event. This correction is both for multiple participation and for the fact that a considerable number of participants in Farmer Field Days, *Melas* and demonstration attended out of curiosity, without being able to apply the learnings.

The combined outreach, in terms of households reached for commercialization of agriculture, directly through program interventions and indirectly through Horizontal Learning events, is thus estimated at 78,257 or nearly 80.000 households, while the potential was established as 100.000 households. In fact, Blue Gold reached 42% of all households in its polders, which compares well with the estimated 55% of the households with access to land. Thus about 76% of the households with access to land and therefore likely to benefit from WRM interventions, were actually reached and affected based on the calculations and assumptions presented in Table 23.2.

Cost of commercialisation interventions[edit | edit source]

The approximate cost of the commercialisation program Euro 1,410,000 is detailed in Table 23.3 below. It covers the actual cost of the individual program interventions, along with the Horizontal Learning activities and capacity building of field staff, resource providers and private sector actors. The Technical Assistance cost to manage the program is not included.

The cost of the range of FFS based interventions was around 43 Euro per household directly reached. Considering the additional households reached through Horizontal Learning, the average costs dropped to 17 Euro per household. In contrast, the less resource intensive Cropping Intensity Initiatives (CII) demonstrations cost more or less a quarter of the FFS costs per household directly reached (11 Euro) and only 3 Euro per household indirectly reached or affected. A comparison of their effectiveness with the more resource intensive FFS based interventions is difficult. The large-scale, yearlong CII demonstrations focus on a group of farmers within a sub-catchment. A limited number of sessions and workshops were built around the demonstrations, while leaving sufficient room for the expanded content of agricultural extension in the coastal zone, as set out in chapter 19. BGP believes that the effectiveness of the CII approach is likely to be similar to the more resource intensive FFS based interventions, while obviously a lot more resource efficient, in terms of direct costs and staff input.

Table 23.3 Cost of Commercialisation interventions

Key Activity	#	Unit cost BDT	Unit cost €	Total cost BDT	Total cost €	Cost per reached HH BDT	Cost per reached HH €	Cost reached & affected HH BDT	Cost reached & affected HH €
Crop FFS	984	82,600	€860	81,278,400	€ 846,650	4,130	€ 43	1,669	€ 17
Mela	8	147,500	€1,536	1,180,000	€ 12,292				
CAWM	142	82,600	€860	11,729,200	€ 122,179	3,304	€ 34	1,944	€ 20
CAWM HL & exchange visits	13	20,000	€ 208	260,000	€ 2,708				
MFS	232	28,473	€ 297	6,605,722	€ 68,810	3,037	€ 32	1,898	€ 20
CII demonstrations	67	2,147/acre		426,145	€ 4,439	1,060	€ 11	303	€ 3
CII demo HL events	34								
Small demos	600	inclus materials		8,160,000	€ 85,000	4,331	€ 45	722	€ 8
Small demo HL events	600								
Training 150 SAAO, 25 DT, 150 FTs				21,437,400	€223,306				
Training 91 SAAO, 700 RF, 125 IP				4,354,500	€45,359				
		Total inclus training		**135,431,367**	**€1,410,743**		**€ 51**		**€ 18**

These commercialisation intervention costs alone do not form an appropriate basis for an outcome based cost/benefit assessment. As argued extensively, Blue Gold outcomes in terms of production increase, are the result of the integration of water infrastructure, water management and agricultural commercialisation interventions.

What these costs do provide is an idea of this type of intervention costs per farmer and/or per household directly and indirectly reached. This can be of use for future programming whereby consideration should be given to the extent that BGP's lessons learned on agricultural extension (see chapter 22) are adopted, particularly those relating to increasing the efficiency of the extension approach. It is felt that, with the adoption of these lessons learnt, intervention costs per farmer could be reduced substantially.

Outcomes of Commercialisation interventions[edit | edit source]

Commercialisation interventions combined and aligned with the interventions to improve water resources management contributed to the core of Blue Gold outcomes. These outcomes were described in quantitative terms of productivity shifts across the polders on the basis of the WMG surveys, see also Section B.

This section presents the direct qualitative outcomes of the commercialisation interventions in relation to extension delivery, farmer market orientation and market systems development. In

addition, impacts in terms of polder economic growth are identified.

Outcomes related to enriched extension delivery[edit | edit source]

- New extension curricula take a cropping system perspective, consider water management conditions and include market orientation topics.
- Cost-effective extension methods, based on demonstrations and Horizontal Learning, are more often undertaken by lead farmers and private extension agents.
- Added impetus to extension sessions by the involvement of Resource Farmers, local entrepreneurs as input suppliers and traders, farmer role models, and private sector companies.
- Increased outreach and accessibility of agricultural extension field officers by contacting groups through their Resource Farmers.

Outcomes related to enhancement of farmer market orientation[edit | edit source]

- A growing number of farmers, men and women, consider farming as a business and use simplified gross margins, weigh up risks, and involve their spouses in joint decision making.
- Expanded networks for goods, services and information support broadening production options.
- Mobile phones became a virtual access to markets, especially enhancing market linkage opportunities for women farmers.
- Increased farmer bargaining power through producer groups reduces costs and increases revenues. See also Annex 23.1.

Outcomes related to market systems development[edit | edit source]

- Positive and timely response by other market actors to new demands for goods, services and labour, resulting from alternative and/or more intensified cropping systems.
- More accessible and trustworthy input and service providers, growing trade volumes and revenues by offering quality products and services.
- Reduced transaction costs to both parties, evolving from collective actions.
- Upgraded and new market linkages, of higher levels of mutual understanding and trust, constitute systemic changes. Such market linkages make present innovations sustainable and will facilitate future adaptations to changing conditions.

Outcomes related to the impact of polder economic growth[edit | edit source]

- Growth of agricultural production through increases in yields, cropping intensity and diversification.
- For households without access to land for field crops, but with some homestead land, the improvement of homestead production through homestead FFS (see chapter 25) often also meant a critical improvement, as food production increased as well as income from surplus sales.
- Along with farm production, incomes and labour requirements have increased. In turn, the increased labour demand increased wage incomes for landless households. And increased incomes from agriculture boost the demand for goods and services, increasing trader volumes, which results in more jobs and higher non-farm incomes.
- Labour remuneration and land leases have increased with higher land productivity. In some polders the wage gap between men and women labourers decreased.
- Not all farmers adopted (yet) the improved practices with higher productivity and profitability;

rather, they continued to cultivate traditional crops or varieties with less investment and less income.
- Cost benefit analyses show that overall returns to cropping system improvements justify large-scale infrastructure investments, and clearly justify spending on maintenance as a production cost that results in more than enough income from selling the resulting additional produce.

Miscellaneous References[edit | edit source]

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Notes[edit | edit source]

1. ↑ Note that in the 2018 survey, as reported upon in TR25, not all Blue Gold polders or all WMGs were covered
2. ↑ Adjustments made for multiple participation
3. ↑ Horizontal Learning include learning from neighbours, from Farmer Field Days (FFD), Melas, exchange visits and demonstrations
4. ↑ Based on assumptions for the proportion of HL attendants likely to apply the improved technologies, depending on the nature of the HL event

See more[edit | edit source]

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Chapter 22: Lessons for Agricultural Extension in the Coastal Zone

Blue Gold Lessons Learnt Wiki
Section E: Agricultural Development

Next chapter:
Chapter 24: Gender equality and women's empowerment

Section E: Agricultural Development		
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A defined set of temporary activities through which facilitators seek to effect change

Blue Gold Program

Water Management Group - The basic organizational unit in Blue Gold representing local stakeholders from a hydrological or social unit (para/village). Through Blue Gold, 511 WMGs have been formed and registered. The average WMG covers an area of around 230 ha has 365 households or a population of just over 1,500.

Cropping intensity - The number of crop harvest per unit land per year. The average cropping intensity (CI) is calculated as the total area of all crops per year divided by the area of cultivable land. In its CI calculations BGP treats fish ghers as another crop; the DAE method excludes fish ghers in its CI calculations. Hence the CI calculated by BGP is higher than as calculated by DAE.

Water Management Group - The basic organizational unit in Blue Gold representing local stakeholders from a hydrological or social unit (para/village). Through Blue Gold, 511 WMGs have been formed and registered. The average WMG covers an area of around 230 ha has 365 households or a population of just over 1,500.

An area enclosed by low embankments to store either freshwater or brackish water for the production of fish, shrimps or prawns.

The first part of the kharif season (mid-March to mid-June). Rainfall is variable and temperatures are high. The main crops are aus, summer vegetables and pulses. Broadcast aman and jute are planted.

The second part of the kharif season (mid-June to mid-October) characterised by heavy rain and floods. T Aman is the major crop grown in this season. Jute is harvested.

The dry season (typically mid-October to mid-March) with low or minimal rainfall, high evapotranspiration rates, low temperatures and clear skies with bright sunshine. Crops grown are boro, pulses, sunflower, sesame and mungbean.

a rice crop planted in March/April under dryland conditions. Matures during pre-monsoonal showers and is harvested in June/July. Insensitive to daylength.

a rice crop usually planted in March/April under dryland conditions, but in areas liable to deep flooding. Also known as deepwater rice. Harvested from October to December. All varieties are highly sensitive to daylength.

A rice crop planted under irrigation during the dry season from December to March and harvested between April and June. Local boro varieties are more tolerant of cool temperatures and are usually planted in areas which are subject to early flooding. Improved varieties, less tolerant of cool conditions, are usually transplanted from February onwards. All varieties are insensitive to

daylength.

An area of low-lying land surrounded by an earthen embankment to prevent flooding by river or seawater, with associated structures which are provided to either drain excess rainwater within the polder or to admit freshwater to be stored in a khal for subsequent use for irrigation.

The wet season - typically mid-March to mid-October - characterised by rain and high temperatures

High Yielding Variety - Introduced varieties developed through formal breeding programs. HYVs have a higher yield potential than local varieties but require correspondingly high inputs of fertiliser and irrigation to achieve high yields.

Varieties developed by farmers, sometimes referred to as local improved varieties (LIVs)

Local pulse crop

wetland inundated for at least one season per year, formed by the inundation of a low-lying natural depression

Focus Group Discussions - in which a group of participants from similar backgrounds or experiences gather to discuss a specific topic of interest, guided by a group facilitator who introduces the topics for discussion and helps the group to participate in a lively and natural discussion amongst themselves

human intervention in the capture, conveyance, utilisation and drainage of surface and/or ground water in a certain area: a process of social interaction between stakeholders around the issue of water control.

Technical Assistance

assumed in this report to operate up to 0.5 acres (0.2 ha)

A livelihood is a way of making a living. It comprises capabilities, skills, assets (including material and social resources), and activities that households put together to produce food, meet basic needs, earn income, or establish a means of living in any other way.

Farmer Field School - A group-based learning process through which farmers carry out experiential learning activities that help them to understand the ecology of their fields, based on simple experiments, regular field observations and group analysis. The knowledge gained from these activities enables participants to make their own locally specific decisions about crop management practices. This approach represents a radical departure from earlier agricultural extension programmes, in which farmers were expected to adopt generalized recommendations that are formulated by specialists from outside the community.

Community-led Agricultural Water Management - with DAE, Blue Gold established a network of schemes for demonstration purposes where locally-applicable annual cropping patterns are introduced along with water level control facilitated by small-scale water infrastructure, and the development of value chain skills in farmers

Market-oriented Farmer Field School - Farmer Field Schools dealing with cash crops or other commercial production, such as aquaculture, integrating market orientation. Specific MFS were conducted in the first years of BGP; later all FFS included market orientation.

Learning from peers; and in the context of Blue Gold, farmer-to-farmer learning in which a host WMG invites representatives from visiting WMGs to witness an event - such as the harvesting of a new variety of rice - to pass on the knowledge and lessons gained from their experience

Farmer Field Day - Exchange events organized at the end of each Farmer Field School to share the FFS learnings with other community members

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Cropping Intensity Initiative: Year-long demonstrations with farmers on increasing cropping intensity related to improved water management, also involving market actors, and by organising demand driven sessions and workshops

Learning from peers; and in the context of Blue Gold, farmer-to-farmer learning in which a host WMG invites representatives from visiting WMGs to witness an event - such as the harvesting of a new variety of rice - to pass on the knowledge and lessons gained from their experience

A process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them.

Water Resource Management

Part of the catchment which is not directly connected to the regulator, and is hydrologically independent from other parts of the catchment.

Bangladesh Taka

Household

Sub-Assistant Agricultural Officer (DAE)

Farmer Trainer - Well-performing and capable farmers, previously trained in Farmer Field Schools,

who became FFS facilitator themselves after ToT training

Resource Farmers (RF) are members of Farmer Field Schools (FFSs). They are selected from the FFS groups to lead other members in organizing different useful collective actions and to maintain networks on behalf of the members. These RFs are given additional capacity building training to enhance their knowlege on simple record keeping and business skills.

Input Providers

Within BGP this refers to enhancing insights of especially FFS participants in how markets work, how to collect market information, facilitating linkages with market actors and increasing negotiation capacities

Increase in the capacity of a country or an economic region to produce goods and services. It also refers to the increase in market value of the goods and services produced by an economy. It is usually calculated using inflation adjusted figures, in order to discount the effect of inflation on the price of the goods and services produced

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Generally refers to how many and/or in which way people are able to buy or sell, and reach, a reliable supplier or buyer in a market

Collective action - by a producer group is one way to partially overcome constraints such as in weak markets, where inputs and services essential to production innovations, are generally scarce, costly to access and/or to obtain. Collective action is working in group instead of individually in order to gain economic or social benefit. Through collective action, farmers can address constraints in their market linkages, organise their activities jointly and use their collective bargaining power to reduce input costs through bulk purchase, or to obtain services from buyers such as farm-level collection of produce

Also known as 'business linkages'. Linkages refer to the trading relationships between and among producers, input providers and traders, and other enterprises in a supply chain or value chain. We refer to Backward linkages on the input side and Forward linkages on the output side of the producer.

actions taken to prevent or repair the deterioration of water management infrastructure and to keep the physical components of a water management system in such a state that they can serve their intended function.

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Namespaces

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Variants

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Blue Gold Program Wiki

The wiki version of the Lessons Learnt Report of the Blue Gold program, documents the experiences of a technical assistance (TA) team working in a development project implemented by the Bangladesh Water Development Board (BWDB) and the Department of Agricultural Extension (DAE) over an eight+ year period from March 2013 to December 2021. The wiki lessons learnt report (LLR) is intended to complement the BWDB and DAE project completion reports (PCRs), with the aim of recording lessons learnt for use in the design and implementation of future interventions in the coastal zone.

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