



BLUE GOLD TRENDS WATCHER

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Blue Gold Program
is Implemented by:

**Bangladesh Water
Development Board
&
Department of
Agricultural Extension**

EXPANSION OF COMMUNITY-LED AGRICULTURAL WATER MANAGEMENT IN PATUAKHALI THROUGH HORIZONTAL LEARNING

Patuakhali:

The underlying objective of Community-led Agricultural Water Management (CAWM) is to increase agricultural crop production and income through improved internal water management, introduction of modern crop varieties and crop synchronization within sub-catchment areas in Blue Gold Program (BGP) polders. In Patuakhali area the CAWM was piloted in 2016. In order to disseminate learning of CAWM activities, the farmers involved in CAWM organize crop cutting festivals, in which they invite other farmers, including farmers from different WMGs, for experience sharing. Other farmers were attracted to CAWM approach where farmers jointly do water management and, if needed, solve field problems jointly; they also saw the use of modern varieties with higher crop yield and less crop damage in CAWM areas than in neighboring crop fields.

Extensive field visits were done and FGDs were conducted to learn general views about CAWM activities. Local farmers said that CAWM activities are bringing about positive changes in traditional mindset as regards water management and crop production system, and dependency on the external support is reducing. Farmers have learned from CAWM activities how to solve drainage problem and improve water management collectively and that modern crop varieties bring in higher income than local varieties. BGP has introduced

BRRI dhan 52 (risk tolerant improved variety) in CAWM areas.

In 2016 BGP initiated CAWM activities in 6 WMG areas in 4 polders of Patuakhali zone; as practiced elsewhere, parts of WMG catchment areas were taken under CAWM supported by BGP. However, learning from BGP supported CAWM activities, other farmers of area adopted some of the CAWM practices. They jointly re-excavated small khals to facilitate drainage of their fields and cultivated modern variety rice, BRRI dhan 52, instead of local variety. The following table shows the adoption of BRRI dhan 52 cultivation by other farmers of CAWM catchment areas.

It may be noted that farmers outside BGP support area cultivated BRRI dhan 52 despite serious scarcity of seeds; they reported that they had to buy seeds of this rice variety from local markets with much higher price than its original price. Nurjahan, Age 52. She has 2 sons and a daughter. She is a member of Atharogachia WMG in Polder 43/1A. Last year (2016), she attended a crop cutting festival in Polder 43/1A. Inspired by the success of CAWM, especially by observing high crop yields, she cultivated BRRI dhan 52 in 2.5 acres this year (2017). There was drainage problem in the area where her lands are. Farmers of her area re-excavated a silted up khal connected to the main khal; her sons participated in the reexcavation of khal.

Table 1: Expansion of CAWM Area-

Polder No.	Name of WMG	Catchment area under WMG		
		Catchment area of WMG (ha)	CAWM area covered by BGP support in 2016 (ha)	Area where BRRI dhan 52 was adopted in the catchment in 2017 without BGP support (ha)
43/2D	Morichbunia	260	21	130
43/2B	Daribahir char	450	21	350
43/2B	Soilabunia	400	21	160
43/2A	Dakshin Bighai Dakshin	300	15	210
43/1A	Atharogachia	300	40	225
43/1A	Dakshin Sonakhali	250	20	200
	Total	1,960	138	1,275

“Basic idea of participatory monitoring in Blue Gold Program is that the beneficiaries (WMGs) are the main players to monitor the achievements and changes due to project interventions. In participatory monitoring under BGP the WMGs assess their progress vis-à-vis outcome challenges under 4 themes”

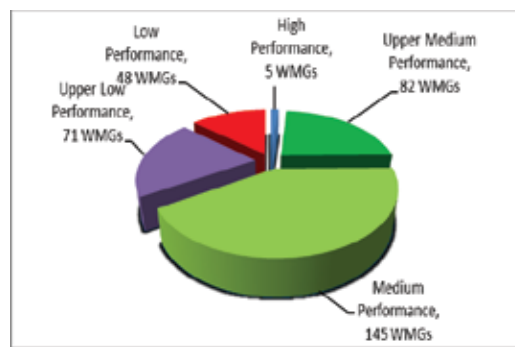
PARTICIPATORY MONITORING IS A TOOL OF WMG MEMBERS, WHEREBY THEY TRACED THEIR OWN PROGRESS

(UPTO MAY 2017; AT OUTCOME LEVEL)

Basic idea of participatory monitoring in Blue Gold Program is that the beneficiaries (WMGs) are the main players to monitor the achievements and changes due to project interventions. The WMGs assess their progress vis-à-vis some outcome challenges under 4 themes.

The second round of participatory monitoring was conducted during April-May 2017. A total of

351 WMGs of 14 BGP polders participated in participatory monitoring exercise. The WMGs assessed their progress vis-à-vis 20 outcome challenges under 4 themes and indicated their progress by using scores signifying progresses achieved. The performance levels of WMGs have, thus, been determined on the basis of their self-assessment. Based on their self-assessment, the WMGs have been categorized into 5 performance categories:



- High performance = average score being $\geq 80\%$;
 - Upper medium performance = average score being 70 % to 79%;
 - Medium performance = average score being 60% to 69%;
 - Upper low performance = average score being 50% to 59%;
 - Low performance = average score being $< 50\%$.
- The chart shows the distribution of 351 WMGs in performance categories.

The following table shows the numbers of WMGs falling under different performance levels by polder.

Table-1: Distribution of WMGs into Performance Categories

Performance Levels	No. of WMGs Categorized as per Performance Levels														
	2	22	26	29	30	31 Part	43/ 1A	43/ 2A	43/ 2B	43/ 2D	43/ 2E	43/ 2F	55/ 2A	55/ 2C	All polders
High Performance	0	0	0	1	4	0	0	0	0	0	0	0	0	0	5
Upper Medium Performance	2	6	4	30	23	8	0	0	2	7	0	0	0	0	82
Medium Performance	29	6	10	24	12	4	5	11	6	17	12	9	0	0	145
Upper Low	21	0	1	0	1	0	6	8	16	4	0	12	2	0	71
Low Performance	6	0	0	0	0	0	3	3	2	0	0	6	12	16	48
Total	58	12	15	55	40	12	14	22	26	28	12	27	14	16	351

Trend of Progress of WMGs

Trend of progresses of WMGs may be drawn from the results of 2 rounds of participatory monitoring exercises. The results show that in general there has been an improvement in the performance of WMGs; in the 2nd round of participatory monitoring; the overall average

achievements of WMGs of all 14 polders are slightly higher than that of the first round participatory monitoring. As reported, the achievements of WMGs have been quite remarkable especially in the polders of Khulna BGP Zone.

Table-2: Trend of Average Achievements by WMGs

BGP Zone	BGP Polder	Theme-wise Progress of WMGs in Percentage								Overall Average Achievement (%)	
		Establishment of Water Management Group and Water Management Partnership (%)		Agriculture and Economic Development (%)		Community Participation in Planning, Implementation and Use of Water Management Infrastructure (%)		Water Management and Operation and Maintenance (O&M) of Infrastructure (%)			
		Nov-Dec 2016	Apr-May 2017	Nov-Dec 2016	Apr-May 2017	Nov-Dec 2016	Apr-May 2017	Nov-Dec 2016	Apr-May 2017	Nov-Dec 2016	Apr-May 2017
Khulna	22	65.1	75.0	52.8	63.4	59.7	65.7	60.4	65.6	59.5	69.4
	26	62.4	72.9	26.5	33.0	44.8	60.4	48.9	61.7	45.6	66.8
	29	74.7	74.2	34.3	41.7	62.6	68.3	61.7	66.2	58.3	70.8
	30	74.5	78.4	51.0	57.7	63.2	68.1	63.2	68.4	63.0	72.3
	31 part	72.2	80.4	28.9	48.1	57.9	67.1	51.4	68.4	52.6	72.0
Patuakhali	43/1A	60.0	66.8	38.3	43.7	45.2	46.8	49.7	40.5	48.3	55.5
	43/2A	64.2	67.2	15.9	22.5	49.2	47.5	51.6	49.2	45.2	55.6
	43/2B	56.0	62.5	22.1	34.7	38.1	54.7	46.1	55.1	40.6	58.5
	43/2D	64.1	70.8	41.7	46.8	46.4	58.3	52.7	61.8	51.2	65.4
	43/2E	69.2	71.8	39.8	34.7	63.4	66.7	60.4	57.6	58.2	65.6
	43/2F	60.2	61.6	28.9	37.8	51.6	53.7	45.8	50.3	46.7	55.2
	55/2A	50.0	42.3	19.0	23.2	36.1	24.6	35.1	29.5	35.1	36.1
	55/2C	46.1	53.1	17.0	22.6	11.8	8.7	14.6	16.9	22.4	33.4
Satkhira	2	63.6	66.1	23.8	33.2	41.0	48.3	47.4	48.6	43.9	58.9

Major Trends & Achievements

Table-3: Blue Gold is on track to deliver the following results by the end of 2017:

Indicator	Expected in 2017
Additional number of people (family farms) that have increased productivity and income (no.)	8,825
Additional number of ultra-poor/landless people that are able to increase productivity or income (no.)	13,544
Additional farmland (hectares) that with eco-efficient land use practices (ha)	4,880
Additional number of people that have benefited from improved water resources management (no.)	114,404
Additional area (hectares) with improved water resources management (ha)	15,293
Additional number of people that are actively engaged in participatory water resources management (no.)	18,312

Blue Gold is currently working in 22 polders, covering an estimated 199,326 households and an estimated area of 119,124 ha.

OUTPUT MONITORING INSTRUMENT: WMG TRACKER SKETCHES A CONCISE PICTURE OF ACHIEVEMENT OF WMGS

“Major activities that the WMGs are involved in are reflected in the WMG Tracker, which include: (a) Membership in WMG, (b) Economic Development i.e. WMG’s fund accumulation and its use in business investments by members, (c) Water Management Support provided by the project i.e. development and repair of water infrastructure, (d) Capacity Development i.e. training provided to WMGs, and (e) Collective Actions of WMG (in economic activities and O&M of infrastructures).”

‘WMG Tracker’ is an output monitoring instrument for presenting objectively a clear picture of each WMG’s achievements. Major activities that the WMGs are involved in are reflected in the WMG Tracker, which include: (a) Membership in WMG, (b) Economic Development i.e. WMG’s fund accumulation and its use in business investments by members, (c) Water Management Support provided by the project i.e. development and repair of water infrastructure,

(d) Capacity Development i.e. training provided to WMGs, and (e) Collective Actions of WMG (in economic activities and O&M of infrastructures). Data relating to all these activities are collected quarterly. Summary of some key elements of information regarding 356 WMGs belonging to 14 polders of Patuakhali, Khulna and Satkhira is given here, which was collected through WMG Tracker for the period up to June 2017.

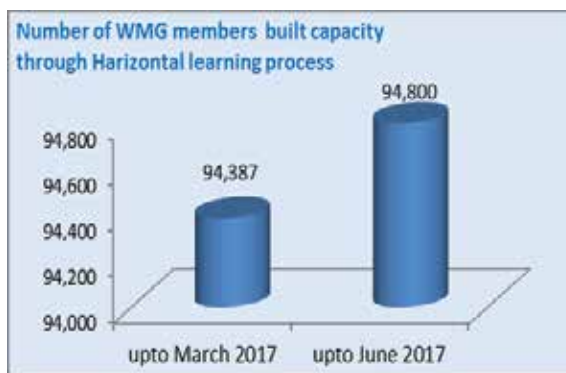
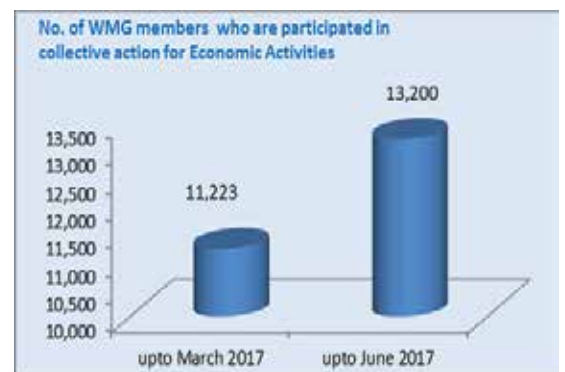


Economic Development:

About 40% of total WMG funds are invested in individual IGAs where a total number of 4,389 WMG members are involved. As shown in the graph, of the total investment, 32.1% was invested in agriculture, 27.4% in fish culture, 23.4% in small business, 12% in poultry rearing and the remaining 5.1% in beef fattening, shrimp culture & goat rearing. As reported in WMG Trackers for the last two quarters, the types of IGAs and number of persons investing in IGAs are gradually increasing.

Collective Action:

As shown in the graph, 13200 (14%) of total WMG members have participated in collective actions for economic activities, and the progress of WMG members’ participation was higher in June 2017 compared to the progress of March 2017; participation of members increased by 17.6% during last three months, which may be due to higher knowledge and adoption levels of WMG members as regards activities of collective action, resulting from inspiration and motivation from Blue Gold Program.



Horizontal Learning:

The community people in WMG areas, including those who are not members of WMGs, are brought under learning process through horizontal learning (HL) activities such as: (a) Farmers’ Field Day, (b) exchange visits to better performing WMGs, (c) sharing of FFS/MFS learning by members, (d) crop harvest festival at CAWM schemes, (e) drama on market orientation, (f) Demos on cage culture, etc. As shown in the graph, people’s participation in HL activities is gradually increasing.

BINITA ROY: A ROLE MODEL FOR OTHER FEMALE MEMBERS

Polder-29, Khulna:



Binita Roy

Binita Roy, a successful female entrepreneur, service provider, and skilled farmer. She has a very strong leadership quality; she is the Vice-President of Kanchan Nagar WMG of Polder-29 of Dumuria Upazila, Khulna. She has now become an expert business person and service provider in her area by using her business knowledge and skills acquired from Market-oriented Farmer's Field School (MFS). Her initiatives especially in buying and selling agricultural products collectively created an example within the polder area. She established a strong communication with the traders, vendors and agri-material sellers; therefore, farmers can buy the quality seeds (sesame, rice, vegetables etc.) collectively with a comparatively low price. She has also established very cordial relations with retailers, traders that are similarly benefited by doing collective business, more specifically in selling Sajina (Drum-Stick), Aman Rice, Vegetables etc. The farmers are getting benefits financially by involving themselves in these collective initiatives. Besides, Binita is a successful small businessman (grocery shopkeeper) of Kanchan Nagar Bazar, who

simultaneously started farm based broiler chicken rearing in her homestead.

In addition to providing technical assistance to her husband in agriculture, she contributed significantly to expand the concept 'Agriculture is a Business'. Other fellow farmers now understand and believe that 'Agriculture is a Business'. Binita regularly participated in all sessions of MFS facilitated by BG staff (CDFs) and led the group in all respects.

In particular, her role in managing small teams, trial plots and organizing the group is commendable and positive. She effectively utilized her MFS knowledge and skills including making crop budget, collecting and keeping market information, linking and networking and initiated collective initiatives. Binita also actively participated in Resource Farmer (RF) Training, Market Actor Workshop, Learning Visits etc. and organized Farmer's Field Day (FFD) in her village. She is the main facilitator of collective action and many people, including Yunus, Debashish, Bidhan, Biswajit, Buddhiswar, Palash, Ashok are inspired by her and collected vegetables from peasants collectively and sold them to Sonadanga Vegetable Arot (wholesale market) and thus they gained financial benefits. Binita is now a role model for other female as well as male members of the WMG.

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JASMIN BEGUM: SUCCESSFULLY ACHIEVED HER DREAM

Polder 55/2C, Patuakhali:

Jasmin Begum lives in Moubaria village, and is a member of Rohitpura Khal WMG in Polder 55/2C. She has 4 members in her family and her husband is the only earning member. They have 120 decimals of cultivable land and a pond of 18 decimals. It was tough to maintain the family. She was thinking of taking a work for earning more income. It was about that time that she was selected as an FFS member. She expressed her delight by saying, 'I am feeling lucky enough to have been selected as an FFS member when Blue Gold Program started FFS in our WMG'. From the FFS, she learned how to use duckweed in a pond as supplementary fish feed, what is the usefulness of duckweed as feed, and how it helps in ensuring a quick growth of fish.

She learned with a reflective attention how to prepare fish feed by using duckweed. She also learned how many times feed should be given to fish. She stocked fingerlings of Rajputi, Rui, Katla and Mrigal fish in her pond. She supplied fresh duckweed for Rajputi and feed prepared with dried duckweed for Rui, Katla and Mrigal fishes. She provided feed twice a day as she learned from FFS.

A few days later, she observed that growth rate of fishes was very encouraging and she supplied feed throughout the rearing period. From her small pond, she sold fishes of Tk. 35,000.00 and her net income/profit was Tk. 23,000.00 (in November 2016) whereas she earned only Tk. 9,500.00 in the previous year. The success of Jasmin Begum in fish culture by using duckweed as a supplementary feed has inspired many other farmers from her neighborhood. They come to Jasmin to learn the techniques of fish feeding. Jasmin is always very positive in spreading her FFS learning among other neighboring farmers who did not have the opportunity to be enlisted in FFS.



Jasmin is feeding fishes in her pond

"From her small pond (of 18 decimals) she sold fishes of Tk. 35,000.00 and her net income/profit was Tk. 23,000.00 (in November 2016) whereas she earned only Tk. 9,500.00 in the previous year."

“In this collective effort of the community, 50 percent of Aman paddy, gher fish, and vegetables in more than 75 hectares of land will be protected from now onwards. With the joint effort of WMG and Union Parishad, the problem of water-logging has been solved within a very short span of time.”

WMG leaders applied to the UP Chairman for construction of 4 gated-culverts. The Chairman physically visited spots and discussed the issue with farmers. Finally he approved budget for construction of 4 gated-culverts at the cost of about Tk. 500,000.

AN EXEMPLARY COLLECTIVE EFFORT LED BY JIALTALA WMG!

Polder-26, Khulna:

Under the leadership of Jialtala WMG of Polder-26 of Khulna, and with the help of the Union Parishad, a long standing water-logging problem has been solved by removing silt from the front of the outlet and cross dam from the river side of the sluice gate. As a result, alongside the creation of new opportunities in agriculture, the communication system of the area has also improved.

The main problem of Jialatala area for the past 15 years was water-logging. Crops of more than 75 hectares of lands were damaged every year during the period from July to October. Homesteads, roads, educational institutions, and other social organizations were also damaged for the same reason. Blue Gold Program took initiative to re-excavate the Muchikata Khal (canal) and it has been re-excavated through LCS this year. Although the canal was dug, the water was not draining out due to sedimentation at the mouth of the outlet. Moreover, the contractor had made cross dam during repair works of the sluice but they left without removing the dam, hence, water could not drain out properly through the sluice gate. With the support of the UP Chairman and Member and under the leadership of the Jialatala Water Management Group, more than 200 people (WMG members and villagers) came forward to work to remove the cross dam. They provided a continuous 5-hour collective effort to

remove the cross dam from the river side of the sluice gate. They also removed silts from the outlet area. This was an absolute community initiative as they realized that these were the reasons of water-logging. Blue Gold staff just facilitated in posing the problem as well as the possible situations.

Because of this collective effort of the community, 50 percent of Aman paddy, gher fish, and vegetables in more than 75 hectares of land will be protected from now on. This joint venture of villagers and Union Parishad will motivate the people to solve any major problem in the coming days.



Community action in removing cross dam.

CONTRIBUTION OF UP IN WATER MANAGEMENT

Polder-43/2F, Patuakhali:

Madhya Dalachara WMG and Uttar Dalachara WMG are two neighboring WMGs of Polder 43/2F, at Gulishakhali Union under Amtali Upazila of Barguna district. The WMGs have been suffering from water-logging during T-Aman season and water scarcity during Rabi season for many years. They discussed the issue at different forums but nobody came forward to solve their problem. On the other hand, they never had sufficient fund to solve the problem by themselves. Under this circumstance, the issue was raised in the WMG monthly meetings in presence of BGP polder team. The BGP staff explored whether UP could help in addressing the issue.

There is usually fund provision for rural construction work in UP budget, and it is the Chairman of UP who, on the basis of merit, decides which work to take up. At the advice of BGP, the WMGs organized a meeting with UP Member. They requested the UP Member to help them to solve their problem. The UP Member advised them to submit an application to UP Chairman, mentioning their problem and potential benefits if the problem can be solved. As per the suggestion, WMG leaders applied to the UP Chairman for construction of 4 gated culverts.

The Chairman physically visited the spots and discussed the issue with farmers. Finally he approved budget for construction of 4 gated culverts at the cost of about Tk. 500,000. By constructing the 4 gated culverts, about 1200 acres of agricultural land has been rescued from water-logging during T-Aman season. Farmers also can cultivate Rabi crops in time. This initiative contributes to increased crop production and farm income, and, at the same time, adds to food security.



One of the Culverts constructed by UP

RE-EXCAVATION OF AMODKHALI KHAL: A GROUNDBREAKING INITIATIVE IN GROWING CROPS AFTER 15/16 YEARS!

Polder-2, Satkhira:

The Amodkhali Khal is located in the UPs of Fingri and Dhulihor under Satkhira Sadar Upazila. It has been silted for over 15 years; as a result, water-logging had taken permanent shape. Accordingly, it was not possible to cultivate crops in last 15-16 years in 5,264 acres of land of the Unions of Fingri, Dhulihar (partial) and Brahmarajpur (partial). Hence, farmers from those communities have been suffering from severe financial losses. On the other hand, the landless poor people, day laborers did not have works in their own community during the period of July/August to October/November.

As the objective of Blue Gold Program (BGP) is to improve livelihood of the inhabitants of selected polders through proper water management, BGP formed Water Management Groups (WMGs) within polder areas to ensure proper water management. The local WMGs, UPs requested BWDB to re-excavate Amodkhali Khal to rescue lands from the long standing water-logging. In response to the request, BWDB started re-excavation of Amodkhali Khal in May 2017 through LCS and Contractors (total length

of the re-excavated Khal is 8.400km). Due to re-excavation, opportunities have been created to drain out water from 19 beels (low-lying lands) into the adjacent river 'Betna' through Amodkhali Sluice Gate. As a result, farmers started cultivation of T-Amon this year after 15/16 years! While the field was submerged unproductively, now it is transformed with green crops. Different TV channels broadcasted positive reports on this incident.



The Field is Covered with Green T.Amon after 15/16 Years

“Due to re-excavation, opportunities have been created to drain out water from 19 beels (low-lying lands) into the adjacent river ‘Betna’ through Amodkhali Sluice Gate. As a result, farmers started cultivation of T-Amon this year after 15/16 years! While the field was submerged unproductively, now it is transformed with green crops.”

COLLECTIVE BUSINESS OF MORINGA PODS

Khulna:

WMG members are conducting collective business of Moringa pods (Drum Stick) in polders of Khulna district. By the facilitation of BGP TA staff, they also collected market information (price trend, mobile phone number of traders, means of transportation etc.). Farmers nominated their representatives to lead the collective business. Two types of collective Moringa selling have been observed in polders of Khulna district-

a. One type was selling pods in a particular location inside the polder. In this case farmers undertook harvesting of pods by themselves. They brought pods in a prefixed location and invited farias and negotiated price. As farmers had mobile phone numbers of the arots and knew the market price by making phone calls, it was easy for farmers to negotiate the price. A total of 152 farmers from 12 WMGs under 5 polders took part in collective selling. They sold collectively 1,510kg of Moringa at different dates with an average price of Tk.57.50/kg.

b. Farmers accumulated pods at a particular place, and then one/two selected person took the pods to wholesale market at Khulna; it is another type of collective selling. In such type of collective selling, producers sorted, graded and bundled the pods after harvesting collectively under the guidance of two lead farmers. A total of 161 farmers from 13 WMGs under 4 polders took part in this collective selling, and sold collectively 3,077kg Moringa at different dates and average selling price was Tk.64.60/kg.

Impact: A household with 5 mature trees in or around its homestead, can sell 125 to 150 kg of Moringa pods. This quantity presently can ensure an income of Tk 6000 to 7500 if selling is being completed individually. But the income can increase up to Tk 8200 to 9750 if selling is done by collective actions. With more than 300 HHs participating in the first year of introduction, the intervention led more or less to an income increase of 0.6 million BDT on total Moringa sales of 2.5 to 3.0 million BDT. As HHs have basically no costs on producing the pods, this is pure HH income, going into the hands of women.

Further Facilitation: Blue Gold staff are using these good practices in horizontal learning events and will undertake awareness campaigns in the relevant areas ahead of next season. It is hoped that more farmers will feel encouraged by the success and will join hands next season to maximise their income earning potential.



Bulking Moringa for collective business

“WMG members are conducting collective business of moringa pods in polders of Khulna district. By the facilitation of BGP staff, they also collected market information (price trend, mobile phone number of traders, means of transportation etc.). Farmers nominated their representatives to lead the collective business.”

Editorial Note

Dear Readers, You have in your hands the third issue of Blue Gold Trends Watcher, a seasonal project bulletin that aims at summarizing information on the latest project results and lessons learned. This issue offers some insights on some activities and achievements of people and the project. Through CAWM Blue Gold is trying to set up example of all-necessary internal polder water management and farmers' collective efforts in this regard, so that they can profit with increased crop production. Inspired by BGP staff, people are taking initiative to improve water management in their fields and UPs are in partnership with WMGs for water management. These are examples of successes, which BGP can feel proud of. Again, informed and inspired by BGP staff, people are trying to take up collective actions in economic fields as well, like collective buying of agricultural inputs and selling of products. There are two brief monitoring reports – through WMG Tracker the BGP staff are reporting on status of progresses achieved by WMGs and the results of participatory monitoring exhibit how WMGs are assessing their own performance against some set targets; only summaries have been included here. This issue also includes two success stories of BGP beneficiaries. These all are to provide a glimpse of BGP impact. Suggestions for improving the content of this seasonal bulletin are very welcome and can be sent to: bluegold_mrlteam@bluegolddb.org

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BASELINE-II SURVEY RESULT: PADDY PRODUCTION IN DIFFERENT SEASONS

The baseline survey results show the current production status of major crops in new polders of Blue Gold Program. The land utilization for and yield of paddy in the different agricultural seasons in different study polders are shown in the table below. Land utilization ratio for paddy cultivation in three agricultural seasons is the highest (0.8 ha per household) in Polder 47/4 in Patuakhali district, followed by that in Polder

55/2A in Patuakhali and Polder 28/1 in Khulna (0.5 ha per household). The survey results show that in some polders farmers do not cultivate paddy in Kharif 1 and Boro seasons.

The average yield of paddy for all sample households was 4.3 t/ha with the highest yield rate (just over 5 t/h) reported in Polder 25 and Polder 2 and 2 Ext., and the lowest yield rate (2.6 t/h) in Polder 55/2A.

Table-1: Land Utilization for and Yield of Paddy in Different Agricultural Seasons by Polder

Polder	Land utilized by sample HHs for Paddy & Average Yield of Paddy			Land utilized for Paddy & its Yield in Kharif 1 (Aus) Season			Land utilized for Paddy & its Yield in Kharif 2 (Aman) Season			Land utilized for Paddy & its Yield in Boro Season		
	Total land of all sample HHs (ha)	Average land per HH (ha)	Average yield (t/ha)	% of HHs	Land (ha)	Yield (t/ha)	% of HHs	Land (ha)	Yield (t/ha)	% of HHs	Land (ha)	Yield (t/ha)
25	200.0	0.3	5.2	4.6	9.0	2.3	5.0	7.2	3.1	72.1	183.7	5.4
31 Part	50.0	0.3	4.0	0	0	0	40.2	35.2	3.4	21.3	14.8	5.2
28/1	110.4	0.5	3.3	0	0	0	40.9	47.2	1.8	60.3	63.2	5.2
34/2 Part	197.2	0.4	3.8	0	0	0	43.5	118.7	2.6	37.9	78.5	5.3
55/2A	253.4	0.5	2.6	0	0	0	65.2	253.4	2.6	0	0	0
47/4	402.1	0.8	3.6	1.6	2.3	2.2	68.6	399.6	3.6	0	0	0
2 & 2 Ext.	262.4	0.3	5.2	1.9	8.6	3.8	16.3	57.1	3.5	51.4	197.3	5.6
Total	1476.2	0.4	4.3	1.6	19.9	2.8	34.3	918.4	3.0	38.8	537.9	5.3

It is only natural that the amounts of land utilized for paddy cultivation vary among the different landholding categories. Table-2 shows the land utilization and yield pattern by farm households belonging to different landholding categories in the three agricultural seasons. On an average the large farm households cultivate paddy in 2.1 ha of land, while the landless

households operate 0.2 ha. The survey results show that the large farm households do not go for paddy cultivation in Kharif 1 season. It is, however, interesting to note that the landless farm households get the highest yield of paddy; the reason for high yield may be that they can do more nursing than others since they only have small amount of land to take care.

Table-2: Land Utilization and Yield Pattern by Farm Households

Landholding categories of HHs	Total land utilized for paddy by sample HHs & yield of paddy			Land utilized for Paddy & its Yield in Kharif 1 (Aus) season			Land utilized for Paddy & its Yield in Kharif 2 (Aman) season			Land utilized for Paddy & its Yield in Boro season		
	Total land utilized (ha)	Average land per HH (ha)	Yield (t/h)	% of HH	Land (ha)	Yield (t/h)	% of HH	Land (ha)	Yield (t/h)	% of HH	Land (ha)	Yield (t/h)
Landless (651)	96.7	0.2	4.6	0.9	1.7	3.1	13.8	54.6	3.3	24.9	40.4	5.4
Marginal farmer (1618)	449.6	0.3	4.2	1.2	7.7	2.5	28.7	270.7	3.0	35.7	171.2	5.3
Small farmer (1056)	575.7	0.6	4.2	2.6	7.8	2.9	50.5	348.7	2.9	49.5	219.2	5.6
Medium farmer (274)	246.7	0.9	4.2	2.6	2.7	2.9	47.8	154.8	3.0	48.9	89.1	5.3
Large farmer (52)	107.6	2.1	3.8	0	0	0	65.4	89.5	3.0	34.6	18.0	6.0
Total (3651)	1476.2	0.4	4.3	1.6	19.9	2.8	34.3	918.4	3.0	38.8	537.9	5.4

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