GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 29-11-2021 FGD location: Latachapli Union Parishad
Polder # 48, Package-2 FGD Team Members: 16

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?			

- This Polder is 3 cropped area before the CEIP-1 started
- In Rabi season, 100% cannot cover due to lack of fresh water and soil salinity problem in some pocket areas
- In Kharif-I, they cover only 30% of land for keeping some space for cattle grazing, Aus crop is not much profitable, Lot of hassle of Aus crop during harvesting time (as continuous rain, use to face problem in harvesting, carrying and threshing; less sunny day for crop drying,}

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	80	80	80	80
Kharif I	30	30	30	30
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

- No change in land coverage but with fresh water facility, some varietal change in crop has occurred..

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: N/A

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
   [Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response: Some khal have re-excavated by other Project/NGO in polder area

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

Response: Polder is not getting any benefits from the physical works of the CEIP-1, as because, yet existing damaged/old sluicegates/structures are not closed fully. Leakage of water through all constructed new structures. Yet gates are not set/installed in 5 structures. After removal of these problems, they hope for change in cropping intensity in the Polder.

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	2
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	IPM, O&M of gate Note: They/WMG members mentioned about the training but forgotten the training types and agenda/issues.
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Somewhat functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Somewhat improved
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	O & M of Water Structure, Fairly distribute water among users
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests	Farmers' interests only

	5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)……Kua……..	Pond, Shallow tube-well (partial), Kua/well	Pond, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	insufficient	insufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Water not available during late Feb. – early April	Water not available during late Feb. – early April	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	poor irrigation channel, Lack of quality water	poor irrigation channel and lack of quality water	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	Khal re-excavation properly, Keep gates fully functional	Khal re-excavation properly, Keep the gates fully functional	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	No	No	Yes
If not, why not?	Khals are narrow and silted do not have adequate water for irrigation from January – March period.			

What improvements in drainage are needed and why?	Need properly re-excavation of the canal that we can reserve the water in canal for cultivate crops with irrigation.

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			700	700	700

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			Local variety HYV	High yielding variety	High yielding variety Local variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Own produced seed Seed dealer/traders	Seed dealer/traders	Seed dealer/traders Own produced
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……..			Broadcasting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			Create health hazard Toxic effect on fish/birds/poultry	Create health hazard Toxic effect on fish/birds/poultry	Create health hazard Toxic effect on fish/birds/poultry
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind,			N/A	Continuous & excessive rain	tidal surge & excessive rain, strom

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
	5=Other, specify clay					
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			motorized thresher	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			sun drying on earthen ground	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			Drum	Drum, use gunny bag Normally farmer sale out their produces immediate after harvesting	Drum, use gunny bag Normally farmer sale out their produces immediate after harvesting
Constraints for storage of crop products	1= 2=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
	3=					
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home	Sale from home	Sale from home
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need), broker problems			Poor transport and road communication , lack of information about product price, Limited market places with limited buyers	Poor transport and road communication , lack of information about product price, Limited market places with limited buyers	Poor transport and road communication, lack of information about product price, Limited market places with limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Pulse (mug)	0.60	0.90	33 decimal = 1 BIGA
Mung BARI-6	1.43	1.72	
Kharif-I			
Aus (HYV)	2.99	4.49	33 decimal = 1 BIGA
Kharif-II			
Aman (HYV)	2.99	5.25	33 decimal = 1 BIGA
Aman (LV)	2.10	3.00	

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Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*Functional*	*Functional*	*intermediate*	*low*	*medium*	*low*	*High*	*High*
2020	*Functional*	*Functional*	*intermediate*	*low*	*medium*	*High*	*High*	*High*
2019	*intermediate*	*Functional*	*intermediate*	*low*	*low*	*High*	*High*	*High*
2018	*intermediate*	*Functional*	*non-functional*	*low*	*low*	*low*	*High*	*High*

Note:

*Rubber gasket problem in sluicegate, passing the water under/through the gate of all structures

Possible of three seasons cultivation, if control the saline intrusion in the Polder

Complain from WMA:

Design problem in gates – both fall-gate and lifting-gate

Sluice structure has been constructed by damaged (already fixed) cement again, cement mixture was prepared with saline water

Old structures have not blocked yet

Embankment has constructed by preparing 2 earthen wall and putting sand in between 2 walls with earthen top.

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BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 29-11-2021 FGD location: Dulasar Union Parishad
Polder # 48, Package-2 FGD Team Members: 10

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?			

- This Polder is 3 cropped area before the CEIP-1 started
- In Rabi season, 100% cannot cover due to lack of fresh water and soil salinity problem in some pocket areas
- In Kharif-I, they cover only 30% of land for keeping some space for cattle grazing, Aus crop is not much profitable, Lot of hassle of Aus crop during harvesting time (as continuous rain, use to face problem in harvesting, carrying and threshing;less sunny day for crop drying,}

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	80	80	80	80
Kharif I	25	25	25	25
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

- No change in land coverage but with fresh water facility, some varietal change in crop has occurred

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: N/A

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
   [Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response: N/A

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

Response: Polder is not getting any benefits from the physical works of the CEIP-1, as because, yet existing old sluicegates are not closed fully. Leakage of water through all constructed new structures, which is allowing the entrance of saline water in the Polder. After removal of these problems, they hope for change in cropping intensity in the Polder

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	2
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	IPM, O&M of gate Note: WMG members have forgotten the training issue and agenda
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Somehow Functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	O & M of Water Structure, Fairly distribute water among users
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only	Farmers' interests only

	6=The WMG/WMA is not influential and not able to protect the interests of anyone	

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.).....Kua.....	Pond, Shallow tube-well (partial), Kua	Pond, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	insufficient	insufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Water not available during late Feb to April	Water not available during late Feb to April	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify.....	poor irrigation channel, Lack of quality water	poor irrigation channel, lack of quality water	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	Khal re-excavation, ensure the functionality of sluicegates, Functional WMGs	Khal re-excavation, ensure the functionality of sluicegates, Functional WMGs	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	No	No	Yes
If not, why not?	Khal is narrow also its depth is so less. Khals are Silting gradually, so, there is less possibility to use channel water for irrigation			

What improvements in drainage are needed and why?	Need properly re-excavation of the canal.

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		Power tiller	PPower tiller	Power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			600	600	600

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			Local variety, HYV	High yielding variety	High yielding variety Local variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Own produced seed Seed dealer/traders	Seed dealer/traders	Seed dealer/traders, Own seeds
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……..			Broadcasting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases increase crop production	control insect pests and diseases increase crop production	control insect pests and diseases, increase crop production
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			Create health hazard, Toxic effect on fish/birds/poultry	Create health hazard, Toxic effect on fish/birds/poultry	Create health hazard, Toxic effect on fish/birds/poultry
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind,			N/A	Storm Tidal surge	Storm, wind and tidal surge

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
	5=Other, specify clay					
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			N/A	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			sun drying on earthen ground	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			Drum, use gunny bag Normally sale out all produces immediate after harvesting	Drum, use gunny bag Normally sale out all produces immediate after harvesting	Drum, use gunny bag Normally sale out all produces immediate after harvesting
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home	Sale from home	Sale from home
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need),			Poor transport and road communication , lack of information about product price, Limited market places and few buyers	Poor transport and road communication , lack of information about product price, Limited market places and few buyers	Need a good transport communication , lack of information about product price, Limited market places and few buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Pulse (mung) local	0.90	1.3	33 decimal = 1 BIGA
Mung BARI-6	1.40	1.85	
Kharif-I			
Aus (HYV)	1.50	2.99	33 decimal = 1 BIGA
Kharif-II			
Aman (HYV)	2.99	4.49	33 decimal = 1 BIGA
Aman (LV)	2.32	3.12	

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*non-functional*	*Non-Functional*	*intermediate*	*low*	*medium*	*low*	*High*	*High*
2020	*non-functional*	*Non-Functional*	*intermediate*	*low*	*medium*	*High*	*High*	*High*
2019	*non-functional*	*Non-Functional*	*intermediate*	*low*	*low*	*High*	*High*	*High*
2018	*intermediate*	*Non-Functional*	*non-functional*	*low*	*low*	*low*	*High*	*High*

Note: *Rubber gasket problem in sluicegates, passing/entering water in Polder through the gate

Complain of WMGs and UP Chairman:

- Already completed sluicegates are not working properly
- Public representative (UP Chairman) can monitor construction work if he was informed and aware on work specification
- In case of Khal re-excavation, they have not done even 20% of earth work.
- Since last 4 years, they are suffering from drainage problem – water congestion, road communication (as embankment was used as road which has disrupted), health hazard, saline water intrusion due to starting physical works of CEIP
- WMGs cannot work properly, as their capacity was not build adequately.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 30-11-2021
Polder # 47/2, Package-2

FGD location: Dalbuganj Union Parishad
FGD Team Members: 22

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?		Water lack/drought,	

- Land is cultivated in 3 times in a year in this Polder

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	40	40	50	50
Kharif I	20	20	30	30
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: Its a 3-cropped Polder. Land coverage has been decreased in Rabi and Kharif-I seasons compare to earlier time because they had cultivated their lands by preparing closers in front of Sluices to prevent entrance of saline water in the Polder during Rabi and Kharif-I seasons. But it is not possible as structural construction are going on.

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
   [Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response: N/A

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

Response: Need the Salinities water control by structure / setup the gate shatter etc.

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Non-functional
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	IPM, O&M of gate, Livestock, tree plantation under social forestry program, Note: WMG members have forgotten the training agenda
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Somewhat Functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	They understand their role of O & M of Water Structure, Fairly distribute water among users. But do not have that level capacity and interest.
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	Farmers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)…….pond……..	Pond Note: water can't use for too salinities in the canal	Pond, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	saline water intrusion	saline water intrusion	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	insufficient	insufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Quality Water is not available during Feb. - April	Quality Water is not available during Feb. - April	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	high saline water	high saline water	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	Fully functional structures are needed	Fully functional structures are needed	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	No	No	Yes
If not, why not?	water can't use for too salinities in the canal, need Control the salinity intrusion, Water has been passing under the Old/new gate/structure- no gate have rubber gasket to fully control entrance of saline water or draining out of sweet water.			
What improvements in drainage are needed and why?	Need properly re-excavation of the secondary & tertiary canals.			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			600	600	600-700

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			Local variety HYV	High yielding variety	High yielding variety Local variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Own produced seed	Seed dealer/traders	Seed dealer/traders Own seeds
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……..			Broadcasting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			Create health hazard	Create health hazard	Breathing problem
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay			N/A	Clay and wet spaces creats harvesting & in drying	storm, wind

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			manually	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			sun drying on earthen ground	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			use gunny bag	Drum, use gunny bag	Drum, use gunny bag
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home	Sale from home	Sale from home
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need),			Poor transport and road communication , lack of market places Limited buyers	Poor transport and road communication , lack of market places Limited buyers	Poor transport and road communication , lack of market places Limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Pulse (mug)	0.90	1.30	33 decimal = 1 BIGA
Mung BARI-6	1.2	1.75	
Kharif-I			
Aus (HYV)	1.80	2.10	33 decimal = 1 BIGA
Kharif-II			
Aman (HYV)	2.99	5.25	33 decimal = 1 BIGA
Aman (LV)	2.28	3.10	

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*Functional*	*non-functional*	*intermediate*	*medium*	*medium*	*low*	*High*	*High*
2020	*Functional*	*non-functional*	*intermediate*	*medium*	*medium*	*High*	*High*	*High*
2019	*Functional*	*non-functional*	*intermediate*	*low*	*medium*	*High*	*High*	*High*
2018	*Functional*	*Functional*	*intermediate*	*low*	*medium*	*low*	*High*	*High*

*Rubber gasket problem in sluicegate, passing the water under the gate

Possible of three season cultivation, if saline water can be controlled by fully functional sluices.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 30-11-2021 FGD location: Haridebpur High School, Golkhali Union
Polder # 43/2C , Package-2 FGD Team Members: 13

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?			

- This Polder is 3-cropped area where, 100% of land is cultivated for crops both in Kharif-II and Rabi seasons before the CEIP-1 intervention
- They are not receiving any benefit from the projects

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	100	100	100	100
Kharif I	20	20	20	20
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: N/A
2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
[Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response: N/A

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

Response: Branch Khals re-excavation and fully functional sluicesgates.

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	3
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	IPM, O&M of gate, Livestock, tree planting, Note: WMG members forgot the training agenda/issues
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Non-functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	They understand their role of O & M of Water Structure, Fairly distribute water among users but are not in practice.
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	Farmers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)……pond……..	Pond canal	Pond, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	insufficient	insufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Quality Water is not available during late Feb. - April	Quality Water is not available during late Feb. - April	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	poor irrigation channel, Lack of quality water	poor irrigation channel, Lack of quality water	channel/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	Khal re-excavation, fully functional sluices	Khal re-excavation, fully functional sluices	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	No	No	Yes
If not, why not?	Narrow the canal , need re-excavated canal with fully controlled sluices			
What improvements in drainage are needed and why?	Need properly re-excavation of the canal.			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			500	500	500

(List most important crops of each season)

	Key	Rabi Crop 1: _____Mung_____	Rabi Crop 2: ___Peanut_____	Rabi Crop 3: _Watermelon_ _____	Kharif-1 Crop: _____Rice_____	Kharif-2 Crop: ____Rice_____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety	High yielding variety Local variety	High yielding variety	, Hybrid variety	High yielding variety	High yielding variety Local variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..	Seed dealer/traders, Own seeds	Seed dealer/traders and own seed	Seed dealer/traders ,	Seed dealer/traders, Own seeds	Seed dealer/traders, Own seeds
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……..	Broadcasting	Dibbling	seedling transplanting and Dibbling in pits	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=	N/A	N/A	N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=	N/A	N/A	N/A	N/A	N/A

	Key	Rabi Crop 1: _____Mung_____	Rabi Crop 2: ___Peanut_____	Rabi Crop 3: _Watermelon_ _____	Kharif-1 Crop: _____Rice_____	Kharif-2 Crop: ____Rice_____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No	Yes	Yes	Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……	Chemical	Chemical	Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..	broadcasting	,broadcasting	Broadcasting and dibbling,	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……	N/A	N/A	N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=	N/A	N/A	N/A	N/A	N/A

	Key	Rabi Crop 1: _____Mung_____	Rabi Crop 2: ___Peanut_____	Rabi Crop 3: _Watermelon_ _____	Kharif-1 Crop: _____Rice_____	Kharif-2 Crop: ____Rice_____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No	Yes	Yes	Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……	Chemical pesticides	Chemical pesticides	Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..	Hand spray	Hand spray	Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….	control insect pests and diseases	control insect pests and diseases	control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….	They know on Create health hazard	They know on Create health hazard	They know on Create health hazard	They know on Create health hazard	They know on Create health hazard
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..	Manually	Manually	Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay	N/A	N/A	Hailstrom	Continuous rain	Wind, strom

	Key	Rabi Crop 1: _____Mung_____	Rabi Crop 2: ___Peanut_____	Rabi Crop 3: _Watermelon_ _____	Kharif-1 Crop: _____Rice_____	Kharif-2 Crop: ____Rice_____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….	, manually	manually	N/A	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=	N/A	N/A	N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others	sun drying on earthen ground	sun drying on earthen ground	N/A	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..	Drum, use gunny bag	use gunny bag	N/A	Drum, use gunny bag	Drum, use gunny bag
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____Mung_____	Rabi Crop 2: ___Peanut_____	Rabi Crop 3: _Watermelon_ _____	Kharif-1 Crop: _____Rice_____	Kharif-2 Crop: ____Rice_____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)	Sale from home	Sale from home	Sale from field/farm gate	Sale from home	Sale from home
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need)	Poor transport and road communication , Limited market places and limited buyers	Poor transport and road communication , Limited market places and limited buyers,	Poor transport and road communication , Limited market places and limited buyers	Poor transport and road communication , Limited market places and limited buyers	Poor transport and road communication , Limited market places and limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/ Ha)	Yield maximum (MT/ Ha)	Comments on yield made by FGD
Rabi			
Pulse (mug)	0.49	1.09	100 decimal = 1 acre
Mung BARI-6	0.8	1.66	
Watermelon (Hybrid)	1800 pcs Tk.150000	2200 pcs Tk. 230000	100 decimal = 1 acre
Peanut (HYV)	1.0	1.60	
Boro (HYV)	0.7	3.95	100 decimal = 1 acre
Kharif-I			
Aus (HYV)	0.3	1.98	100 decimal = 1 acre
Kharif-II			
Aman (HYV)	3.80	4.95	100 decimal = 1 acre
Aman (LV)	2.0	2.56	

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*Functional*	*non-functional*	*intermediate*	*low*	*low*	*medium*	*High*	*High*
2020	*Functional*	*non-functional*	*intermediate*	*low*	*low*	*medium*	*High*	*High*
2019	*Functional*	*non-functional*	*intermediate*	*medium*	*low*	*medium*	*High*	*High*
2018	*Functional*	*non-functional*	*intermediate*	*medium*	*low*	*low*	*medium*	*High*

- New DS/FS did not properly work (gate is closed)/Water has been leaking under the old gate
- Quality water available about for two months – January & February.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 01-12-2021
Polder # 41/1, Package-2
FGD location: Aylapatakhata Union
FGD Team Members: 14

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?			

- Before CEIP intervention, this Polder is 3-cropped area.

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	100	100	100	100
Kharif I	100	100	100	100
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

- They cultivate 100% croplands in all 3 season but sometime some crops damage in Rabi and Kharif-I season for natural calamities like saline intrusion, storm and high tide/storm surge

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: N/A
2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
[Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response: N/A

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

   Response: N/A

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Note: WMG/WMA were not formed in this Polder
If exists, when was the WMG formed?	Provide the month/year	N/A
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	N/A
What year?		N/A
What did the training cover?	Open-ended	N/A
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	N/A
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	N/A
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	N/A
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	N/A

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)…….pond……..	Pond, canal	Canal, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	sufficient	sufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Water not available in last half of the season	Water available	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	poor irrigation channel	N/A	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	Need to re-excavate branch Khals	N/A	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	Yes	Yes	Yes
If not, why not?	N/A			
What improvements in drainage are needed and why?	Need properly re-excavation of the canal.			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			600	600	600

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			Local variety, High yielding variety	High yielding variety	Local variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Own produced seed, Seed dealer/traders	Seed dealer/traders	Own produced seed
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……			Broadcasting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases increase crop production	control insect pests and diseases increase crop production	control insect pests and diseases increase crop production
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			Create health hazard	Create health hazard	Create health hazard (Breathing problem)
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay			N/A	clay	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			manually	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			sun drying on earthen ground	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			Drum, use gunny bag	Drum, use gunny bag	Drum, use gunny bag
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home	Sale from home	Sale from home
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify, broker problems			Limited market places and limited buyers	Limited market places and limited buyers	Limited market places and limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Pulse (mug)	0.8	1.12	21 decimal = 1 BIGA
Mung BARI-6	1.41	1.88	
Kharif-I			
Aus (HYV)	3.76	4.90	21 decimal = 1 BIGA
Kharif-II			
Aman (HYV)	3.92	5.22	21 decimal = 1 BIGA
Aman (LV)	2.66	2.98	

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*intermediate*	*Not fully functional*	*intermediate*	*medium*	*medium*	*low*	*none*	*High*
2020	*intermediate*	*Not fully functional*	*intermediate*	*medium*	*medium*	*medium*	*none*	*High*
2019	*intermediate*	*intermediate*	*intermediate*	*medium*	*medium*	*medium*	*none*	*High*
2018	*intermediate*	*intermediate*	*intermediate*	*medium*	*medium*	*low*	*none*	*High*

- Complain: There is 8 – 10 km part of embankment as bitumen road, during resectioning work, without removal of bricks & bituminous materials just raised the embankment by putting earth on the road.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 01-12-2021
Polder # 41/1, Package-2

FGD location: Burirchar Union Parishad
FGD Team Members: 23

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?			

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	70	60	55	55
Kharif I	90	90	90	90
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: Culvert/canal has been newly constructed inside the embankment by others project

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
   [Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response: Culvert construction and canal re-excavated by other organization inside the Polder.

4. What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.
   Response: Purbo burirchar need a new gate , NGO (who has formed the WMOs)made commitment that they would hand over power-tiller /threshing machine to WMG but yet not given. Manage properly the gate/OM by WMGs not by fishermen

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	2
If exists, when was the WMG formed?	Provide the month/year	Feb 2021
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	IPM, O&M of gate Note: WMG members have forgotten the numbers of training and its agenda/topics
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Somewhat Functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	O & M of Water Structure, Fairly distribute water among users – they conceive these but not in practice now.
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	Farmers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)……pond	Pond	Canal, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	insufficient	sufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Quality Water is not available at last part of the season	Quality Water is not available at early part of the season	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	poor irrigation channel, Lack of quality water	poor irrigation channel Lack of quality water	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	Khal re-excavation properly, Keep the gates fully functional	Khal re-excavation properly Keep the gates fully functional,	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	No	Yes	Yes
If not, why not?	Khal is narrowed and silted to preserve enough water			
What improvements in drainage are needed and why?	Need properly e-excavation of the canal.			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			600	600	600

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			Local variety	High yielding variety	Local variety HYV (20% land)
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Own produced seed	Seed dealer/traders Own seeds	Own produced seed Seed dealer/traders
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……			Broadcasting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases increase crop production	control insect pests and diseases increase crop production	control insect pests and diseases increase crop production
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			Create health hazard	Create health hazard	Create health hazard (Breathe problems)
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			manually	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			sun drying on earthen ground	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			use gunny bag Farmers are not use to store their produces, just sale out after the harvest	use gunny bag Farmers are not use to store their produces, just sale out after the harvest	use gunny bag, drum Farmers are not use to store their produces, just sale out after the harvest
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home/ local market	Sale from home/ local market	Sale from home/ local market
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need), broker problems			Poor transport and road communication , lack of information about product price, Limited market places with limited buyers	Poor transport and road communication , lack of information about product price, Limited market places with limited buyers	Poor transport and road communication , lack of information about product price, Limited market places with limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Pulse (mug)	1.20	1.50	33 decimal = 1 BIGA
Kharif-I	0.00	0.00	
Aus (HYV)	2.99	4.79	33 decimal = 1 BIGA
Kharif-II	0.00	0.00	
Aman (LV)	2.40	3.29	33 decimal = 1 BIGA
Aman (HYV)	3.56	5.12	

Reason of LV during Aman cultivation: production cost is less, insect attacked less and need less fertilizer, etc.

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*ntermediate*	*intermediate*	*intermediate*	*low*	*medium*	*low*	*low*	*High*
2020	*ntermediate*	*intermediate*	*intermediate*	*low*	*medium*	*medium*	*low*	*High*
2019	*intermediate*	*intermediate*	*intermediate*	*low*	*low*	*medium*	*low*	*High*
2018	*intermediate*	*intermediate*	*intermediate*	*low*	*low*	*low*	*low*	*High*

- WMGs and WMA just formed and not provided any responsibilities, only collecting savings in some WMGs
- Need re-excavation of secondary and tertiary Khals
- It was decided to provide some seed-money to the WMGs instead providing Power Tiller and Thrashing Machine but yet no sign of any donation.
- In some area, drainage is a major problem to increase cropping intensity
- Yet no impact of CEIP-1 in the cropping intensity in this Polder

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 02-12-2021
Polder # 40/2, Package-2

FGD location: Nizlatimara Bazar, Pathargata Union
FGD Team Members: 13

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?			

- It's a 3-cropped Polder

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	70	70	70	70
Kharif I	10	10	10	10
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three yeaItrs. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: Farmers is more active for cultivate than previous years and promotional and extension activities of DAE

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
   [Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response: N/A

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

Response: Need a proper management of the structures to control the saline water

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	1
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	IPM, O&M of gate Note: WMG members have forgotten the training types, number and even training agenda/topics
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Non-functional (Just formed)
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	They understand that O & M of Water Structure, Fairly distribute water among users will be their role.
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	Farmers' interests only Shrimpers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)……..	Canal, pond	Canal, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	insufficient	sufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Water not available	Water not available	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	poor irrigation channel, Lack of quality water	poor irrigation channel, Lack of quality water	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	Fully functional structures are needed with some re-excavation of canal	Fully functional structures are needed with some re-excavation of canal	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	No	Yes	Yes
If not, why not?	Khal is narrow with less depth to hold more quality water			
What improvements in drainage are needed and why?	Need properly re-excavation of the canal. Need also re-excavation of sub-canal in the inside the embankment			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			700	700	700

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			Local variety HYV	High yielding variety	Local variety ,High yielding variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Own produced seed Seed dealers	Seed dealer/traders	Own produced seed, Seed dealer/traders
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……			Broadcasting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			N/A	N/A	N/A
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay			Early rain	Continuous rain	Wind Strom

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			manually	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			sun drying on earthen ground	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			Drum	Drum, use gunny bag	Drum, use gunny bag
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home/local market	Sale from home/local market	Sale from home/local market
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need), broker problems			Poor transport and road communication , lack of information about product price Limited buyers	Poor transport and road communication , lack of information about product price Limited buyers	Poor transport and road communication , lack of information about product price Limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Pulse (mug)	0.45	0.75	66 decimal = 1 BIGA
Kharif-I			
Aus (LV)	2.25	2.99	66 decimal = 1 BIGA
Kharif-II			
Aman (HYV)	2.99	4.49	66 decimal = 1 BIGA
Aman (LV)	1.80	2.40	66 decimal = 1 BIGA

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*Functional*	*Non-functional*	*intermediate*	*medium*	*low*	*medium*	*medium*	*High*
2020	*intermediate*	*intermediate*	*intermediate*	*medium*	*low*	*medium*	*medium*	*High*
2019	*intermediate*	*intermediate*	*intermediate*	*medium*	*low*	*medium*	*medium*	*High*
2018	*intermediate*	*intermediate*	*intermediate*	*medium*	*low*	*low*	*medium*	*High*

Note: Farmers are not getting benefits from the structures yet. They have inlet at Gabbari area, saline water is entering through that inlet and doing harm to the crops.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 02-12-2021
Polder # 40/2, Package-2

FGD location: Charduani Bazar, Charduani Union
FGD Team Members: 28

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?			

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	80	80	80	80
Kharif I	5	5	5	5
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: Farmers made the dyke/closer in the canal for holding wality water for proper use as irrigation

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
   [Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response: N/A

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

Response: Need a proper management of the structures to control the saline water

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	3
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	Agriculture, IPM, O&M of gate Note: WMG members have forgotten the training issues, agenda
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Non-functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	They understand that O & M of Water Structure, Fairly distribute water among users will be their role but at this moment they have no responsibility or access to the structures.
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	Farmers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)……Pond	Canal, Pond	Canal, Pond, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	insufficient	insufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Quality water is not available during late Feb. - April	Quality Water is not available during late Feb. - April	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	poor irrigation channel, Lack of quality water	poor irrigation channel Lack of quality water	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	Fully functional structures are needed with some re-excavation of canal	Fully functional structures are needed with some re-excavation of canal	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	No	No	Yes
If not, why not?	Khal is narrow also its depth is so less.			
What improvements in drainage are needed and why?	Need properly re-excavation of the canal. Did not connect properly between canal and structure, also exist closer in front of DS, need to remove.			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			700	700	700

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			Local variety	High yielding variety	Local variety , High yielding variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Own produced seed	Seed dealer/traders	Own produced seed, Seed dealer/traders
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……			Broadcasting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides, IPM methods	Chemical pesticides IPM methods	Chemical pesticides IPM methods
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			N/A	N/A	N/A
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			manually	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			sun drying on earthen ground	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			use gunny bag	Drum, use gunny bag	Drum, use gunny bag
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home/ local market	Sale from home/ local market	Sale from home/ local market
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need), broker problems			lack of information about product price, Limited market places and limited buyers	lack of information about product price Limited market places and limited buyers	lack of information about product price Limited market places and limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Pulse (mug)	0.60	0.90	33 decimal = 1 BIGA
Kharif-I			
Aus (HYV)	2.99	4.49	33 decimal = 1 BIGA
Kharif-II			
Aman (LV)	2.0	2.60	33 decimal = 1 BIGA
Aman (HYV)	3.66	4.58	33 decimal = 1 BIGA

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*Non-functional*	*Intermediate*	*intermediate*	*medium*	*low*	*medium*	*low*	*High*
2020	*intermediate*	*Intermediate*	*intermediate*	*medium*	*low*	*High*	*low*	*High*
2019	*intermediate*	*intermediate*	*intermediate*	*medium*	*low*	*High*	*low*	*High*
2018	*intermediate*	*intermediate*	*non-functional*	*medium*	*low*	*low*	*low*	*High*

Complains from WMGs:

- We are registered but we have no relation/linkage with BWDB
- We have sluicegate committee but have no responsibility
- We have committed with our members/farmers for doing many things but fail and now we are in problems
- We have no access to sluicegates
- Cost of production is going higher as we have to collect fresh water from distance
- Seeds/fertilizers/Pesticides dealers is far from our area
- Here, market is one man show

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 03-12-2021
Polder # 39/2C, Package-2

FGD location: Shola Bazar, Mirukhali Union
FGD Team Members: 14

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?			

- Actually, here (Shola area), Rabi is the main season through they are cultivating 3 in seasons

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	90	90	90	90
Kharif I	5	5	5	5
Kharif II	10	10	10	10
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: N/A

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
[Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response:

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

Response: Khal excavation need to improve waterlogging situation,.

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	3
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	Agril, farming, IPM, O&M of gate Note: WMG members have forgotten the training types and agenda/topics
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Non-functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	They have conceived that O & M of Water Structure, Fairly distribute water among users would be their role.
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	Farmers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)…… ……..	Tidal water in canal, Pond,	Tidal water, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	sufficient	sufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Water available	Water available	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	poor irrigation channel, sudden sea level surge	poor irrigation channel, sudden sea level surge	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	Khal re-excavation with sluices and embankment development	Khal re-excavation with sluices and embankment development	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	Yes	Yes	Yes
If not, why not?				
What improvements in drainage are needed and why?	Need properly re-excavation of the canal to educes the waterlogged situation along with construction of sluices.			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			700	700	700

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			High yielding variety, Hybrid variety	Local variety	Local variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Seed dealer/traders	Own produced seed	Own produced seed
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……..			seedling transplanting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			N/A	N/A	N/A
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay			Early rain	tidal surge	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			motorized thresher	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			sun drying on earthen ground	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			use gunny bag,	Drum, use gunny bag	Drum, use gunny bag
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home/local market	Sale from home/local market	Sale from home/local market
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need)			Poor transport and road communication , lack of information about product price, Limited market places with limited buyers	Poor transport and road communication , lack of information about product price, Limited market places with limited buyers	Poor transport and road communication , lack of information about product price, Limited market places with limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Boro (HYV)	4.49	5.52	33 decimal = 1 BIGA
Boro (Hybrid)	5.99	7.48	33 decimal = 1 BIGA
Kharif-I			
Aus (LV)	1.20	1.50	33 decimal = 1 BIGA
Kharif-II			
Aman (LV)	1.98	2.80	33 decimal = 1 BIGA
Aman (HYV)	3.22	4.99	

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*absent*	*absent*	*intermediate*	*Good*	*Good*	*medium*	*High*	*High*
2020	*absent*	*absent*	*intermediate*	*Good*	*Good*	*High*	*High*	*High*
2019	*absent*	*absent*	*intermediate*	*Good*	*Good*	*High*	*High*	*High*
2018	*absent*	*absent*	*intermediate*	*Good*	*Good*	*low*	*High*	*High*

Note: A PAP received about tk.70000 against about 3 lakh (house value) compensation/ he yet not taken the compensation till
Land valuation calculated under rule of 1982 not by rules of 2017 – a question from farmers.
WMGs and WMA just formed, they aware on their responsibilities but they have not acknowledged by BWDB – a complain from WMA side

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 03-12-2021
Polder # 39/2C, Package-2

FGD location: Telikhali Bazar, Telikhali Union
FGD Team Members: 11

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?			

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	50	50	50	50
Kharif I	30	30	30	30
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

- In Rabi due to waterlogging situation, they cannot cultivate in 50% of land
- Again, in Kharif-I season, due to entrance of tidal water, they cannot cultivate more than 30% of lands.

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: N/A

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
   [Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response:

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

Response: Need properly waterlogged out system inside the embankment, A existing gate shatter is small , need more bands for quick passing the water.

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	3
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	Agril. Farming, IPM, O&M of gate Note: WMG members have forgotten the training issue and number of training. They acknowledged the received training.
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Non-functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	They understand that O & M of Water Structure, Fairly distribute water among users will be their role but they are not in a position to fulfill their responsibilities.
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	They conceived that it would be for Farmers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)…… ……..	Canal, River	Canal, Rainwater	Canal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	sufficient	insufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Water available	Water available	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	N/A	N/A	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	N/A	N/A	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	Yes	Yes	Yes
If not, why not?				
What improvements in drainage are needed and why?	Need properly re-excavation of the canals and completion of structural works to reduces the waterlogged			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			700	700	700

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			High yielding variety	High yielding variety	Local variety (20), High yielding variety (80)
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Seed dealer/traders	Seed dealer/traders	Own produced seed, Seed dealer/traders
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……..			dibbling	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			dibbling	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray, dibbling	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			N/A	N/A	N/A
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			N/A	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			N/A	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			N/A	Drum, use gunny bag	Drum, use gunny bag
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home	Sale from home/local market	Sale from home/local market
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need)			Poor transport communication , Limited market places with few buyers	Poor transport facilities, Limited market places with few buyers	Poor transport facilities, Limited market places with few buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Pumpkin/Sweet Gourd	1500 pcs Tk. 70000	2000 pcs Tk. 100000	68 decimal = 1 Kura
Kharif-I			
Aus (HYV)	1.74	2.18	68 decimal = 1 kura
Kharif-II			
Aman (LV)	2.91	3.63	68 decimal = 1 kura
Aman (HYV)	3.42	4.98	

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*absent*	*non-functional*	*intermediate*	*Good*	*low*	*low*	*low*	*low*
2020	*absent*	*non-functional*	*intermediate*	*Good*	*low*	*High*	*low*	*High*
2019	*absent*	*non-functional*	*intermediate*	*Good*	*low*	*High*	*low*	*High*
2018	*absent*	*non-functional*	*intermediate*	*Good*	*low*	*low*	*low*	*High*

- Only 20% works of embankment has been completed
- Telikhali Bazar Sluicegate (2 band) will not be enough for draining out water from 2 Unions area.
- It's a tidal area, waterlogging is the main problem of this Polder.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 04-12-2021 FGD location: Purba Daoa Mazeda Smrity Library, Daoa Union
Polder # 39/2C, Package-2 FGD Team Members: 22

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		1	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought	waterlogged	
If the land is cultivated only 2 times (2 seasons), why?		waterlogged	

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	4	4	4	4
Kharif I	5	5	5	5
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

- Manly one cropped area, due to water congestion situation they can cultivate a minimal portion of land during Rabi and Kharif-I seasons.

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: N/A

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
[Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response:

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.
   Response: Need water management structures to control tidal water and to reduce waterlogging situation in the Polder

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	3 (Just formed the WMOs)
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	Agril, farming, IPM, O&M of gate Note: WMG members have forgotten the training issues and agenda
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Non-functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	They conceived that O & M of Water Structure, Fairly distribute water among users will be their role.
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	Farmers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)……. ……..	Tidal	Tidal	Tidal, Rainwater
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	sufficient	sufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Water available	Water available	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	poor irrigation channel	poor irrigation channel	poor irrigation channel
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	re-excavation of canals	excavation of canals	excavation of canals
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	Yes	Yes	Yes
If not, why not?				
What improvements in drainage are needed and why?	Need properly re-excavation of the canal reduces the waterlogging situation in the Polder.			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			600	600	600

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			High yielding variety	Local variety, High yielding variety	Local variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Seed dealer/traders	Own produced seed, Seed dealer/traders	Own produced seed
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……			Broadcasting, dibbling	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical, organic	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting , dibbling	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray,	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			N/A	N/A	N/A
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			N/A	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			N/A	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			N/A	Drum, use gunny bag	Drum, use gunny bag
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			local market	local market	local market/home
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need)			Poor transport and road communication , Limited market places and limited buyers	Poor transport and road communication , Limited market places and limited buyers	Poor transport and road communication , Limited market places and limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Vegetable (Lal shak)	500 Ati Tk. 5000	900 Ati Tk. 9000	4 decimal
Mung (LV)	0.84	1.2	
Kharif-I			
Aus (HYV)	3.29	3.95	75 decimal = biga
Kharif-II			
Aman (LV)	1.98	2.63	75 decimal = biga

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*intermediate*	*non-functional*	*intermediate*	*medium*	*low*	*low*	*none*	*medium*
2020	*absent*	*absent*	*intermediate*	*medium*	*low*	*medium*	*none*	*medium*
2019	*absent*	*absent*	*intermediate*	*medium*	*low*	*medium*	*none*	*medium*
2018	*absent*	*absent*	*intermediate*	*medium*	*low*	*low*	*none*	*medium*

Some complains from WMA:

- Embankment construction is going on beyond survey and layout design, which has created grievance among the farmers, specially the affected people.
- WMA has mobilized farmers and assured them for assist in getting compensation money but fail and farmers are blaming them. WMA spend time and money for this but cannot do anything whereas, affected/damaged people blamed them that they have unfair linkage with BWDB for not paying the compensation.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 05-12-2021
Polder # 39/2C, Package-2

FGD location: Nudmullah Bazar, Shialkati Union
FGD Team Members: 19

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		3	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought	waterlogged	
If the land is cultivated only 2 times (2 seasons), why?		waterlogged	

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	20	20	20	20
Kharif I	25	25	25	25
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

- Farmers do land cultivation in 3 seasons but during Rabi and Kharif seasons, they can cultivate only 20% and 25% of land respectively due to water congestion and tidal water problems.

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: N/A

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
   [Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response:

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.
Response: Khal re-excavation and other water control structures are needed to construct for removing the waterlogging situation in the Polder.

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	3
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	Agril. farming, IPM, O&M of gate Note: WMG members have acknowledged receive of training but cannot recall about the training and its agenda
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Somewhat Functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	They understand that O & M of Water Structure, Fairly distribute water among users will be their major role.
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	Farmers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)…… ……..	Tidal water in Canal	Tidal water in Canal	Canal, Rainwater, Tidal water
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	sufficient	sufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Water is available	Water is available	Water is available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	Will be good if make a gate on the sub-canal like developing a mini Polder	Will be good if make a gate in the sub-canal something like mini Polder	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	N/A	N/A	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	Yes	Yes	Yes
If not, why not?				
What improvements in drainage are needed and why?	Need properly re-excavation of the canal to reduces the waterlogged situation in the Polder			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			600	600	600

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			Local variety HY variety	Local variety	Local variety (90%) HYV (10%)
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Own produced seed Seed Dealer	Own produced seed	Own produced seed Seed dealer
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……..			Broadcasting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			broadcasting	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			N/A	N/A	N/A
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay			tidal surge	tidal surge	tidal surge

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			motorized thresher Manual for Mung bean	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			sun drying on earthen ground	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			Drum, use gunny bag. Normally sale out immediate after harvesting	Drum, use gunny bag. Normally sale out immediate after harvesting	Drum, use gunny bag. Normally sale out immediate after harvesting
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home/local market	Sale from home/local market	Sale from home/local market
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need)			Limited Market Places and limited buyers also	Limited Market Places and limited buyers also	Limited Market Places and limited buyers also

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Pulse (Cowpea)	1.95	2.60	76 decimal = 1 biga
Mung (LV)	0.80	1.12	
Mung BARI-6	1.35	1.78	
Kharif-I			
Aus (LV)	2.08	2.34	76 decimal = 1 biga
Kharif-II			
Aman (LV) – 90%	2.60	3.38	76 decimal = 1 biga
Aman (HYV) – 10%	3.48	4.98	

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*absent*	*non-functional*	*intermediate*	*medium*	*medium*	*low*	*none*	*High*
2020	*absent*	*non-functional*	*intermediate*	*medium*	*medium*	*medium*	*none*	*High*
2019	*absent*	*non-functional*	*intermediate*	*medium*	*medium*	*High*	*none*	*High*
2018	*absent*	*non-functional*	*intermediate*	*medium*	*medium*	*low*	*none*	*High*

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD
COASTAL EMBANKMENT IMPROVEMENT PROJECT PHASE-1 (CEIP-1)

Focus Group Discussion (FGD)

Date: 06-12-2021
Polder # 39/2C, Package-2

FGD location: Rayer Bazar, Ikri Union
FGD Team Members: 30

Crop Cultivation - Intensity			
How many times do you cultivate your land in a year? 1, 2 or 3		2	
If the land is cultivated only 1 time (1 season), why?	1=waterlogged, 2=Salinity water, 3=Water lack/ Drought		
If the land is cultivated only 2 times (2 seasons), why?		waterlogged	

What proportion (percent) of your land did you plant in each of the following seasons?

[NOTE to Facilitator: The members of the focus group are not likely to be unanimous in their answers. Solicit the responses from a variety of the participants and record the range of values – for example, 20-30% in Rabi, or 90-100% in Kharif II, etc.]

Season	2021	2020	2019	2018
Rabi	2	2	2	2
Kharif I	60	60	60	60
Kharif II	100	100	100	100
Describe how much variation there is among members of the focus group in the answers	No variation	No variation	No variation	No variation

We note that there has been a change in cropping intensity (more or fewer decimals planted in multiple seasons) in the last three years. [Note: If no change in cropping intensity, skip to Question 4.]

1. What was the **most important cause** of this change? Describe in detail both what and how?
   Response: N/A

2. If CEIP-1 physical works were not the most important cause, did they **contribute** to this change? If so, describe in detail both what and how?
   Response: N/A

3. Did anything else **contribute** to this change? If so, describe in detail both what and how?
   [Note to Facilitator: this could be other project activities such as WMO strengthening, favorable or poor weather, availability of inputs, or other development projects, etc.]

   Response:

What physical works or other conditions are key to improving or further improving cropping intensity? Describe in detail.

Response: Will be better if construction of the embankment completed, Need proper waterlogged mitigation system inside the embankment, Tidal intrusion during the Rabi and Aus season led the cropland under water and damage of crops.

WMG/WMO	Key	Response / Please explain
Functionality of WMG	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	3
If exists, when was the WMG formed?	Provide the month/year	2020
Did the members or officers of the WMG receive training by an NGO?	1=Yes 2=No	1
What year?		2020
What did the training cover?	Open-ended	Agril, farming, IPM, O&M of gate Note: WMG members have forgotten the training agenda
Functionality of WMA (polder-level institution)	1=Functional 2=Somewhat functional 3=Non-functional 4=Does not exist	Non-functional
How has the performance of WMG/WMA changed over the last two years?	1=Improved substantially 2=Somewhat improved 3=Little or no change 4=Somewhat worse 5=Worsened substantially	Little or no change
What is the main function of the WMG/WMA? (indicate all applicable)	1=Fairly distribute water among users 2=Fairly balance the need for fresh and blackish water 3=Control Irrigation and drainage network 4=Collecting water service fees 5=Increase yield 6=Environmental protection 7=O & M of Water Structure 8=Don't know 9=Other	They know that O & M of Water Structure, Fairly distribute water among users will be their main role
What is your opinion as to Whose Interests WMG/WMA Protects?	1=Interests of all water users 2=Farmers' interests only 3=Shrimpers' interests only 4=Government interests 5=Its own interests only 6=The WMG/WMA is not influential and not able to protect the interests of anyone	Farmers' interests only

Farmer numbers of season wise	Rabi:	Kharif1:	Kharif2:	
Water related	**Code**	**Rabi**	**Kharif-1**	**Kharif-2**
Sources of Irrigation	1=Canal, 2=Deep Tubewell, 3=Shallow tube-well 4=Low lift pump (LLP) 5=Rainwater, 6=Floodwater, 7=Others specify (Traditional like thone, shauti, hand tube-well, etc.)…… ……..	Tidal water in Canal	Tidal water in Canal	Canal, Rainwater, Tidal water
Water conditions	1=sweet water 2=saline water intrusion 3= sweet + salinity water	sweet water	sweet water	sweet water
Available of irrigation during the cultivation	1= sufficient 2=insufficient	sufficient	sufficient	sufficient
Availability of drainage channel	1=Available 2=Not available	Available	Available	Available
Status of drainage channel, if available	1=Water available 2=Water not available	Water is available and over flowed	Water is available and over flowed	Water available
Constraints for irrigation	1=Lack of water resources, 2=Lack of quality water, 3=mismanagement regarding water distribution, 4=poor irrigation channel, 5=sudden sea level surge, 6=high saline water, 7=Other specify……..	sudden sea level surge	sudden sea level surge	N/A
Ways to overcome the constraints (list all, rank top 3)	1= 2= 3=	N/A	N/A	N/A
Is it possible to use drainage channel water for irrigation?	1=Yes 2=No	Yes	Yes	Yes
If not, why not?				
What improvements in drainage are needed and why?	Need properly re-excavation of the canal to reduces the waterlogged situation.			

Land			Rabi	Kharif-1	Kharif-2
Fallow land has become cultivable in area of FS/DS/DC developed under Project	1=Yes 2=No	Don't know			
If yes, amount of cultivable lands? dec	N/A				
Crop land has been able to be cultivated two times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	N/A	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Crop land has been able to be cultivated three times in area of FS/DS/DC developed under Project	1=Yes 2=No		No	No	
If yes, amount of increase (percent of cultivable land)			N/A	N/A	-
Land	**Key**		**Rabi**	**Kharif-1**	**Kharif-2**
Land preparation	1=Manual, 2=animal draught, 3=mechanized (hand tractor, four-wheel tractor, power tiller), 4= No/zero tillage practice, 5=others specify ….		Manual (for vegetable)power tiller	power tiller	power tiller
Condition of land levelling	1=unlevelled plot, 2=levelled land, 3='sorjon', 4=furrows, 5=Others specify……		levelled land	levelled land	levelled land
Family labour and average wage					
Family labour (Person-day)			3	3	3
Wage labour (BDT/Person/day)			500	500	500

(List most important crops of each season)

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Seeds						
Type of seeds used for crop production	1=Local variety, 2=High yielding variety, 3=Hybrid variety			High yielding variety	Local variety, High yielding variety	Local variety
Source of crop seeds	1=BADC, 2=Seed dealer/traders, 3=Own produced seed, 4=Neighboring farmers, 5=NGOs like BRAC, etc. 6=Research organization 7=Other, (specify)……..			Own produced seed	Own produced seed,	Own produced seed
Seeding method in the field	1=Broadcasting, 2=use mechanized seeder, 3=seedling transplanting, 4=dibbling, 5=No tillage, 6=Others specify……			Broadcasting	seedling transplanting	seedling transplanting
Constraints for seeding?	1= 2= 3=			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Fertilizer use						
Use of fertilizers in the crop field?	1=Yes, 2=No			Yes	Yes	Yes
Types of fertilizers used	1=Chemical, 2=organic, 3=both chemical and organic, 4=Others specify……			Chemical	Chemical	Chemical
Method of fertilizer application	1=broadcasting, 2=spraying, 3=dibbling, 4=Fert-irrigation, 5= Other, specify……..			Broadcasting,	broadcasting	broadcasting
Constraints for fertilizers	1=not available locally, 2= poor quality, 3 = expensive, 4 = lack of knowledge on dosage and application methods, 5 = other, specify……			N/A	N/A	N/A
Ways to overcome the constraints	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Pesticide use						
Use pesticide on the crop?	1=Yes, 2=No			Yes	Yes	Yes
Types of pesticides used	1=Chemical pesticides, 2=Bio-pesticides, 3=IPM methods, 4=Other, specify……			Chemical pesticides	Chemical pesticides	Chemical pesticides
Method of pesticide application	1=Hand spray, 2=Using power sprayer, 3=Using Knapsack sprayer, 4=Other, specify……..			Hand spray	Hand spray	Hand spray
Benefit of pesticide use	1=control insect pests and diseases, 2=increase crop production, 3=Other, specify…….			control insect pests and diseases	control insect pests and diseases	control insect pests and diseases
Risk of pesticide use	1=Create health hazard, 2=Create environmental hazard, 3=Toxic effect on fish/birds/poultry 4=Other risk, specify…….			N/A	N/A	N/A
Crop harvest						
Method of harvesting	1=Manually, 2=mechanized (use reaper, combine harvester, etc), 3=Other, specify……..			Manually	Manually	Manually
Risks to crop harvesting	1=Flood, 2=Storm, 3=tidal surge, 4=Wind, 5=Other, specify clay			N/A	tidal surge, continuous rain	tidal surge, wind Storm

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Post harvesting						
Method of threshing	1=manually, 2=using machineries (paddle thresher, motorized thresher), 3=animal draft, 4=others specify…….			N/A	motorized thresher	motorized thresher
Constraints for threshing	1= 2= 3=			N/A	N/A	N/A
Drying	1=sun drying on earthen ground, 2=sun drying on pacca floor, 3=sun drying on polythene sheet, 4=using drying machine, 5=others			N/A	sun drying on earthen ground	sun drying on earthen ground
Storage facilities	1=use gunny bag, 2=use drum, 3=*motka*, 4=use *dhole,* 5=cold storage, 6=godown, 7=others specify……..			N/A	Drum, use gunny bag, gula	Drum, use gunny bag, gula
Constraints for storage of crop products	1= 2= 3=			N/A	N/A	N/A

	Key	Rabi Crop 1: _____	Rabi Crop 2: _____	Rabi Crop 3: _____	Kharif-1 Crop: _____	Kharif-2 Crop: _____
Marketing of crop products						
Where usually marketed own produced agricultural products	1=local market, 2=upazila/district market, 3=wholesale market (*aratdar*), 4=small traders (*faria),* 5=Other, specify (home)			Sale from home/local market	Sale from home/local market	Sale from home/local market
Constraints of product marketing	1=No access to market, 2=lack of information about product price, 3=bound to sell products to specific buyers due to loan, 4=price grading is not transparent, 5=Early selling due to lack of storage, 6=Early selling due to cash shortage, 7=Others, specify(transport communication need)			Need to Pay the toll in the Local market	Need to Pay the toll in the Local market, Limited buyers	Need to Pay the toll in the Local market , Limited buyers

Typical crop yields season wise

Collect typical yield range (minimum and maximum) for the main crops, based on FGD consensus (for triangulation with DAE data / statistics)

Cropping season/ Crops name	Yield minimum (MT/Ha)	Yield maximum (MT/Ha)	Comments on yield made by FGD
Rabi			
Vegetable (lalshak)	500 Ati/3 dec. Tk.5000	700 Ati/3 dec. Tk. 7000	3 dec
Kharif-I			
Aus (LV)	1.57	1.88	63 decimal = 1 biga
Kharif-II			
Aman (LV)	3.14	3.76	63 decimal = 1 biga

Output 3 of the TOR

Table: Physical Infrastructure and Production Constraints at Each FGD Location

Reverse chronology (yearly)	Embankment conditions *(Functional, intermediate, non-functional, absent)*	Polder structures (sluice gates) conditions *(Functional, intermediate, non-functional, absent)*	Irrigation infrastructure condition *(Functional, intermediate, non-functional, absent)*	Irrigation water availability *(Good, medium, low)*	Drainage condition (*Good, medium, low)*	Storm surge *(High, medium, low, none)*	Salinity intrusion *(High, medium, low, none)*	Pest incidence *(High, medium, low, none)*
2021	*non-functional*	*non-functional*	*intermediate*	*medium*	*medium*	*low*	*none*	*High*
2020	*non-functional*	*non-functional*	*intermediate*	*medium*	*medium*	*medium*	*none*	*High*
2019	*absent*	*non-functional*	*intermediate*	*medium*	*medium*	*medium*	*none*	*High*
2018	*absent*	*non-functional*	*intermediate*	*medium*	*medium*	*low*	*none*	*High*

- Forest department does not acknowledge the WMA & WMGs, they are working their own way and reformed the forestry group without informing WMA.