



IMPACT OF COVID- 19

Digest 10: Agriculture



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12

YEARS

16

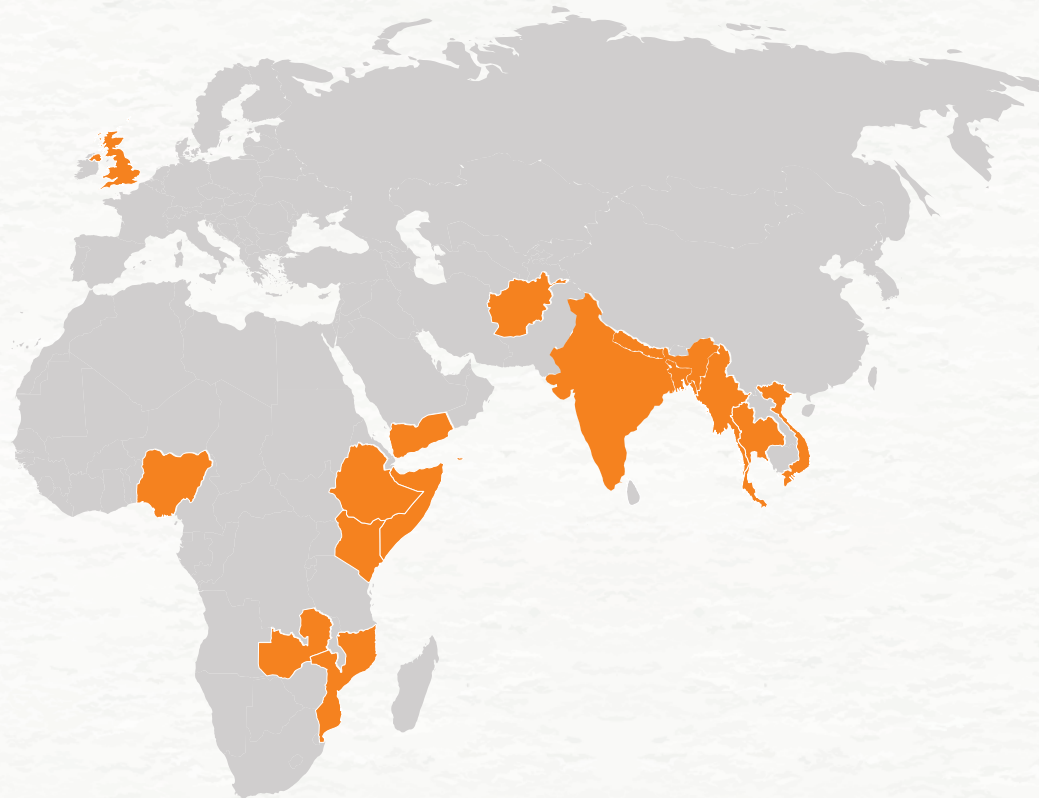
COUNTRIES

110+

CLIENTS

265+

PROJECTS

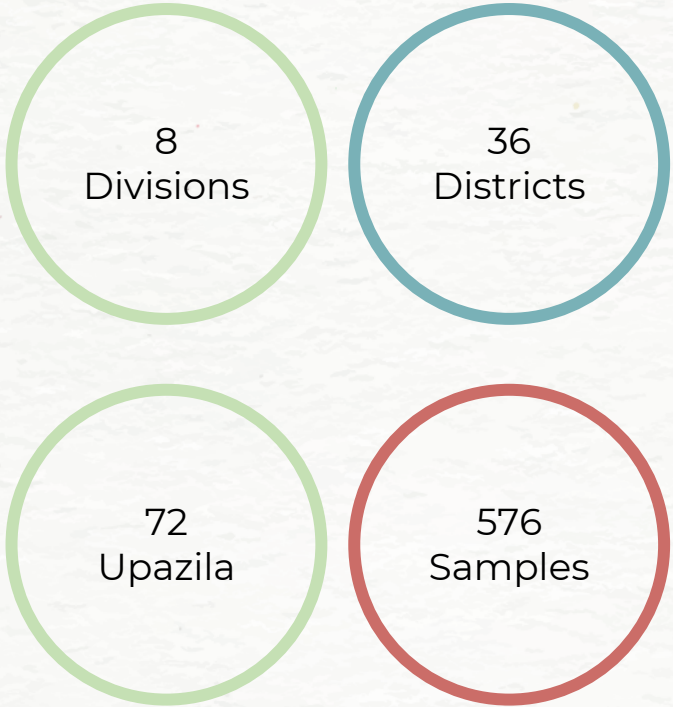


Executive Summary

Income from farm agriculture declined by 58% in April 2020 if compared to the income in April 2019. Total household income declined by 61% for the farmers in April 2020 if compared to the income in April 2019. 57% of the farmers may discontinue cultivation in the next cropping cycle. 44% have credit with input sellers. Average credit is TK 12, 298. This can have catastrophic impact on the input supply chain. 53% of the farmers are seeking loans. They want average TK 29,775 for the next cropping cycle. While they already have an outstanding loan of TK 35,010 per household. 70% of the farm households have reduced consumption of protein. 53% have started to divest savings.

Bangladesh is facing an imminent threat to food security. Input supply chain needs to be restored through import subsidies. Loans should be targeted towards input sellers. Farmers need seasonal loan from MFIs. Overall, they need loan rescheduling. We need to map the country's production system for the next cycle and develop a national strategy for production, purchase and marketing. Private and public sector will have to work on this together. Transportation cost needs to be brought down.

Sample Distribution



Rangpur Division



Rajshahi Division



Dhaka Division



Khulna Division



Legend



Sylhet Division



Mymensingh Division



Barisal Division



Chittagong Division



Sample Distribution (Contd.)



The scope in this study is limited to **paddy and vegetable crops** as those were the primary crops in the field in the month of April



The samples were drawn from **NATP (I and II)** working areas



We drew **40% Upazilas from NATP-1 and 60% from NATP-2** as these represent the prime production zones in the country































The **Upazilas were randomly selected**. For each selected Upazila we had target to **sample 8 farmers**. The farmers were then sampled from our existing database



The survey was undertaken using **CAPI method over phone** between **April 24-April 30, 2020**

Samples by Crops

Paddy (Boro)	       	77%
Spinach*	  	23%
Brinjal	 	15%
Bitter Gourd		9%
Okra		8%
Bottle Gourd		7%
Green Chili	 	7%
Pointed Gourd	 	6%
Tomato		5%
Green Gram		4%
Potato	 	4%
Sweet Gourd		4%
Cucumber		4%
Ridge Gourd	 	2%

* Indian Amaranth, Amaranth, Red Amaranth Bengal Amaranth



Impact on the farmer's income

COVID 19 Impact on the Income of the Farmers

Comparative income April 2019-April 2020 (in BDT)



Total Family Income

BDT 18,385

April, 2019

-61%

BDT 7,208

April, 2020

61%

Decline in total household income
(April 2019 vs April 2020)



Income from Agriculture

BDT 10,146

April, 2019

-58%

BDT 4,298

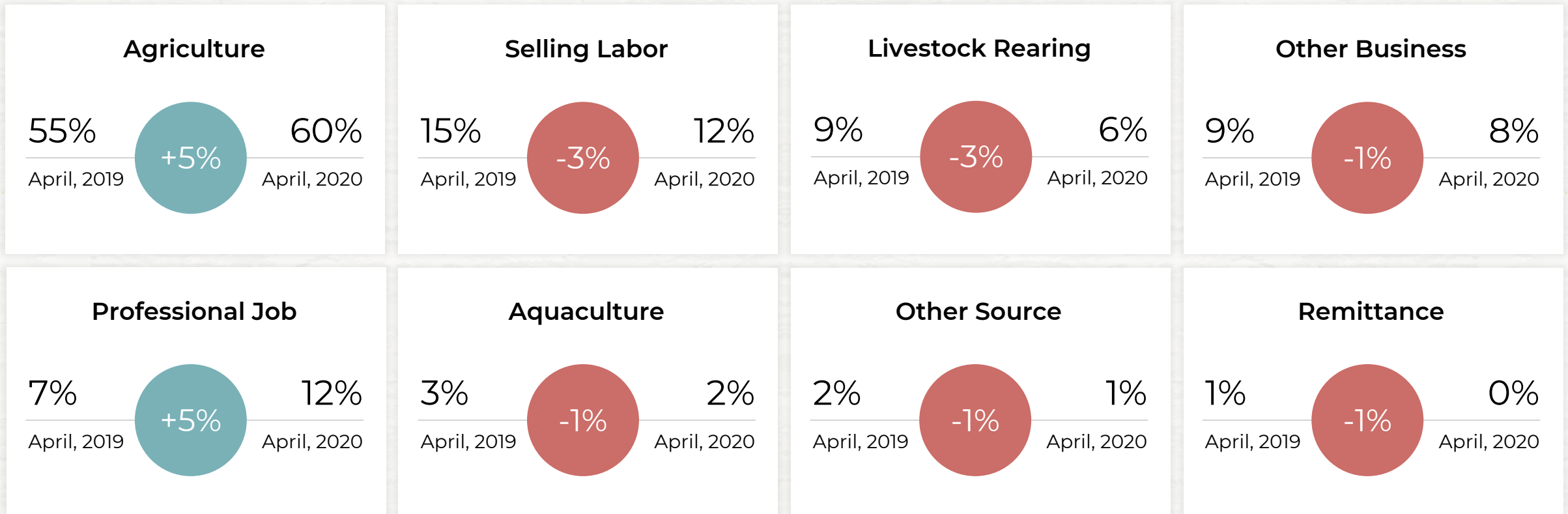
April, 2020

58%

Decline in income from farm agriculture
(April 2019 vs April 2020)

COVID 19 Impact on the Income of the Farmers

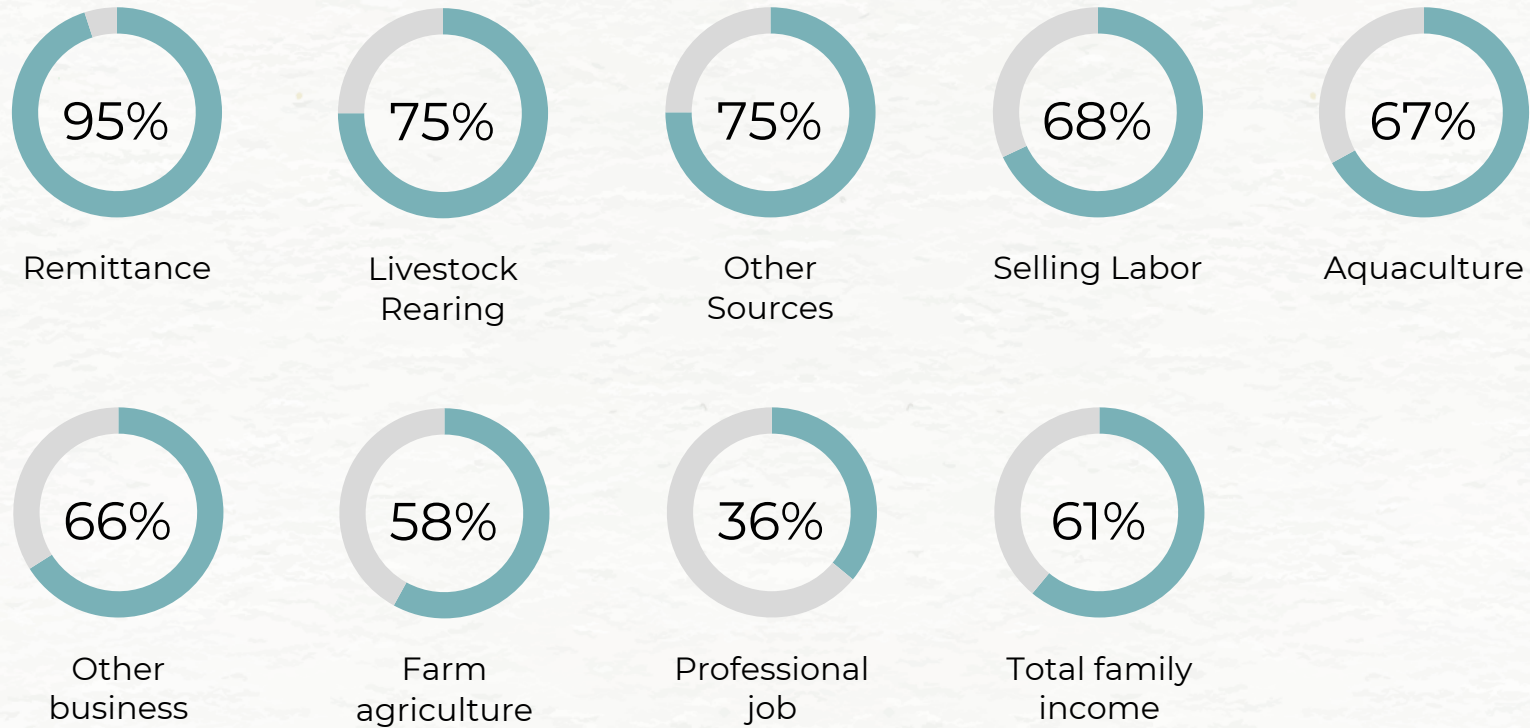
Composition of Income




Contribution of farm agriculture in the overall household income increased despite the reduction in income from agriculture. Contribution of income from professional service also increased. Contribution of income from all other sources declined.

COVID 19 Impact on the Income of the Farmers

Comparative decline in income of the farmers from different sources



The higher contribution of income from agriculture can be attributed to the higher percentage of decline in other sources of income if compared to farm agriculture



Market Disruptions Affecting the Farmers

Markets accessed by the farmers



93%

of the farmers sell within their local markets.

Interviews suggest that the paikers from other regions come to their markets to buy the produce. **The lockdown restricted the movement of the paikers** and this in turn affected the farmers ability to sell. They left the produce in the field mostly unharvested.



93%

Local market

20%

Market within the district

10%

Wholesaler coming to local market

7%

Market outside the district

1%

Others

Factors impacting farmer's income

Disruption in transportation coupled with reduction in price explains the **large volume of unharvested** produce.

Price Volatility



79%

Disruption in transportation



75%

Reduction in crop price



42%

High labour price/labour crisis



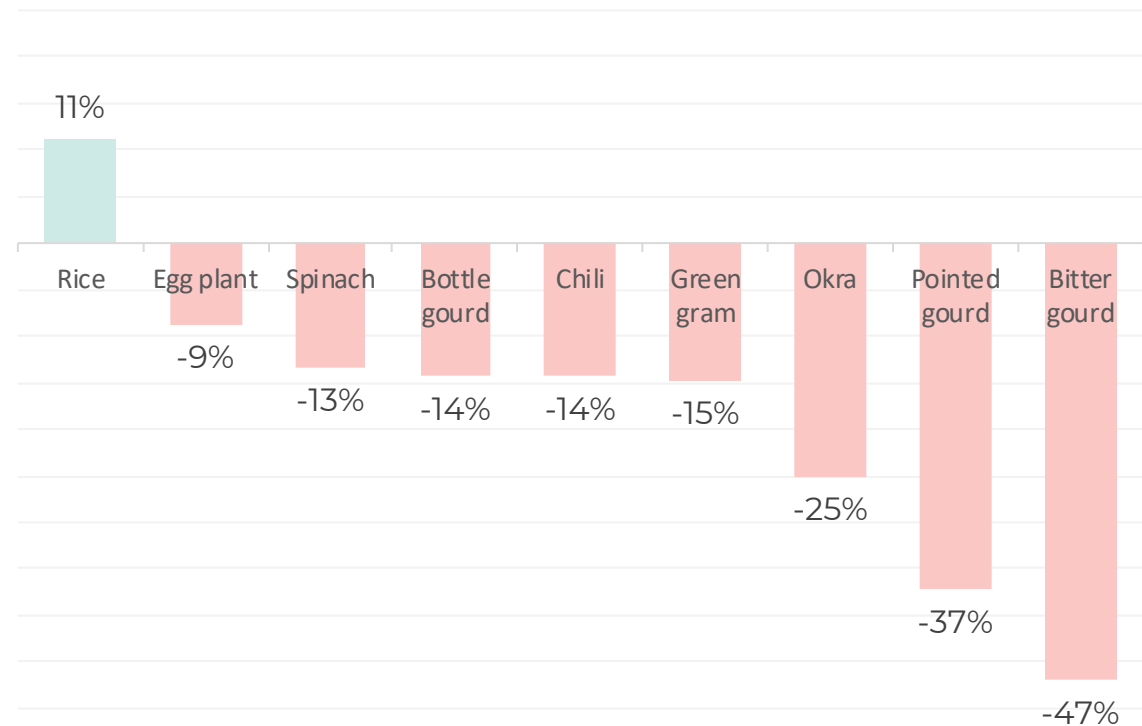
37%

Lack of inputs in the market



4%

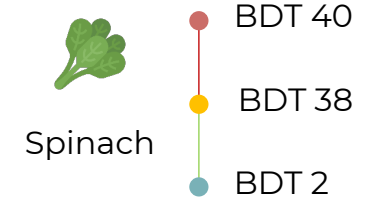
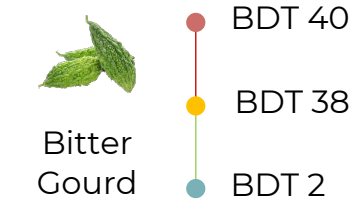
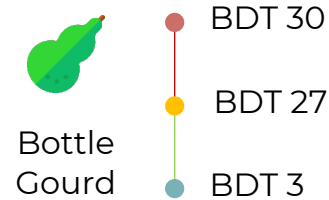
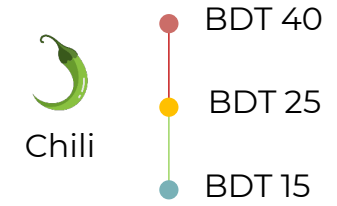
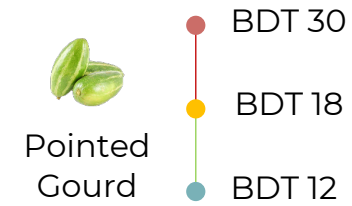
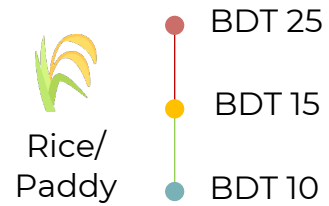
Others



Factors impacting farmer's income

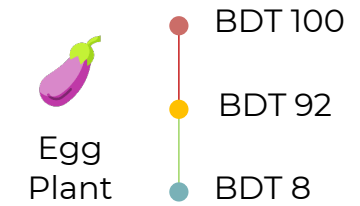
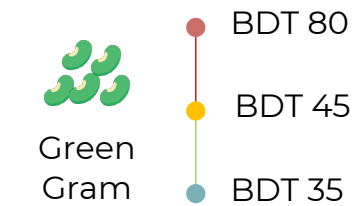
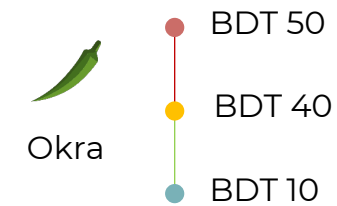


The price has been **highly variable**



Legends

- Maximum price
- Price Variance
- Minimum price



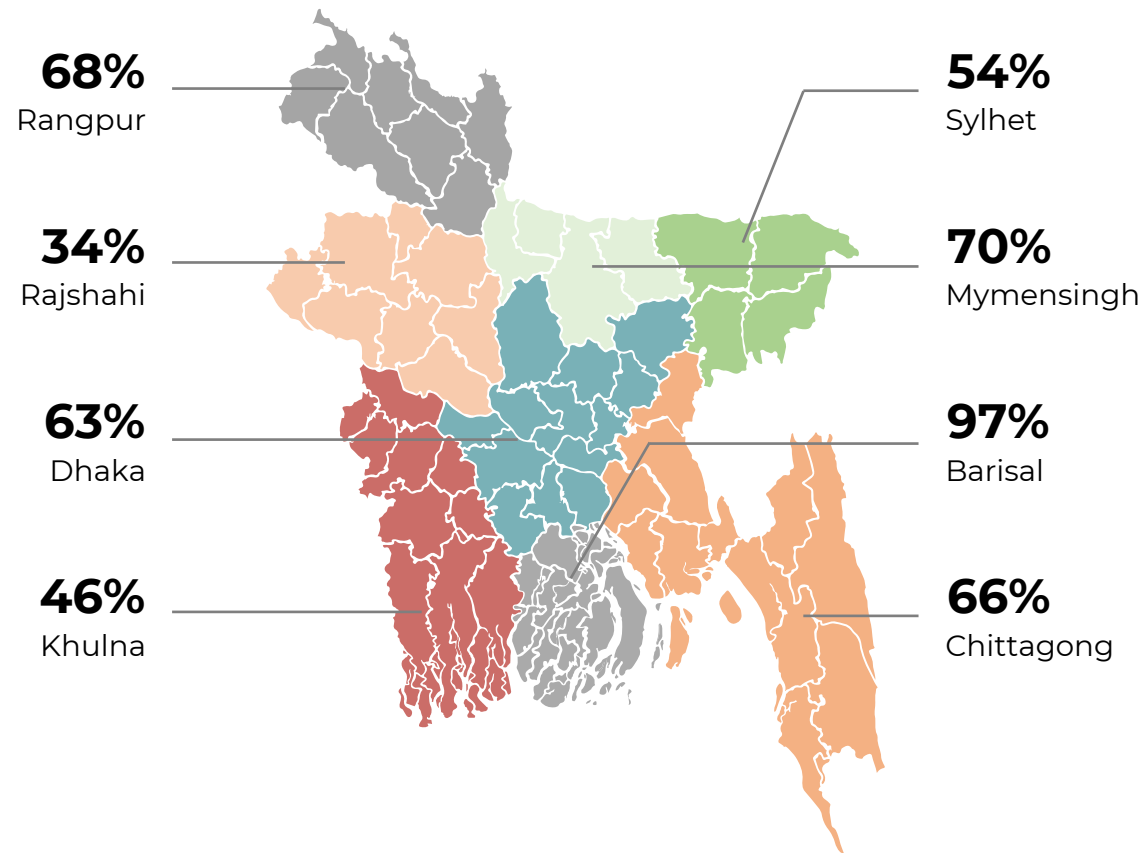


Divisional status of impact

COVID 19 Impact on the Income of the Farmers

Decline from agricultural income in the eight divisions

Why such
significant variance
among divisions?



COVID 19 Impact on the Income of the Farmers

Crops Represented by the Samples

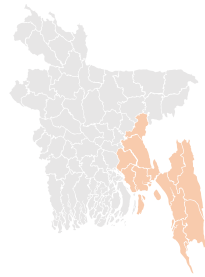
To understand the divisional discrepancy in the decline in income, we looked into the samples and **identified the crops that are represented by higher number of samples** (above 10 per crop for comparative analysis).

Dhaka



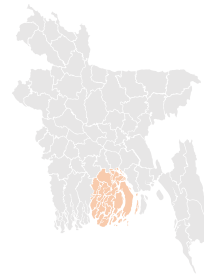
Eggplant, Okra,
Paddy (Boro),
Spinach

Chittagong



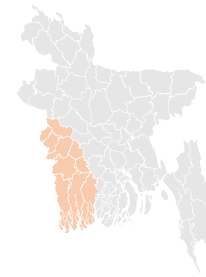
Eggplant,
Paddy (Boro)

Barisal



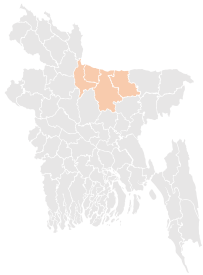
Green Gram

Khulna



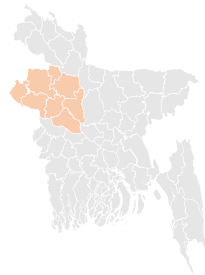
Eggplant, Okra,
Paddy (Boro),
Bitter gourd,
Bottle gourd,
Pointed gourd,
Green Chili,
Spinach

Mymensingh



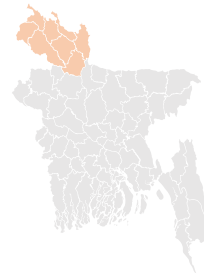
Paddy (Boro),
Spinach

Rajshahi



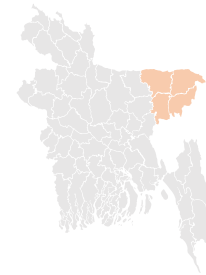
Eggplant, Okra,
Paddy (Boro),
Bitter gourd,
Jute, Bottle
gourd, Pointed
gourd, Spinach

Rangpur



Eggplant, Paddy
(Boro), Spinach

Sylhet

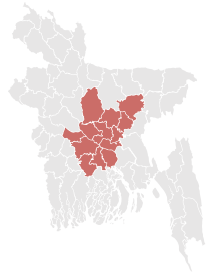


Paddy (Boro),
Spinach

COVID 19 Impact on the Income of the Farmers

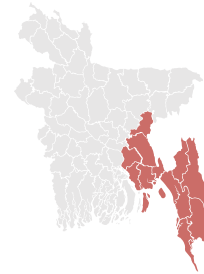
Change in price of crops in the field and percentage of crops unharvested

Dhaka



Crop	Price Change	Unharvested crop
Eggplant	- 18%	28%
Okra	- 32%	70%
Paddy (Boro)	+ 17%	74%
Spinach	- 23%	54%

Chittagong



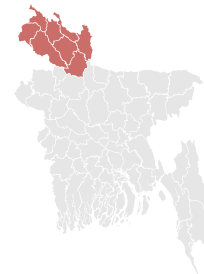
Crop	Price Change	Unharvested crop
Eggplant	- 27%	53%
Paddy (Boro)	+ 6%	55%

Barisal



Crop	Price Change	Unharvested crop
Green Gram	- 15%	79%

Rangpur

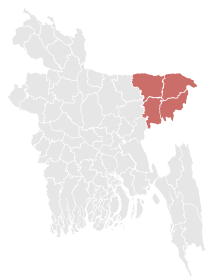


Crop	Price Change	Unharvested crop
Spinach	- 9%	60%
Paddy (Boro)	- 6%	80%

COVID 19 Impact on the Income of the Farmers

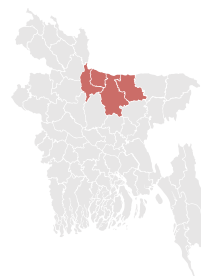
Change in price of crops in the field and percentage of crops unharvested

Sylhet



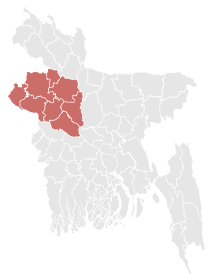
Crop	Price Change	Unharvested crop
Spinach	- 18%	49%
Paddy (Boro)	- 6%	84%

Mymensingh



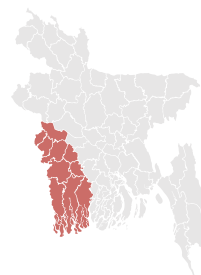
Crop	Price Change	Unharvested crop
Spinach	- 21%	28%
Paddy (Boro)	- 5%	69%

Rajshahi



Crop	Price Change	Unharvested crop
Spinach	- 6%	49%
Eggplant	- 5%	37%
Bitter gourd	- 73%	83%
Bottle gourd	0%	75%
Pointed gourd	- 43%	97%
Okra	- 41%	53%
Paddy (Boro)	- 11%	57%

Khulna



Crop	Price Change	Unharvested crop
Spinach	- 12%	59%
Eggplant	- 9%	79%
Bitter gourd	0%	72%
Bottle gourd	- 15%	90%
Pointed gourd	- 14%	85%
Chili	0%	84%
Okra	- 22%	95%
Paddy (Boro)	- 28%	87%

COVID 19 Impact on the Income of the Farmers

Divisional discrepancy in income- Influence of number of crops in the field

Average **number of crops** in the field per division

	Dhaka	Rajshahi	Khulna	Chittagong	Barisal	Sylhet	Rangpur	Mymensingh	Total
1 crop	25%	36%	31%	13%	38%	5%	33%	35%	29%
2 crops	40%	41%	43%	40%	53%	78%	56%	43%	46%
3 crops	33%	17%	22%	38%	9%	18%	7%	23%	20%
4 crops	3%	3%	3%	8%	0%	0%	4%	0%	3%
5 crops	0%	3%	2%	3%	0%	0%	0%	0%	1%

In terms of more than one crops in the field, Chittagong has the highest percentage of samples (87%) followed by Dhaka (75%), Khulna (69%), Mymensingh (65%) and Rajshahi (64%)

Number of crops in the field does not explain the relatively less decline in income from agriculture in Khulna and Rajshahi

COVID 19 Impact on the Income of the Farmers

Divisional discrepancy in income- Deep Dive Exercise

Paddy/Rice
Max – 25 BDT/KG
Min – 10 BDT/KG



	Dhaka	Rajshahi	Khulna	Chittagong	Sylhet	Mymensingh	Rangpur
BDT 6-10 /KG	-	-	-	-	-	36%	-
BDT 11-15 /KG	-	-	-	36%	-	21%	-
BDT 16-20 /KG	44%	47%	44%	36%	96%	36%	57%
BDT 21-30 /KG	49%	44%	53%	23%	-	-	25%
BDT 31-40 /KG	-	-	-	-	-	-	-

COVID 19 Impact on the Income of the Farmers

Divisional discrepancy in income- Deep Dive Exercise

Spinach

Max – 40 BDT/KG

Min – 2 BDT/KG



	Dhaka	Rajshahi	Khulna	Sylhet	Mymensingh	Rangpur
Upto BDT 5 /KG	7%	-	-	-	-	-
BDT 6-10 /KG	67%	31%	36%	27%	65%	83%
BDT 11-15 /KG	22%	14%	21%	27%	25%	17%
BDT 16-20 /KG	-	28%	36%	27%	-	-
BDT 21-30 /KG	-	14%	-	9%	-	-
BDT 31-40 /KG	-	-	-	9%	-	-

COVID 19 Impact on the Income of the Farmers

Divisional discrepancy in income- Deep Dive Exercise

Okra
Max – 50 BDT/KG
Min – 10 BDT/KG



	Dhaka	Rajshahi	Khulna
BDT 6-10 /KG	-	17%	-
BDT 11-15 /KG	46%	50%	17%
BDT 16-20 /KG	15%	17%	25%
BDT 21-30 /KG	23%	17%	25%
BDT 31-40 /KG	-	-	17%

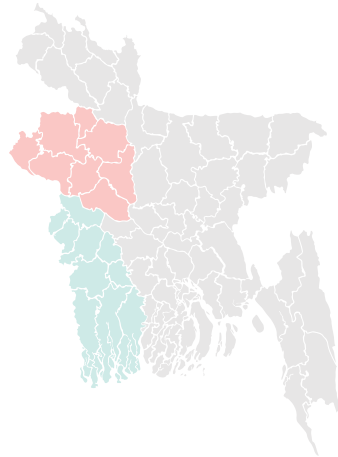
Eggplant
Max – 100 BDT/KG
Min – 8 BDT/KG



	Dhaka	Rajshahi	Khulna	Chittagong
BDT 6-10 /KG	24%	16%	24%	-
BDT 11-15 /KG	6%	20%	6%	23%
BDT 16-20 /KG	59%	32%	35%	46%
BDT 21-30 /KG	12%	24%	18%	15%
BDT 31-40 /KG	-	8%	12%	15%

COVID 19 Impact on the Income of the Farmers

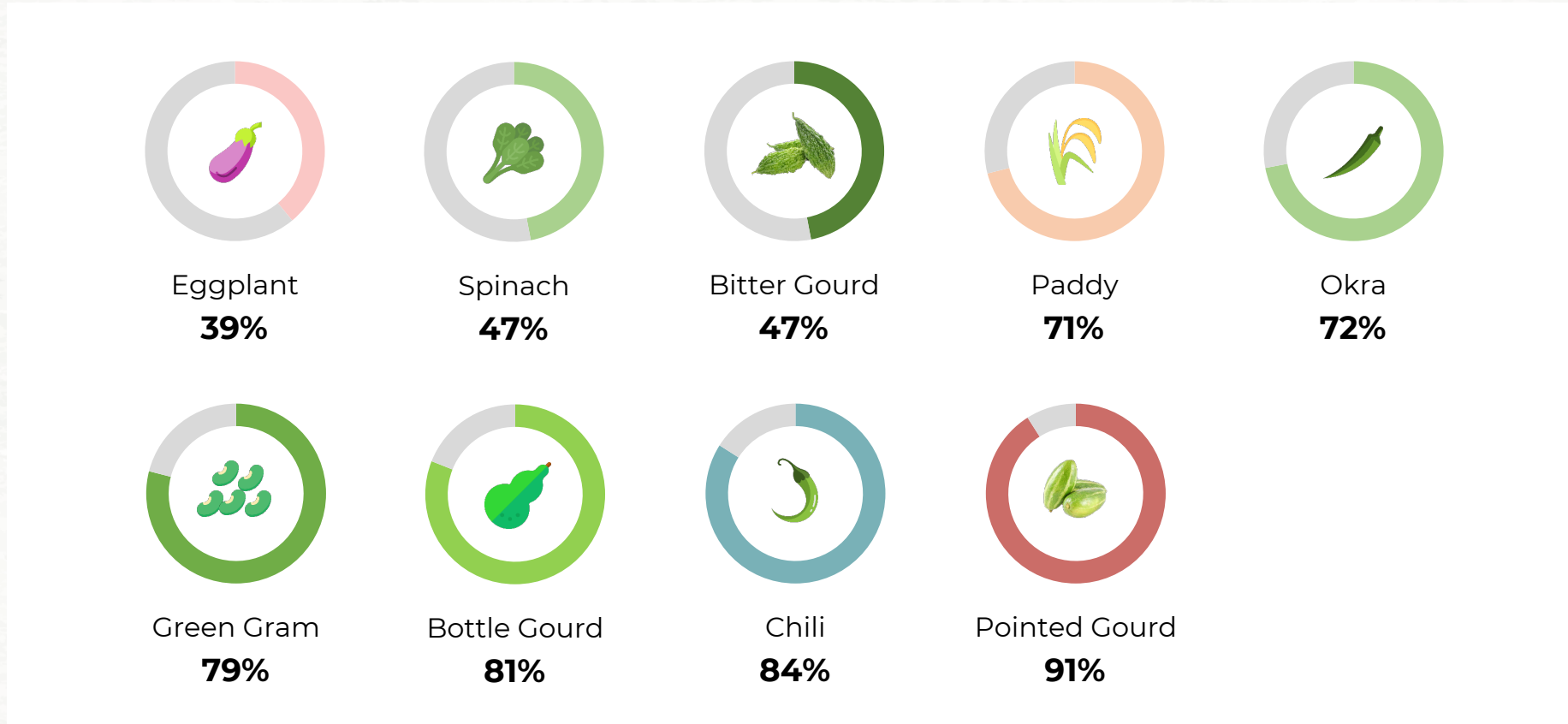
Divisional discrepancy in income- Deep Dive Exercise



Comparative analysis of price received across the month shows that **higher percentage of farmers in Khulna and Rajshahi received higher price for rice, spinach, okra and eggplant**. This might have contributed to the lesser degree of fall in income from agriculture for the farmers in Khulna and Rajshahi.

Crops that the farmers are dependent on for their income in the current cycle

% of crops still unharvested



The large volume of unharvested crops mean that the farmers would need quick access to regional and national markets to sell their produce.



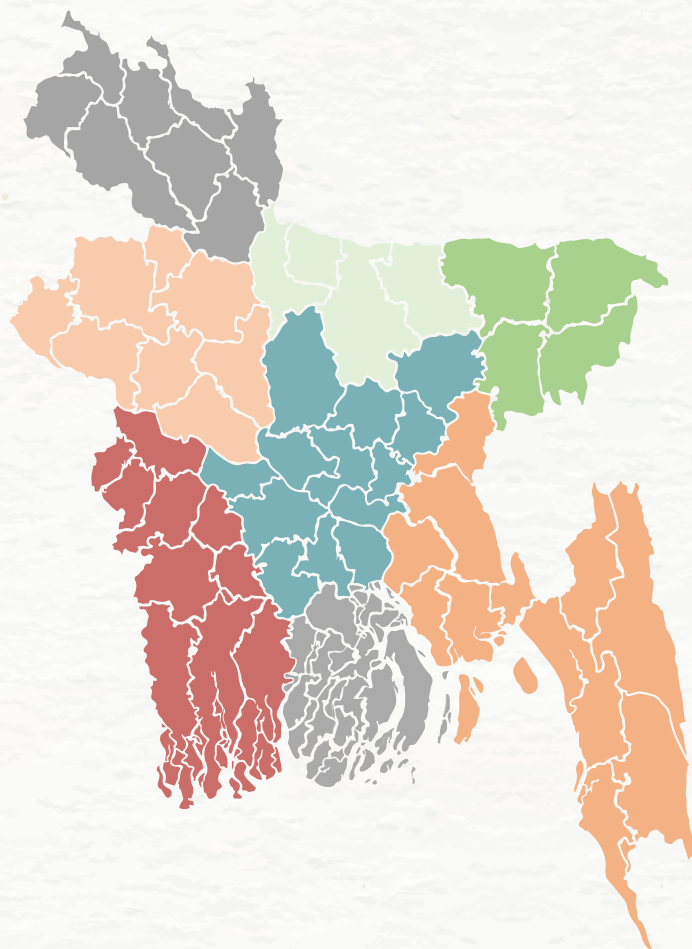
Prospective impact on
the next crop cycle

Crops that the farmers intend to produce in the next crop cycle

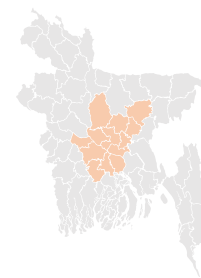


National

Paddy, spinach, brinjal, pumpkin, chili, potato, bitter-gourd, tomato, cucumber, pointed gourd, okra

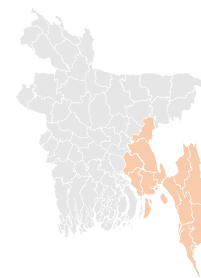


Dhaka



Paddy, pumpkin, spinach, eggplant, chili, tomato, potato

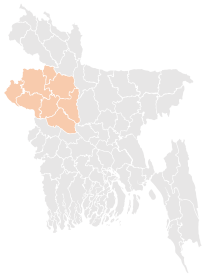
Chittagong



Paddy, pumpkin, eggplant, chili, tomato

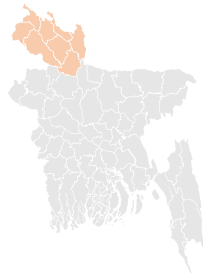
Crops that the farmers intend to produce in the next crop cycle (Contd.)

Rajshahi



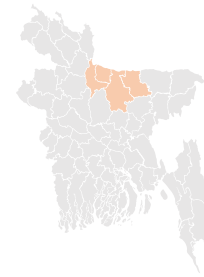
Paddy,
pumpkin,
spinach,
eggplant, chili,
pointed gourd,
potato, bitter
gourd, okra

Rangpur



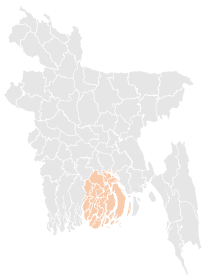
Paddy,
pumpkin,
spinach,
eggplant, chili,
ground nut,

Mymensingh



Paddy,
pumpkin,
spinach,
eggplant, chili,
cucumber

Barisal



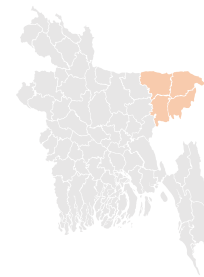
Paddy,
spinach, green
gram, bitter
gourd,

Khulna



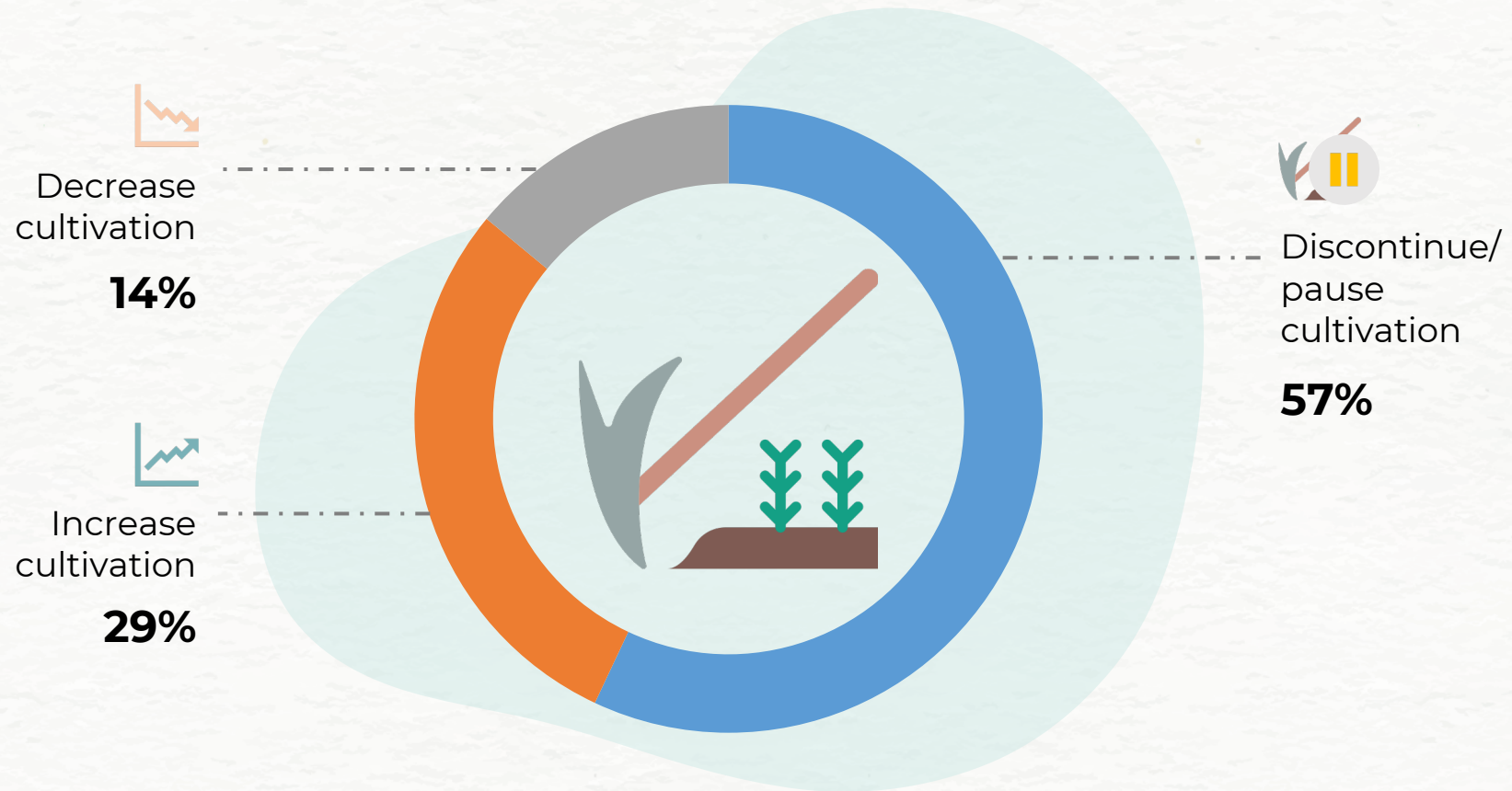
Paddy, pumpkin,
spinach,
eggplant, chili,
tomato, okra,
cucumber, bitter
gourd, potato,
pointed gourd

Sylhet



Paddy,
pumpkin,
spinach, bitter
gourd,

Potential impact on the next crop cycle



Prospective change in land size in the next crop cycle for the top 10 crops the farmers intend to produce

Change in land size in next crop cycle - a comparison with the same crop cycle of last year



Tomato
+ 233.3%



Spinach
+ 13.9%



Chili
+ 11.6%



Pumpkin
+ 4.3%



Paddy
+ 1.7%



Okra
- 58.7%



Bitter Melon
- 38.9%




Cucumber
- 23.5%



Eggplant
- 22.7%



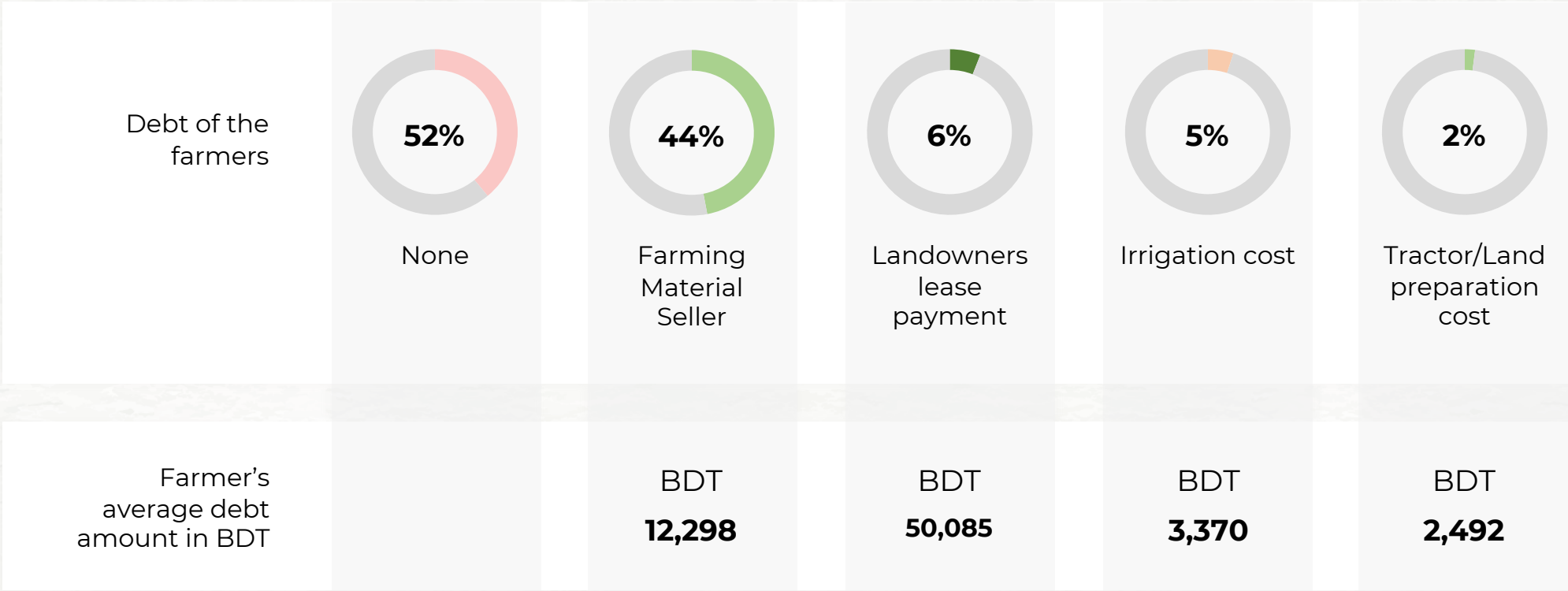
Potato
- 9.9%



Will farmers be able
to cope with the crisis?

Coping Capacity of the Farmers

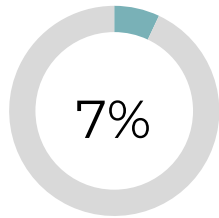
Debt of Farmers



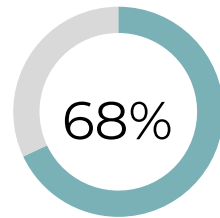
Coping capacity of the farmers



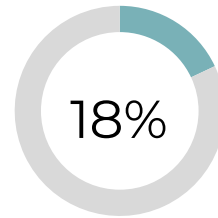
Food Stock at Home



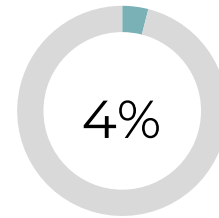
None



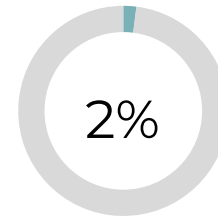
Upto 15 days



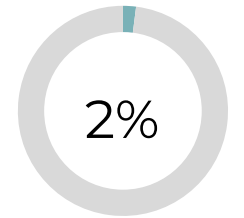
16-30 days



31-60 days



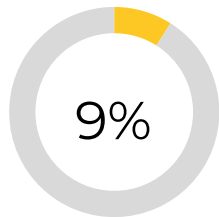
61-90 days



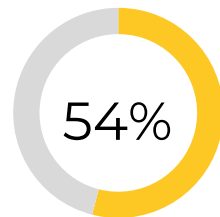
Above 90 days



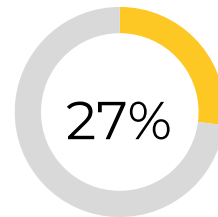
Cash in Hand to Support Daily Expenses



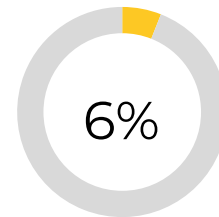
None



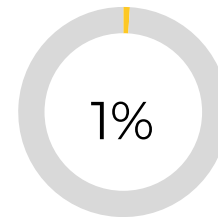
Upto 15 days



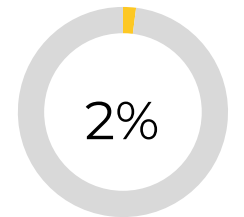
16-30 days



31-60 days



61-90 days



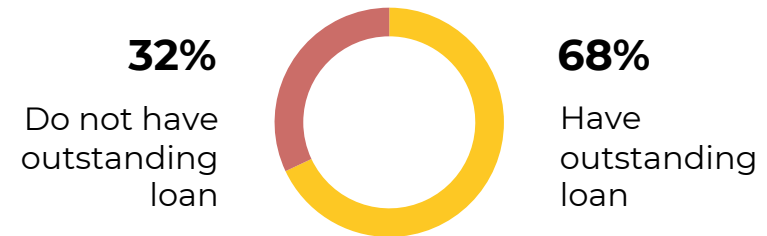
Above 90 days

Coping capacity of the farmers

Perception about ability to invest in next crop cycle without loan



Farmers having outstanding loans



The loan burden is expected to increase heavily in the next crop cycle.

Sources of credit

Source of finance for the farmers for coping income loss



Micro-credits is the primary source of credit for the farmers (76%). About 27% of the farmers have informal credits. Only 9% of the farmers have credits from Government Banks. The government's stimulus through banks may not reach the farmers.

76%

Micro-credit Institutions

27%

Informal Loan

17%

Raw Goods Collector

9%

Department Store

9%

Government Bank

4%

Others

3%

Private Interest Deals

2%

Community Bank/Cooperative

2%

Private Bank

Coping capacity of the farmers

Average loan solicited and average outstanding loan in BDT



The farmers are soliciting
on average
TK 29,775
as loan for next crop cycle



Their average
outstanding loan is
TK 35,010

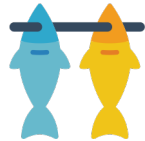
Farmers would need seasonal loans or emergency loans at reduced interest rates to cope with the impact



How are the farmers coping?

Coping strategy of the farmers

Protein –Content Food



70%

of the farmers have
reduced cost in
protein



Weekly reduction in
protein food cost
28%

Non-protein Food



63%

of the farmers have
reduced cost of non-
protein content food



Weekly reduction in
non-protein food cost
27%

Total reduction in cost is still not high enough which might indicate that the farmers are hopeful about earning from the sales of income of the unharvested crops.

Coping strategy of the farmers (Contd.)

Source of finance for the farmers for coping income loss



Farmers are disposing off their savings and taking cash support from relatives. The trends again show that the farmers might be banking on the unsold harvest. In such case, further reduction in price or inability to sell the crops would send the farmers to deep crisis.

53%

From Savings

34%

Help from Relatives

17%

Did not have to do much

15%

Micro-credit

13%

Could not find a remedy

9%

Private Loan

7%

Selling domestic animal

6%

Selling crops in advance

4%

Selling other properties

2%

Land in Mortgage

1%

Others

1%

Government Aid

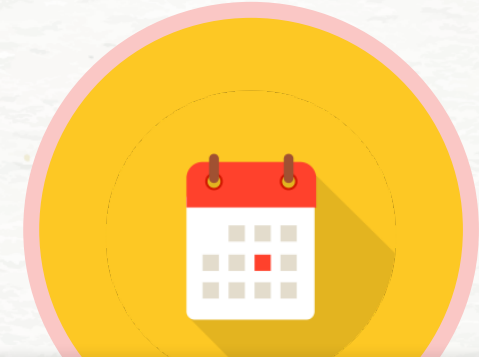
Recommendation



Government should **buy out crops from the field and take control of national distribution** at fixed price; without government controlled procurement of unharvested crops, there is a greater risk that the farmers will be in deep poverty. This will adversely affect production and national food security.

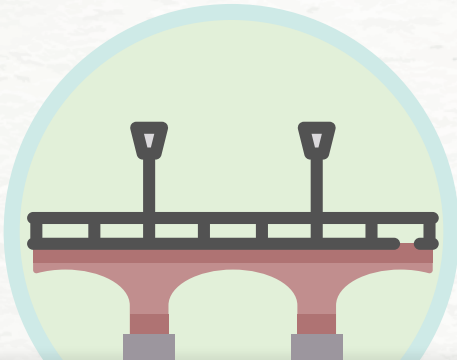


Develop a **digital map that can show volume of unharvested crops** in the field and real time harvest data.

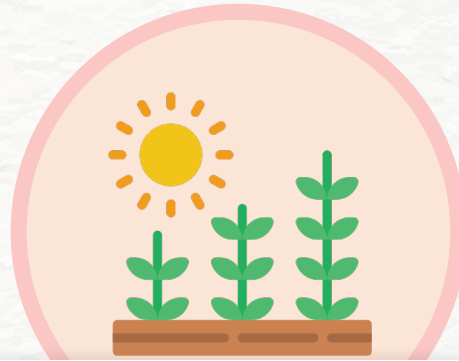


Using the digital map produce a **national harvesting calendar** that can be used to track and coordinate harvest across the country. This will allow the government to provide transport permit and allow inter district travel of paikers to collect crops.

Recommendation (Contd.)



Remove tolls for bridges and roads to reduce transportation cost for marketing.



Develop **a national production target** for the crops for next cycle and **provide inputs at subsidized prices** through the local input suppliers; issue buy-out vouchers for production for the next cycle.



Target input retailers to bring them under coverage of the government's financial stimulus package for agriculture.



Create **access to seasonal loans** through MFIs.

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THANK YOU!