

A photograph of three women working in a lush green rice field. The women are wearing traditional headscarves and are engaged in agricultural activities. The field is filled with tall, vibrant green rice plants, and a dense line of trees is visible in the background. A semi-transparent dark green banner is overlaid across the bottom half of the image, containing the title and subtitle text.

IMPROVING THE PRODUCTIVITY OF LAND IN COASTAL BANGLADESH

Outcomes of Blue Gold Program interventions 2013 - 2018

Major water management problems before BGP



Waterlogging during the aman season in Khulna, Patuakhali and Satkhira



Scarcity of water for irrigation in rabi season in Khulna, Patuakhali, Satkhira



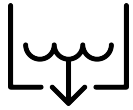
Salinity reported in some areas of Khulna, Patuakhali and Satkhira



Commercial shrimp farming, resulting in a **poor drainage system** in Satkhira



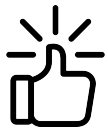
Improvements brought about by participatory water management



Improved drainage system



Increased supply of water for irrigation



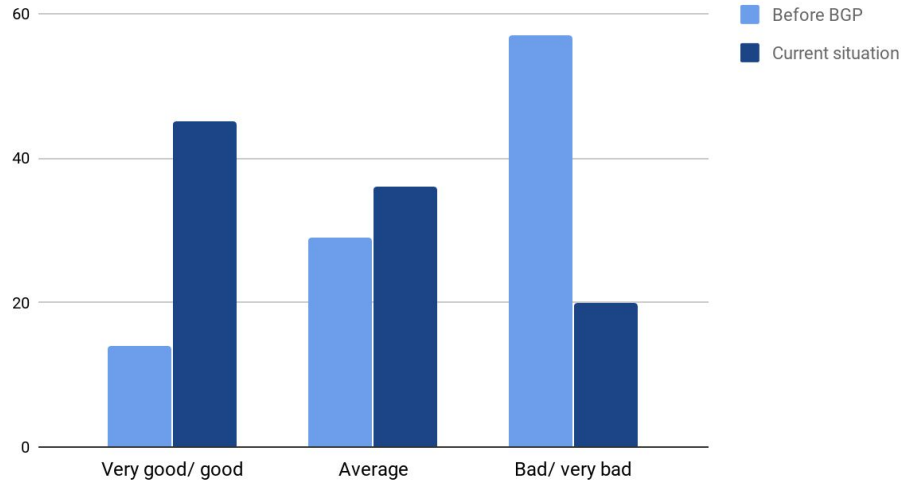
Problems related to salinity have reduced



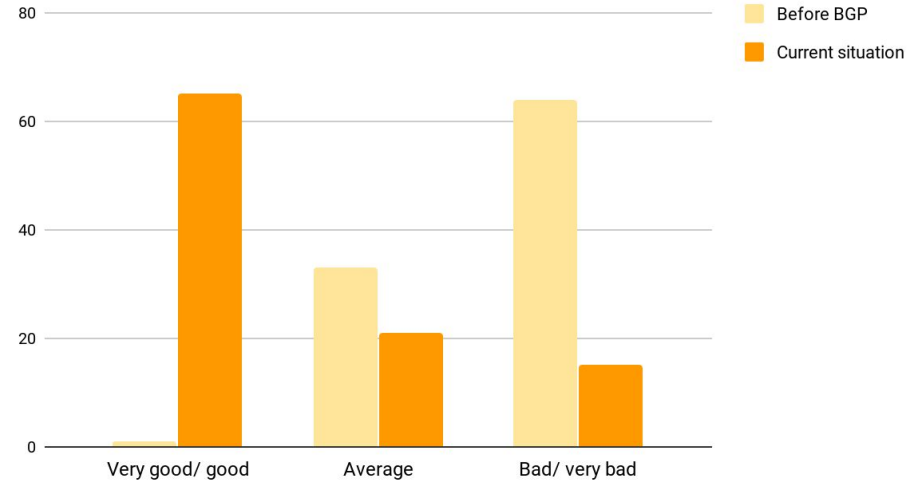
While water management problems still exist, they are now less severe



Khulna (% of WMG)



Patuakhali (% of WMG)



Changes in water management situation in Khulna and Patuakhali

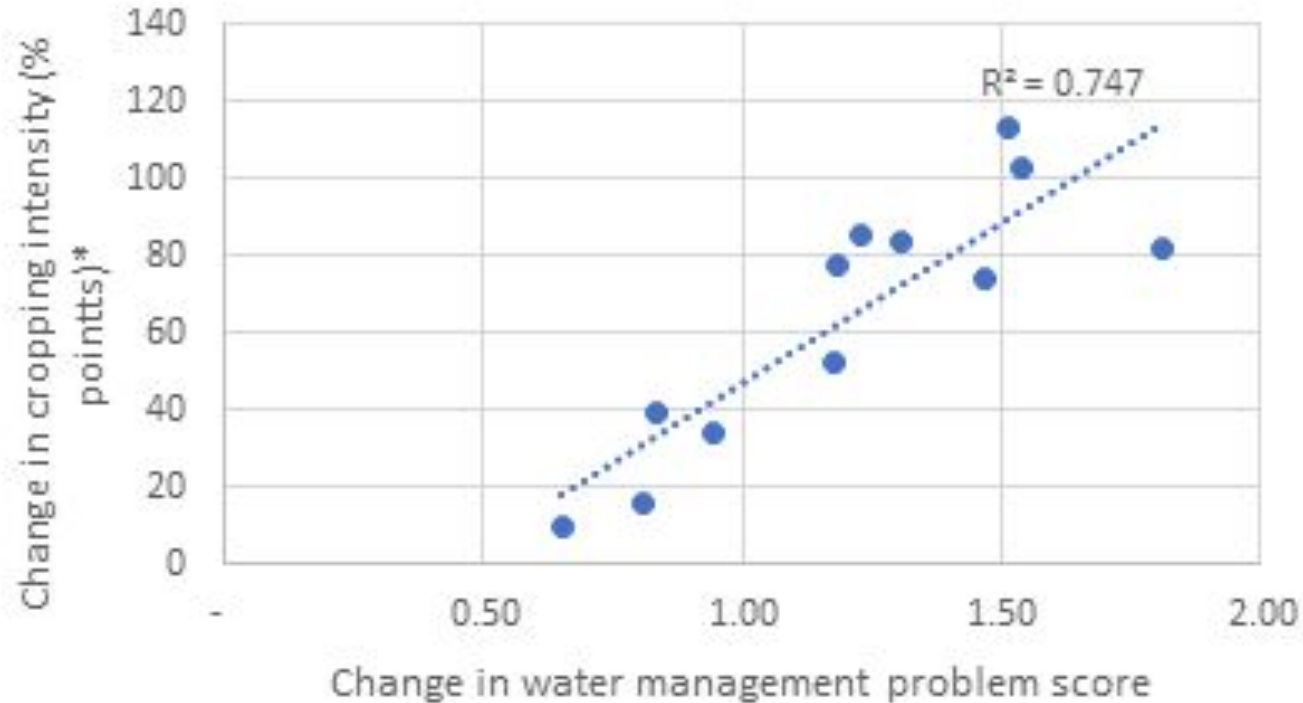
Improved water management and increase in cropping intensity

Zone	Survey *		Earth observation **		Increase in cropping intensity	
	Before BGP	Current situation	Before BGP	Current situation	Survey	Earth observation
Khulna	178	215	144	167	37	23
Patuakhali	181	214	113	205	34	91
Satkhira	141	172	129	142	31	13

* cropping intensity = (crops + gher) / (crops + gher + fallow)

** cropping intensity = (crops) / (crops + gher + fallow)

Improved water management leads to higher cropping intensity



*Earth observation data

Changes in land usage in Khulna

Land usage in Khulna

Before BGP:

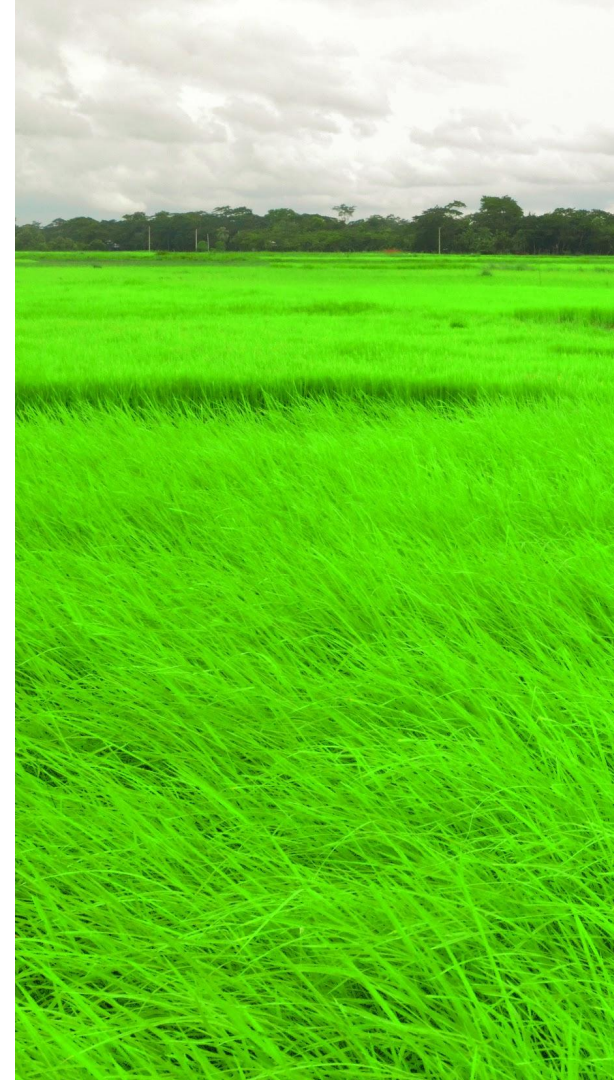
54% in rabi season
27% in Kharif I season
97% in Kharif II season

Land usage in Khulna

Current situation:

72% in rabi season
42% in Kharif I season
100% in Kharif II season

- Small increase of land use for aman paddy
- Significant move from LV to HYV aman (27% HYV to 55% HYV)
- Expansion of land use for modern variety (HYV + hybrid) of boro paddy, from 10% to 36%
- Expansion of high value crops in rabi season
- Moderate increase of gher area in all seasons



Changes in land usage in Patuakhali

Land usage in Patuakhali

Before BGP:

63% in rabi season
25% in Kharif I season
96% in Kharif II season

Land usage in Patuakhali

Current situation:

93% in rabi season
22% in Kharif I season
100% in Kharif II season

- Increase of rabi crops from 63% to 94% of all land
- Expansion of mung bean from one-fifth to two-thirds of total land
- Increase of watermelon farming in some polders
- Switch from LV to HYV: aman and aus

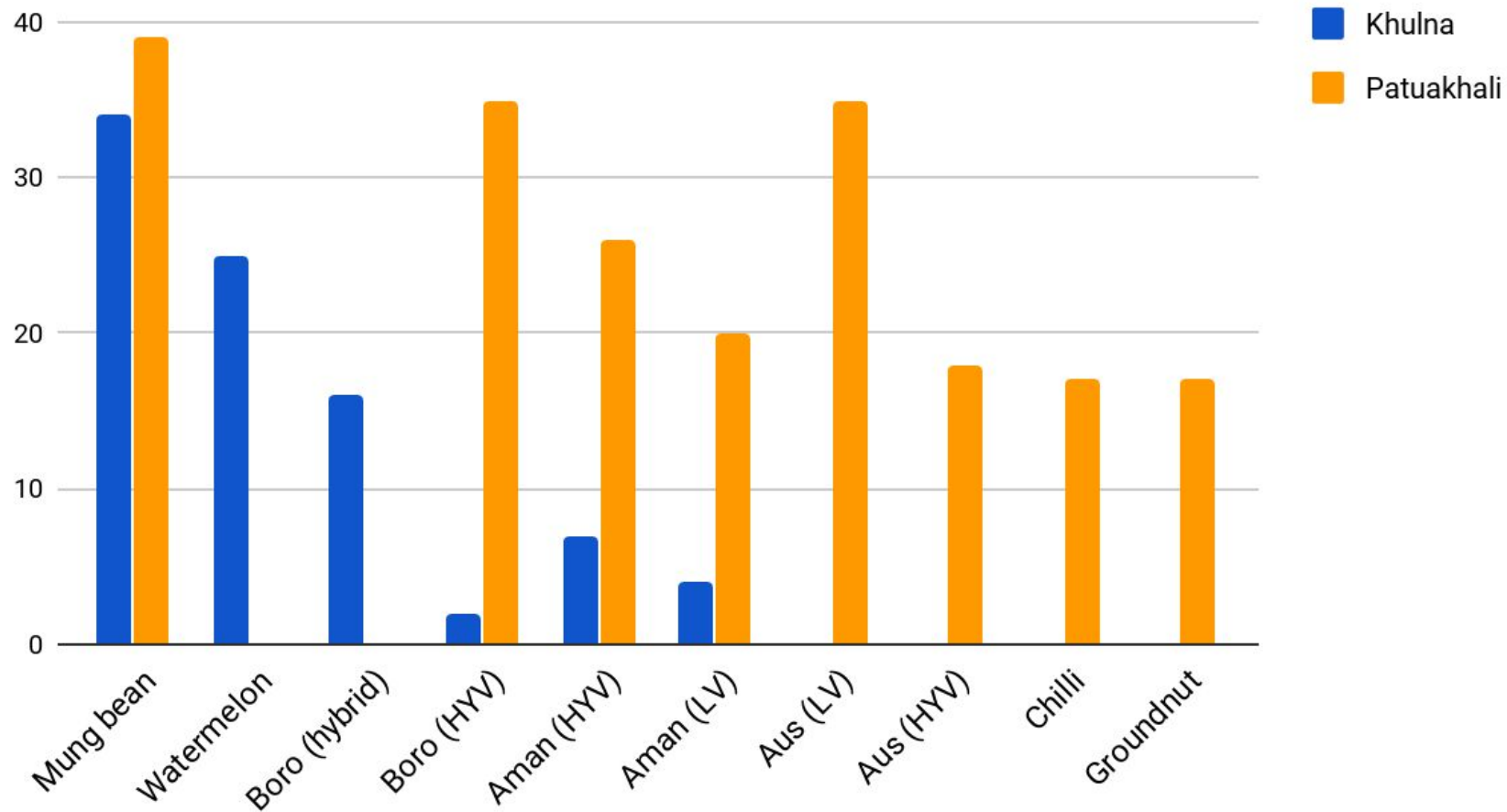


Changes in land usage in Satkhira (Amodkhali catchment)

- Boro paddy occupies virtually all beel land in rabi season
- Most of the land used for gher or kept fallow in kharif seasons
- These lands have been converted to aman paddy fields (11% to 41%)



Increase in crop yield in Khulna and Patuakhali (%)



Most adopted agricultural technologies: Farmer Field Schools (FFS) on crop production



Use of new HYV for paddy and other crops



Improved paddy seedbed management (with lower seed rates)



Transplanting fewer seedlings per hill



Line sowing



1 line off per 8 to 10 lines



Appropriate use of fertilisers and pesticides



Use of leaf colour chart to determine urea usage



Use of some pest control methods like perching

These technologies have been adopted by all FFS farmers and 80% of other farmers.

Some major constraints to crop cultivation

- High cost of labour during peak periods
- Lack of loans at the right time
- High prices of inputs (especially fertiliser)
- Shortage of seed in aman and rabi season
- Input prices being inflated by the dealers
- Pest management problems



A photograph of two farmers working in a vast rice field. In the foreground, a woman wearing a vibrant, multi-colored floral sari is bent over, carefully harvesting rice stalks. In the background, another person is also working in the field. The rice plants are a mix of green and golden-yellow, indicating they are ready for harvest. The sky is filled with soft, white clouds, and the overall scene is bathed in the warm light of late afternoon.

**Increase in
farm income**



Changes in cropping patterns: investment return and profitability of land

Khulna

Switch to HYV aman and cultivating high value crops and boro increased net farm incomes.

The increase in net farm incomes covered any BGP investment.

Patuakhali

Expansion of rabi crops and switch to HYV paddy increased net farm incomes.

The increase in net farm incomes over the BGP period equaled any BGP investment.

Satkhira (Amodkhali catchment)

Usage of fallow lands during aman season increased net farm incomes.

The increase in net farm incomes means that all BGP investment can be covered in over two years.

Improved productivity of land: changes to land tenure



Most land still farmed by owner, but numbers have declined slightly



Reduction in sharecropping for all seasons



Most land now farmed under mortgaging and cash rental



Cash rental and mortgages more profitable for tenants over sharecropping



**Demand for labour:
changes in the role of
women in agriculture**

Agricultural labour market: changing roles of women

The expansion of agricultural activities has resulted in more demand for labour in the sector. Labour crisis is now a serious concern during peak seasons. Changes in the agricultural labour market are:

- Increased demand for on-farm labour
- Increased demand for labour which resulted in increased wage of labour
- Reduced out-migration

Shortage of labour created more employment opportunities for women. Increased income sources for women empower them at the household level.



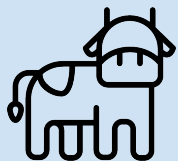
Opportunities created for women by BGP: still a long way to go



More involvement in all types of agricultural work, including wage labour



Work for horticulture, vegetable production, poultry and livestock



Continued household work meant increase in workload for women



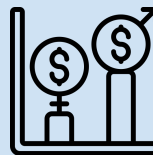
Increased contribution to household income and standard of living



Increased decision-making power, especially in household expenditures



Overall improvement in status for women



Still a long way to go as they are paid less than men and have unequal say in their households

Inclusive development: FFS on homestead-based production

Coastal households have adopted new technologies in homestead-based production.

Homestead vegetable gardening

- Most households practice homestead gardening
- Generally used for household consumption
- Some households sell surplus vegetables

Poultry rearing

- Almost all households rear poultry
- Households earn BDT 5,000 to BDT 7,000 per year from poultry after their own consumption
- Disease is a major constraint to poultry rearing
- Vaccination services are not available in villages

Most adopted technologies

Vegetable gardening:

- Efficient use of different types of homestead land
- Preparation of improved mada (vegetable land)

Poultry:

- Use of hazol for hatching
- Separating chicks from mother hen

Inclusive development: FFS on homestead-based production (cont'd)

Beef fattening

- Many HHs are fattening one/ two cows
- This generates a good income
- Making special food for beef fattening is difficult
- Building healthy housing for livestock is less likely for smallholders

Pond aquaculture

- Many HHs practice pond aquaculture for HH consumption
- Lack of individual ownership of ponds is a serious constraint to commercial initiatives
- Pond aquaculture is less popular in Khulna and Satkhira as ghers practices are preferred in those areas

Most adopted technologies

Beef fattening:

- Good housing for livestock
- Vaccination
- Use of special foods

Pond aquaculture:

- Pond preparation
- Stocking different types of fish in different levels of water
- Taking initiatives to grow natural food within the pond

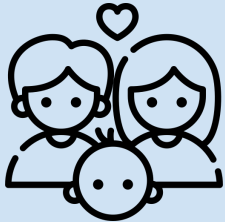
Overall impact of BGP interventions



Increased agricultural and homestead production have reduced food insecurity and fulfilled nutritional needs



High value and other rabi crops provide cash incomes for HHs



Improved agriculture not only increased agricultural production and employment opportunities, but also improved well-being of the entire family

Family well-being: impact of BGP interventions

Rural HHs are now investing their incomes from agriculture towards:

Improved quality of life



quality and
nutrition of food



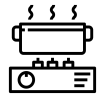
better clothes



entertainment



better houses



more appliances



poultry and livestock



Better futures



children's education



new agricultural
endeavours



land mortgage



savings



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