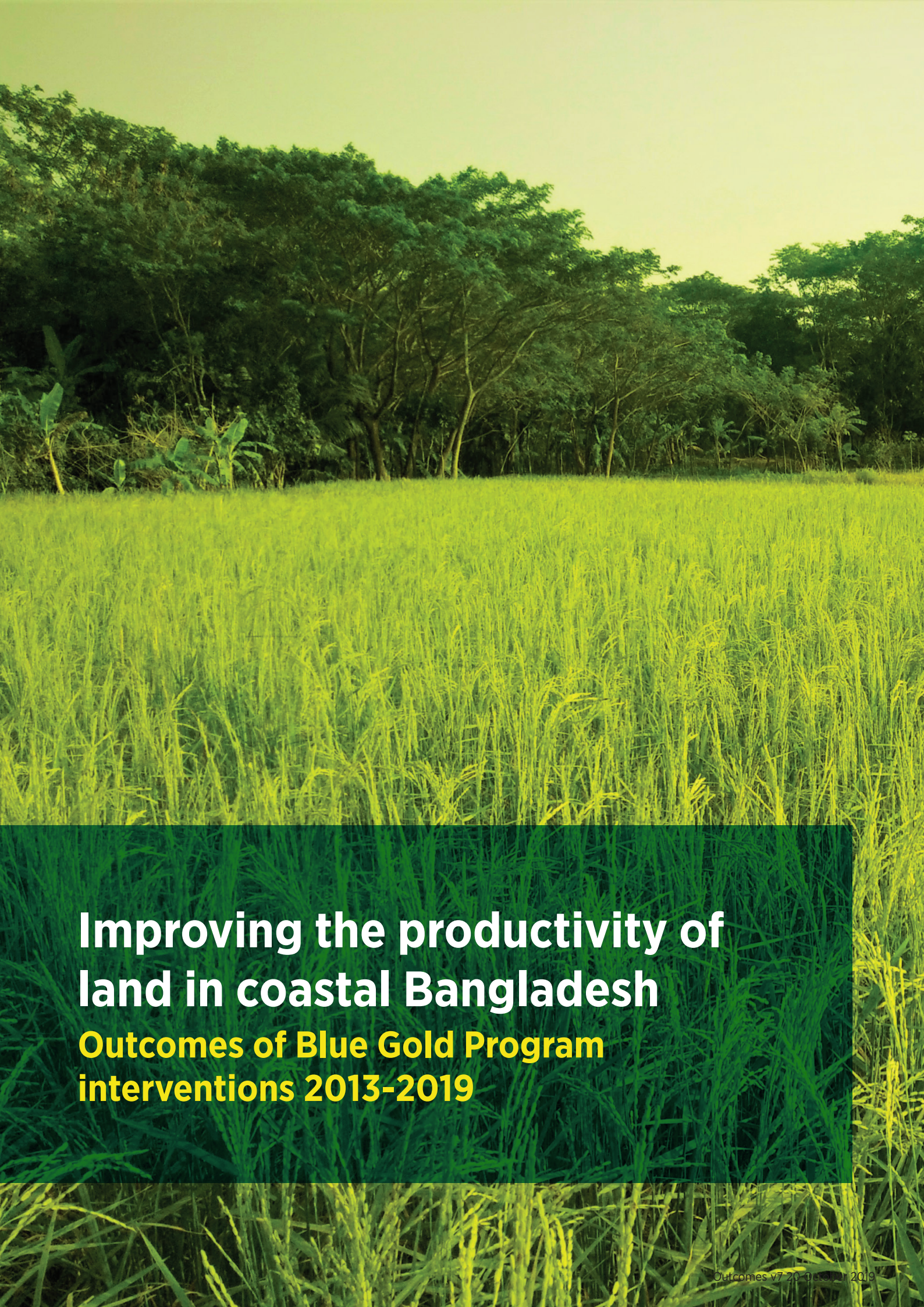


Improving the productivity of land in coastal Bangladesh

Outcomes of Blue Gold Program interventions 2013-2019

WATER MANAGEMENT PROBLEMS BEFORE BGP

- Waterlogging during the aman season
- Scarcity of water for irrigation in rabi season
- Salinity reported in some intervention areas

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

Improved water management: feedback from Water Management Groups (WMGs)

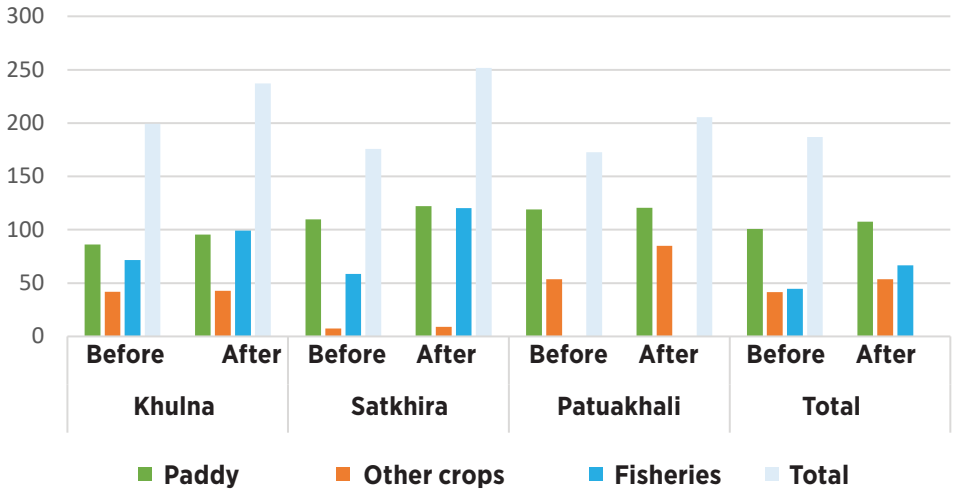
	Percentage of WMGs reporting that water management has improved	Percentage of WMGs reporting bad or very bad conditions	
		Before BGP	Now
Khulna	**71%**	**57%**	**21%**
Satkhira	**87%**	**51%**	**11%**
Patuakhali	**98%**	**63%**	**6%**
TOTAL	**83%**	**59%**	**14%**

* average situation of water management over a span of three seasons

Outcomes of Farmer Field Schools (FFS)

- Widespread adoption of new crop varieties and improved cultivation techniques, even by non-FFS farmers
- Information on new technologies reach farmers through different routes, and farmers might adopt these techniques in spite of the FFS not having covered the topic
- Some technologies (particularly ones related to pest control such as light traps) are reported to be inconvenient, not cost-effective. or appropriate, and have low adoption rates
- Aquaculture technologies have been widely adopted. Lessons from pond fisheries FFS are now being applied to gher fisheries, contributing to the expansion of ghers
- Training has directly contributed to the expansion of mung bean cultivation in Patuakhali

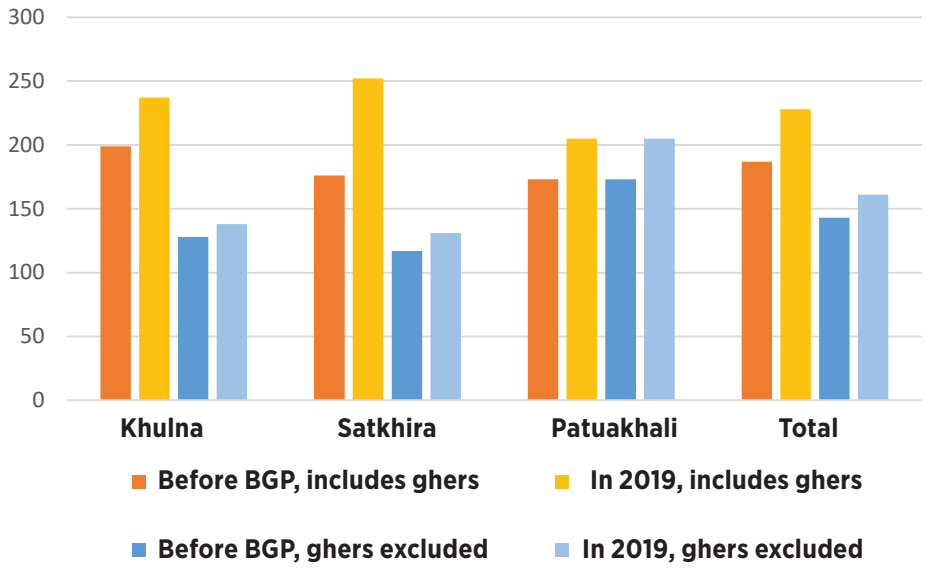
Changes in land usage and cropping patterns



- Significant changes in land use and cropping patterns since the start of interventions
- More land is now utilised. There are less fallow lands now
- Small overall increase in land usage for paddy
- Significant shift from Local Varieties (LV) to High Yield Varieties (HYV) for Aman and Aus, and from HYV to hybrid for Boro seasons
- Increased yield for each type of paddy
- Expansion of High Value Crops (HVCs) such as vegetables and watermelons in Khulna
- Large expansion of mung bean production in Patuakhali. The crop is profitable, and easy to grow and sell

Expansion of aquaculture in Khulna and Satkhira

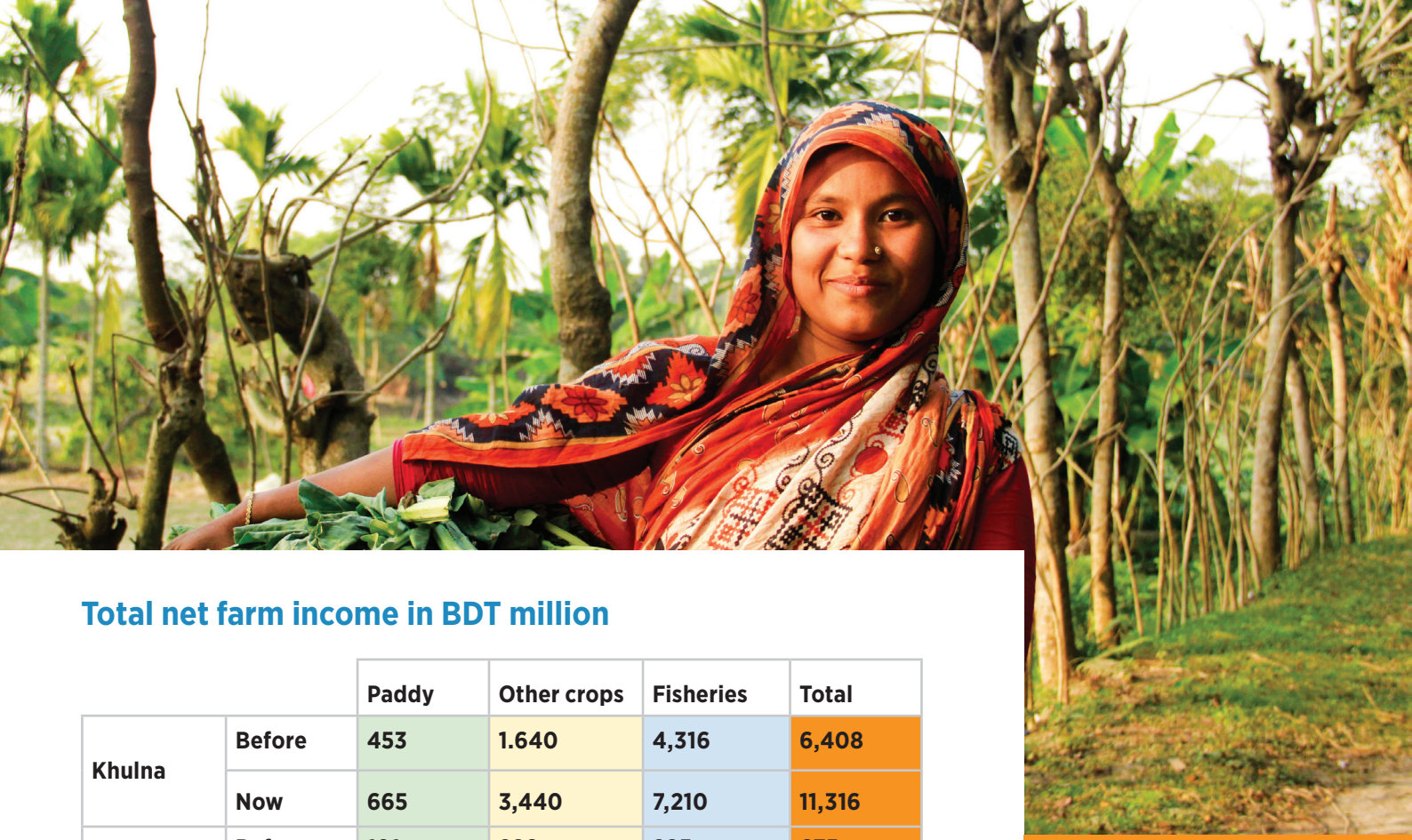
- Significant increase of seasonal fish gher, with an increase of 40% in Khulna, and more than double in Satkhira
- This increment can be attributed to more intensive use of ghers for fisheries, and reductions in land left fallow or used for paddy
- Fish production is more profitable than paddy, less labour intensive, less risky, and likely to continue to expand
- Some ghers use saline water which tend to be large-scale units. This has adverse social and environmental impacts
- There has been a shift away from saline water to fresh water ghers in parts of Khulna. This is, in part, due to improved water management conditions facilitated by BGP
- Fresh water ghers are smaller scale operations controlled by locals. They allow for the production of crops and vegetables, and avoid the adverse environmental and social impact of saline water ghers



Increase in cropping intensity

Changes in farm income: profitability of land and investment return

- Increased cropping area, improved cropping patterns that led to increased yields have contributed to increased farm incomes
- Net farm incomes have almost doubled since the start of BGP
- Increase in incomes have been highest in Patuakhali and lowest in Khulna. Net income has increased in all polders except in polder 28/2 near Khulna city
- The overall annual increase in net farm income can cover total BGP expenditures in two years



Total net farm income in BDT million

		Paddy	Other crops	Fisheries	Total
Khulna	Before	453	1.640	4,316	6,408
	Now	665	3,440	7,210	11,316
Satkhira	Before	101	289	285	675
	Now	247	419	802	1,468
Patuakhali	Before	37	729	-	765
	Now	364	1,666	-	2,030
Total	Before	590	2,657	4,601	7,849
	Now	1,276	5,525	8,012	14,813

Changes in land tenure

- A little less than half of all land is now farmed by the owner
- Reduction in sharecropping in all seasons
- Significant increase in other lease arrangements (mainly annual cash rentals)

Farm employment and the changing role of women (feminisation of agriculture)

- Increase in cropping area has led to a 40% increase in labour. 57% of all labour is hired now
- Male labourers have shifted to non-farming sectors, leading to increased demand for women labourers
- Women are hired for almost all on-farm operations in Khulna and Satkhira
- Women labourers in Patuakhali are still mostly hired for non-rice crop agricultural activities
- Women are still paid less than their male counterparts, but the differential is gradually decreasing
- Increased participation in the workforce has contributed to an overall increase in women's workload. Women are better off in spite of that. Their contribution to increased household incomes have afforded them a greater say in decision-making

Overall impact of BGP interventions

- Increased production of both crops and fisheries have improved food security, and fulfilled nutritional requirements
- HVCs and other rabi crops, along with increased fish production leads to increased cash incomes for households
- Increased employment opportunities, especially for women
- Improved agricultural practices not only led to increased production and employment, but also improved the well-being of the entire family
- Rural households are now investing more on improved quality of life and better futures