



Why GHERS ?

The dynamic shrimp sector in Bangladesh is facing several challenges, particularly low yields and poor quality. Regardless of the high demand for this product, shrimp farming is still characterized as being traditional and having low productivity. The WorldFish Center has identified the gap between demand and supply of shrimp to processing factories as the root cause of many of the problems of shrimp industry. This, coupled with a low quality product causes a reduction in the potential competitiveness of the shrimp industry in Bangladesh.

The Greater Harvest and Economic Returns from Shrimp (GHERS) has been initiated to narrow the demand and supply gap by increasing farm productivity and vertically integrating the value chain to comply with quality requirements. Building upon the experiences of two previous USAID projects namely; Shrimp Seal of Quality (SSOQ) implemented by ATDP II and Shrimp Quality Support Project (SQSP) of WorldFish Center, GHERS is promoting technologies developed through those projects. The broader aim of GHERS initiatives is to help develop the shrimp sector's competitive stance in the global market while contributing to pro-poor economic growth.

Purpose of GHERS?

To increase the productive capacity of existing farms and enhance quality of shrimp delivered to processors with sales, job and investment increases as below:

Year	Sales increase	New jobs	New investment
2009	Approximately US\$ 5.0 million	Over 1,100	Approximately US\$ 0.5 million
2010	Approximately US\$ 5.0 million	Over 4,500	Approximately US\$ 0.5 million
2011	Approximately US\$ 10.0 million	Over 9,000	Approximately US\$ 0.5 million
Total	Approximately US\$ 20.0 million	Over 14,600	Approximately US\$ 1.5 million

General information

Project duration	: September 2008 - December 2011 with possible extension to March 2013
Donor	: USAID
Contractor	: CHEMONICS International Inc.
Implementer	: PRICE and The WorldFish Center
Working area	: Khulna Division



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PRICE

POVERTY REDUCTION BY INCREASING
THE COMPETITIVENESS OF ENTERPRISES



WorldFish
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Who benefits?

The initiatives are pro-poor and cover a wide range of stakeholders in the shrimp value chain. The poor and marginal shrimp farmers are the primary beneficiaries, while the depots, hatcheries and polymerase chain reaction PCR lab owners benefit from the increase in sales. Women receive priority as beneficiaries within the value chain. A gender-sensitive approach to value chain analysis was introduced to maximize equitable returns.



Who benefits	How
Shrimp farmers	Increased yield and sales, technical know-how, employment of family members
Depots	Increased supply of quality raw shrimp from farms to depots and increased sales
Hatcheries and PCR lab	Increased sales of shrimp post larvae (PLs) screened for white spot syndrome virus
Processing plants	Increased supply of quality raw shrimp from depots and increased export
Unemployed poor	New jobs generated in the shrimp value chain

Our targets

- Train 21,172 farmers, organized into 852 farmer groups, to apply improved technologies and synchronized harvesting techniques developed by the WorldFish Center. Farmers' group leaders are being trained as local extension agents
- Achieve farm productivity increases of 20% through the adoption of improved technologies by farmers
- Link 31 entrepreneur depots to farmer groups in order to coordinate group activities, technology adoption, synchronized harvesting and marketing
- Build stakeholder consensus, especially at the senior policy making level

Implementing strategy: What we will do and how

The project is piloting a new scheme to integrate value chain actors and build greater consensus among them. Development of depot owners as "entrepreneurs" is central to the approach. The project directly supports depots with technologies and technical staff to build their capacity in integrating stakeholders, particularly through the transfer of technical knowledge and skills to farmer groups. The flow diagram (Figure 1) explains the new approach, interactions and support provided by GHERS initiatives.

The GHERS initiative extends its support to:

- Link depots with hatcheries to ensure supply of screened quality PLs to farmers
- Organize synchronized intra and inter farmer group harvesting, and bulk supply of shrimp to depots and processors

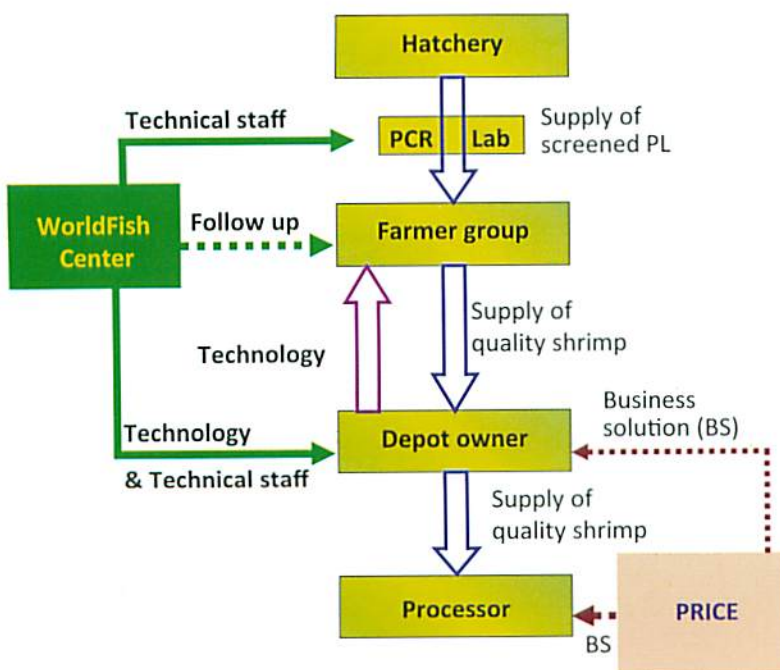


Figure 1: Flow diagram of GHERS implementation approach

ভাইরাসমুক্ত পোনা মজুদ করে পরিবেশবান্ধব পদ্ধতিতে চিংড়ি উৎপাদন করুন

What technologies?

The SQSP project of the WorldFish Center improved the traditional practices through action research during 2006-'07. Based on the level of intensification, input use and productivity, the improved technologies were classified into three, as i) Close System Technology (CST), ii) Modified Traditional Technology (MTT) and iii) Best Management Practices (BMP). Production performance of the above technologies during 2009-2010 is shown in Figure 2.



Traditional system *gher*
(Shrimp pond is locally called "*gher*")



Modified tradition technology *gher*



Closed system technology *gher*

Stocking of screened shrimp PLs is one of the main attributes of improved systems, particularly for intensive CST farms. The field evidence indicated that the majority of CST farmers (83%), who stocked screened PLs and protected entrance of virus, did not experience a disease outbreak, while about half of the traditional farms suffered from disease outbreak. Improved management practices along with stocking of screened PLs resulted in higher yields and a good aquatic environment.

Important characteristics of the improved technologies are outlined in the table below:

Best Management Practices	Modified Traditional Technology	Closed System Technology
<ul style="list-style-type: none"> • Low cost technology slightly improved from traditional practices • PLs are nursed in hapa for 2-3 days before stocking in growout pond • Both screened and non-screened PLs are stocked depending on availability at the time of stocking • Multiple stocking is practiced at 1 PL/m² each time • Shrimp grows on mainly natural feeds • Pond water untreated 	<ul style="list-style-type: none"> • Moderate cost technology modified from the traditional system that yields higher than traditional system • Screened PLs are nursed in a small nursery pond at high density for up to one month and then released into growout pond, which reduces chances of disease outbreak • Nursery pond water is disinfected, but growout pond water is not treated • PLs are stocked 3-4 times at 1 PL/m² each time • Supplementary feed apply regularly in PL nursery, but occasionally in growout ponds • Substrates are used for shelter and growing periphyton 	<ul style="list-style-type: none"> • This is high cost and high yielding semi-intensive technology • Pond dikes are raised to prevent water seepage and entry of virus carrier from outside • Pond water is disinfected with bleaching powder • The system also includes a germ free water reservoir ($\leq 30\%$ of total farm area) adjacent to grow out pond • Only screened PLs are stocked at 10/m² PLs, usually once in a culture season • Intensive pellet feeding is practiced • Aeration is provided as required

Stock virus free shrimp Post-Larvae and grow shrimp adopting environment friendly *gher* systems

Working area of GHERS

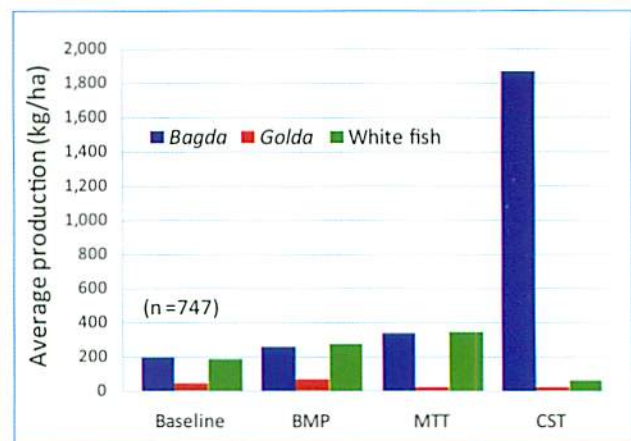
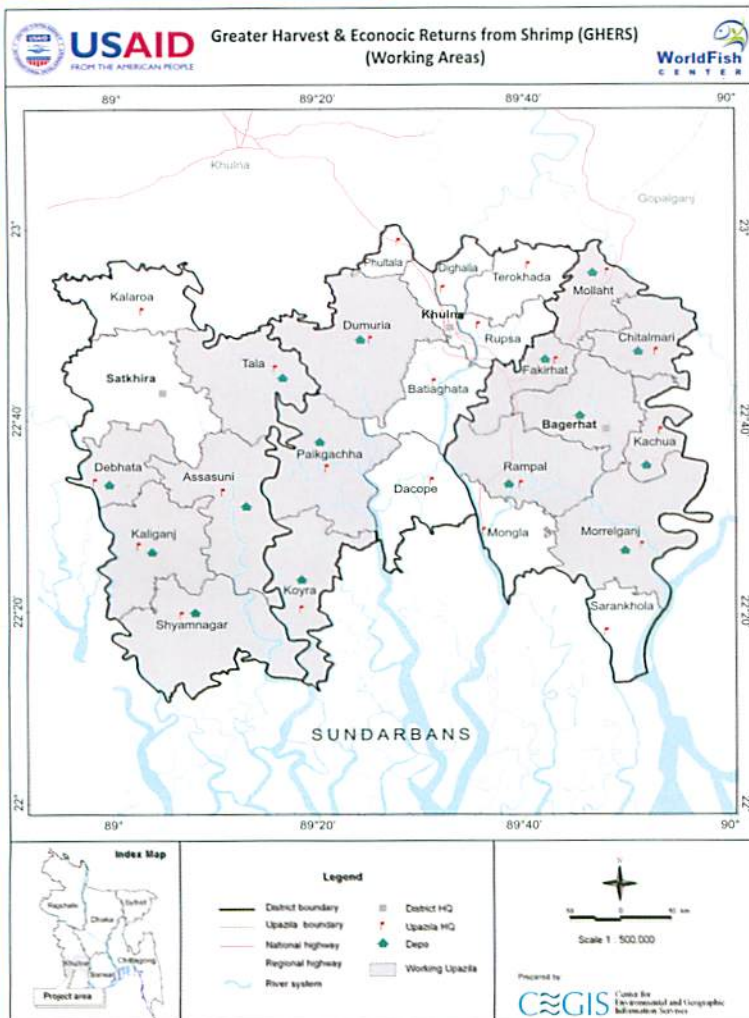


Figure 2: Yield of Bagda, golda and fish from different gher systems

Increase of sales, jobs and investment through GHERS during 2009 – 2010

Sources	Baseline			Achieved		
	Sales (US\$ mn.)	Jobs (No.)	Investment (US\$ mn.)	Sales (US\$ mn.)	Jobs (No.)	Investment (US\$ mn.)
Farms	21.85	16,056	13.82	36.37	21,570	21.37
Depots	39.50	562	0.34	54.35	544	0.30
PCR Lab	0.35	5	0.10	0.52	5	0.05
Total	61.70	16,623	14.27	91.24	22,119	21.72

Partner entrepreneur depots in 2009 – 2010

Bagerhat	Khulna	Satkhira
<ul style="list-style-type: none"> Renaissance Enterprise, Chitolmari M/S Sarker Enterprise, Sadar M/S. Khanjahan Ali Fish (I) Sadar M/S. Khanjahan Ali Fish (II) Sadar M/S. Chalte Shekha Fish Traders, Sadar GMF Mothsya Arat, Fakirhat M/S. Mithun Fish, Mollahat 	<ul style="list-style-type: none"> M/S Ziko Fish, Paikgaccha M/S Janata Fish Traders, Paikgaccha Poly Fish Trading, Paikgaccha M/S New Shibsya Fish, Paikgaccha M/S Habib Fish, Paikgaccha M/S Vhai Vhai Fish, Koyra 	<ul style="list-style-type: none"> M/S Padma Fish, Kaliganj M/S Khanjahan Fish, Kaligonj M/S Vhai Vhai Fish, Debhata M/S Salina Fish, Ashashuni

For more information please contact

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