



AQUACULTURE BUSINESSES

A LOW COST OPTION FOR ECONOMIC GROWTH IN BANGLADESH



WorldFish CENTRE POLICY BRIEF

Aquaculture could be used to create hundreds of thousands of jobs in Bangladesh over the next decade - helping to reduce the widespread poverty that is stifling the country's economic growth.

The country already has the necessary water bodies and labor. Expertise is also available, because market-driven aquaculture has boomed in Bangladesh over the last three decades. Now is the time for decision makers to step in and capitalize on these advantages - to create more jobs, drive up economic growth, and fight poverty.

What exactly can planners and policy makers do to gear up aquaculture-related enterprises? Researchers in Bangladesh have worked with the WorldFish Center to identify four areas where strategic policy action could help to accelerate the growth of aquaculture (Box 1).

Box 1. Policy actions needed:

- 1 Expand aquaculture - by leasing government-owned and managed water bodies.
- 2 Integrate aquaculture into rural development plans - by providing credit and leasing options to encourage the rural poor to farm fish.
- 3 Raise yields, quality and returns - by improving extension services, input quality, and downstream storage and processing.
- 4 Protect the natural resource base - to ensure fish-farming benefits are sustainable.

WHY

IS THE TIME RIGHT FOR PROMOTING AQUACULTURE BUSINESSES?

Past successes in Bangladesh's fishery sector — which is now one of the fastest growing in the economy — show that aquaculture is well worth investing in (Box 2). On the demand side, the outlook is bright: domestic demand is growing for high-value foods such as fish, while trade liberalization has opened up lucrative international markets. For example, the brackish-water shrimp *galda* was the country's second-largest export earner, generating US\$360 million in 2003-2004.

Countless enterprising individuals have already seized the opportunities offered by aquaculture, and set up small and medium-sized fish farms in coastal and inland areas. This has created important knock-on benefits to the economy, in the form of businesses which sprang up to satisfy the demand for fish seed and feed, and processing, marketing and distribution services.

In addition, there is great potential to expand the aquaculture sector. Rural Bangladesh has extensive natural and man-made water bodies, so areas suitable for fish farming — the major type of capital needed — are readily available. What is more, nearly three-quarters of rural households already raise fish to feed their families, and sell any surplus. The rural poor thus provide a huge pool of labor familiar with fish farming.

However, aquaculture in Bangladesh is leagues behind other fish-producing nations — in yields per area, product quality, food hygiene standards and marketing chains. Investment is urgently needed if the Bangladesh fish sector is to compete successfully on the global fish market.

Box 2. Bangladesh's thriving fishery sector (2003-2004)

- 5% of gross domestic product
- 28% of the value added in agricultural production
- US\$3390 million in export revenues
- 1.3 million people directly employed in fish farming, around 0.6 million employed in related industries



harvesting fish from a polyculture pond

POLICY ACTION NEEDED

ACCELERATING THE GROWTH OF AQUACULTURE WILL **ENCOURAGE PRIVATE-SECTOR INVESTMENT, CREATE RURAL EMPLOYMENT AND HAVE MULTIPLIER EFFECTS** WHICH, IN TURN, WILL **INVIGORATE THE ECONOMY**. TO STIMULATE AQUACULTURE BUSINESSES, BANGLADESH NEEDS TO TAKE ACTION IN **FOUR STRATEGIC AREAS** >>>

EXPAND AQUACULTURE 1

Bangladesh could expand its area under aquaculture by 1 to 4 million hectares. To give an idea of what this could mean, bringing just an extra 1 million hectares into production will:

- Raise gross returns by US\$2 billion;
- Contribute an additional 7% to gross domestic product;
- Generate 1.5 million full-time-equivalent jobs, mostly for the rural poor; and
- Create spin-off upstream and downstream enterprises and jobs.

Although two-thirds of privately owned ponds and ditches are already used for aquaculture – and the remaining third is derelict because of ownership disputes – the government owns and controls vast bodies of water, such as reservoirs, irrigation canals, flood plains and rivers (Table 1). These could be leased out to cooperatives, individuals or private companies (Box 3) to fast-track the fish sector's expansion.

Table 1. Area of water bodies, area cultured and areas that could be used to expand aquaculture in Bangladesh

Water Body	Area (ha)	Cultured (ha)	Potential (ha)
Floodplains, paddies	2 832 792	?	700 000
Rivers, canals	1 031 583	?	100 000
Ponds and ditches	305 025	198 179	106 846
Boors (oxbow lakes)	5 488	5 488	-
Shrimp ghers (estates)	203 071	100 000	-
Total (minimum)	4 174 858	406 738	1 006 846

Source: Dynamic Agricultural Land Use: Architecture for Poverty Reduction and Economic Growth in Bangladesh by M. Korten, M. Ahmed, R. K. Fauschler, M. A. Tassin and H. A. Rahman, 2006, WorldFish Discussion Series No. 1, 44 p.

THE WHOLE CHAIN OF FISH PRODUCTION CREATES JOBS

Such leasing options would maximize returns on investment and make sure that the financial benefits of aquaculture are fairly distributed. The key issues here would be to balance private-sector efficiency with public-sector regulation, while providing all investors with secure ownership or leasehold rights over land and water.

Box 3. Leasing options to encourage fish-farming businesses.

Leasing to village cooperatives

Leasing government-owned or controlled water bodies to cooperatives or village organizations could create incomes for many poor rural people. But extension efforts and micro-credit schemes would be needed because villagers may not have the necessary finances or technical and managerial skills.

Leasing to entrepreneurs

Entrepreneurs would probably run their aquaculture enterprises more efficiently than cooperatives, hire more workers and pay higher wages. So, this option might prove a more effective use of resources. Entrepreneurs are also more likely to introduce new technology, bring in management expertise and find the best markets.

Combination of leasing to entrepreneurs and village cooperatives

A more equitable option may be to lease a certain proportion of water bodies to cooperatives, providing them with technical support and access to credit, and the rest to individuals or private enterprise.

INTEGRATE AQUACULTURE INTO RURAL DEVELOPMENT PLANS 2

Without help, the very poor won't be able to profit from the opportunities offered by aquaculture – as even modest aquaculture ventures require some capital. Integrating aquaculture into rural development plans geared towards supporting small agribusinesses offers one way forward. This will allow poor people with little education and few physical assets to access help such as credit schemes and training.

To guarantee that small and medium-sized businesses thrive, policymakers need to ensure that they get the technologies and the quality inputs they need. They also need to promote links between small producers, producer organizations and market chains. Much of this could be achieved through public-private partnerships (Box 4).

Box 4. Encouraging the growth of aquaculture: what rural development plans need to provide

Needs	Who would be involved?
Access to finance through micro-credit schemes and flexible land leases that will provide collateral for bank loans	Civil-society organizations; banks
Access to quality inputs and services such as good quality brood stock, fish feed, cold stores, and marketing channels	Public-sector R&D, small businesses, trading companies
Access to extension services that provide training courses, demonstrations, and on-farm research	Public-sector R&D, extension services, universities, civil-society organizations, private-sector suppliers and service providers

The whole chain of fish production creates jobs, starting with fish hatcheries and feed mills, and continuing through fish farms to transportation, storage, processing, marketing and export. Growth in aquaculture would therefore greatly boost rural development by providing many of the poor with paid employment. This would allow them to accumulate assets and climb out of the cycle of poverty that has trapped many families for generations.



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