

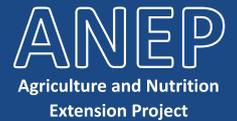


# FACTSHEET

## Aquaculture technology exchange between Bangladesh and Nepal in the Agriculture and Nutrition Extension Project



This project is funded by the European Union

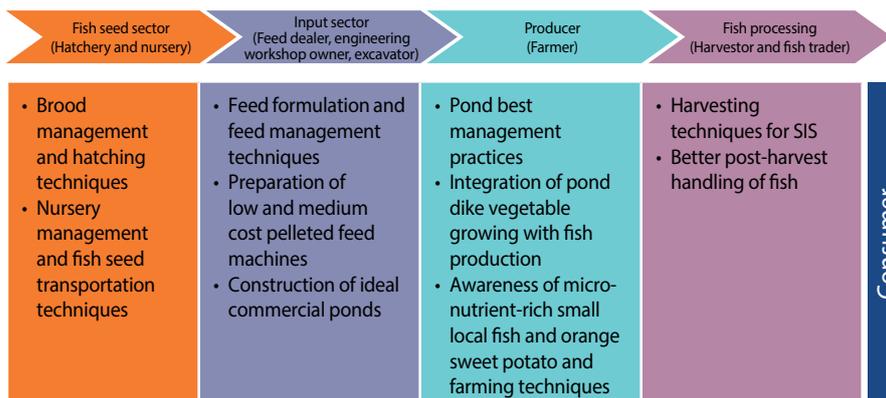


### Background

Technology and knowledge transfer has been a great challenge for many developing countries in South Asia due to poor information and communications technology networks. A limited number of institutions focused on science and technology, weak linkages among private and public institutions and political instability. These factors have hampered the successful transfer and diffusion of new and proven technologies between countries.

WorldFish, through the Agriculture and Nutrition Extension Project (ANEP), supported the transfer of new technologies and information between Bangladesh and Nepal in order to facilitate aquaculture development. A number of activities were conducted in order to facilitate this process. These included: meetings with fish farmers to identify problems affecting producers; stakeholder meetings and value chain analysis to identify problems within the sector; events, including expert visits, technical staff training, expert consultation using information technology, hands-on training and exchange visits for farmers and private sector entrepreneurs; and meetings to disseminate information on new technology among fish farming stakeholders.

ANEP used the participatory market chain approach (PMCA) to identify sector-specific problems and technological solutions capable of transforming upstream and downstream segments of the chain. The program brought innovative technologies and practices from Bangladesh to Nepal and scaled them up by creating linkages with nongovernmental, governmental, private sector and research organizations. The purpose of these efforts was to ensure that increased production of nutritious food, specifically fish and vegetables, would benefit poor consumers.



Solution driven focus on the selected aquaculture value chains in Nepal



### Key Facts

**Project Name:** Agriculture and Nutrition Extension Project

**Donors:** European Union (EU)

**Partners:**

- International Development Enterprises (IDE)
- Save the Children
- International Maize and Wheat Improvement Center (CIMMYT)
- International Rice Research Institute (IRRI)
- Center for Environmental and Agricultural Policy Research, Extension and Development (CEAPRED)
- Community Development Center (CODEC)
- Backwardness Eradication Society (BES)

**Duration:** 3 years (2011–2014)

**Locations:**

- Nawalparasi, Rupandehi, Rukum and Surkhet districts, Nepal
- Barisal Sadar, Mehendiganj and Hizla upazilas (sub-districts) of Barisal district, Bangladesh

**Direct beneficiaries (aquaculture):** 1909 households in Bangladesh, 603 households in Nepal

## Interventions

Six exchange visits were organized by ANEP in Bangladesh with 35 participants from Nepal, including hatchery owners, nursery operators, feed dealers, engineering workshop owners, mechanical excavator owners, farmers and extension staff. Twelve Bangladeshi aquaculture experts including hatchery, feed management, small indigenous species culture and nursery specialist also visited Nepal to provide hands-on training to market actors, extension staff and farmers. Advanced farmers and market actors were linked to experts from Bangladesh using information and communications technology. Extension agency staff and national experts from Nepal were also involved in the technology exchange process.

## Outcomes

Private sector capacity building efforts through training by local and Bangladeshi experts and exchange visits to Bangladesh resulted in a total of US\$ 164,242 in capital investments from the private sector. The entrepreneurs collected the amount from different sources including own savings–48%, bank loans–49%, government support–2% and the remaining 1% from ANEP.

- Two Nepali hatchery owners participated in an exchange visit to Bangladesh. Immediately after the visit, these hatchery owners made capital investments totaling US\$ 57,263 to upgrade their facilities. Improvements were made in areas such as hatching jars, cistern tanks, feed storeroom and aeration tower. These hatcheries also purchased new, high quality brood fish, following brood management protocol developed by WorldFish. Improved equipment and management practices resulted in the production capacity of these hatcheries increasing from 300 kg spawn before the ANEP intervention to 800 kg spawn afterwards.
- Five nursery owners received training in Bangladesh in good nursery management practices, with a focus on large fingerling culture techniques. Along with four new nursery operators who received training from Bangladeshi experts during a visit to Nepal, they invested a total of US\$ 20,737 to expand their nurseries. As a result, total fingerling production capacity in the project area increased from 0.3 million to 1.2 million pieces.
- Training on feed formulation techniques was organized by the project in Bangladesh. Extension staff, workshop owners and feed dealers from Nepal participated in the training. Immediately after their return to Nepal, the feed dealers invested US\$ 4,453 in installing electric operated feed machines.
- One engineering workshop owner from Nepal received training in preparation of low-cost feed machines and post-harvest handling equipment with the objective of making these technologies available in Nepal. In 2014, a total of 11 manual feed machines, 3 electric feed machines, 6 iceboxes and 7 integrated floating cages were prepared and distributed to feed entrepreneurs, fish traders and farmers, respectively.
- One excavator operator who was involved in pond construction in Nepal visited Bangladesh to learn about commercial pond preparation methods. He invested US\$ 41,579 to purchase a new excavator machine for pond construction.
- During visits to Bangladesh, Nepali farmers received training about micronutrient-rich small indigenous fish species (SIS) and orange sweet potato (OSP) farming. They also saw how the farmers in Bangladesh integrate dike cropping with aquaculture. The SIS and OSP, neither of which were grown in the project area prior to ANEP intervention, were adopted by 300 and 493 Nepali households, respectively in 2014. Among ANEP beneficiaries, four have begun aquaculture on a commercial scale in 2014, with a total investment of US\$ 40,211.

### Key Outcomes

# US\$ 164,242

Capital investment from the private sector

# 60%

Percentage of project farmers in 2014 who stocked large size fingerlings in their pond

# 50% and 82%

Percentage of project farmers introduced to micronutrient-rich small indigenous fish species and orange sweet potato in the pond production system in 2014