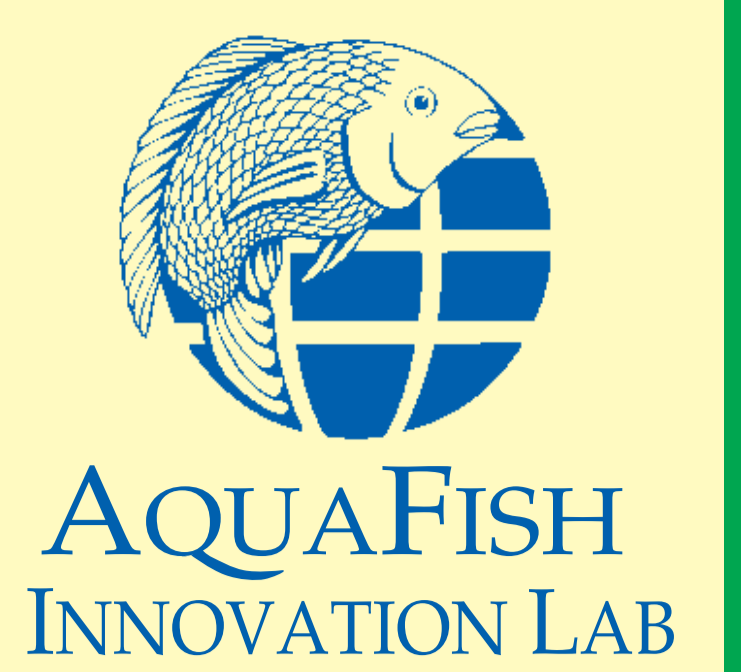




WOMEN-LED RIVER BANK AQUACULTURE FOR LIVELIHOODS OF RURAL POOR COMMUNITY IN FOOT HILLS OF NEPAL



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Background:

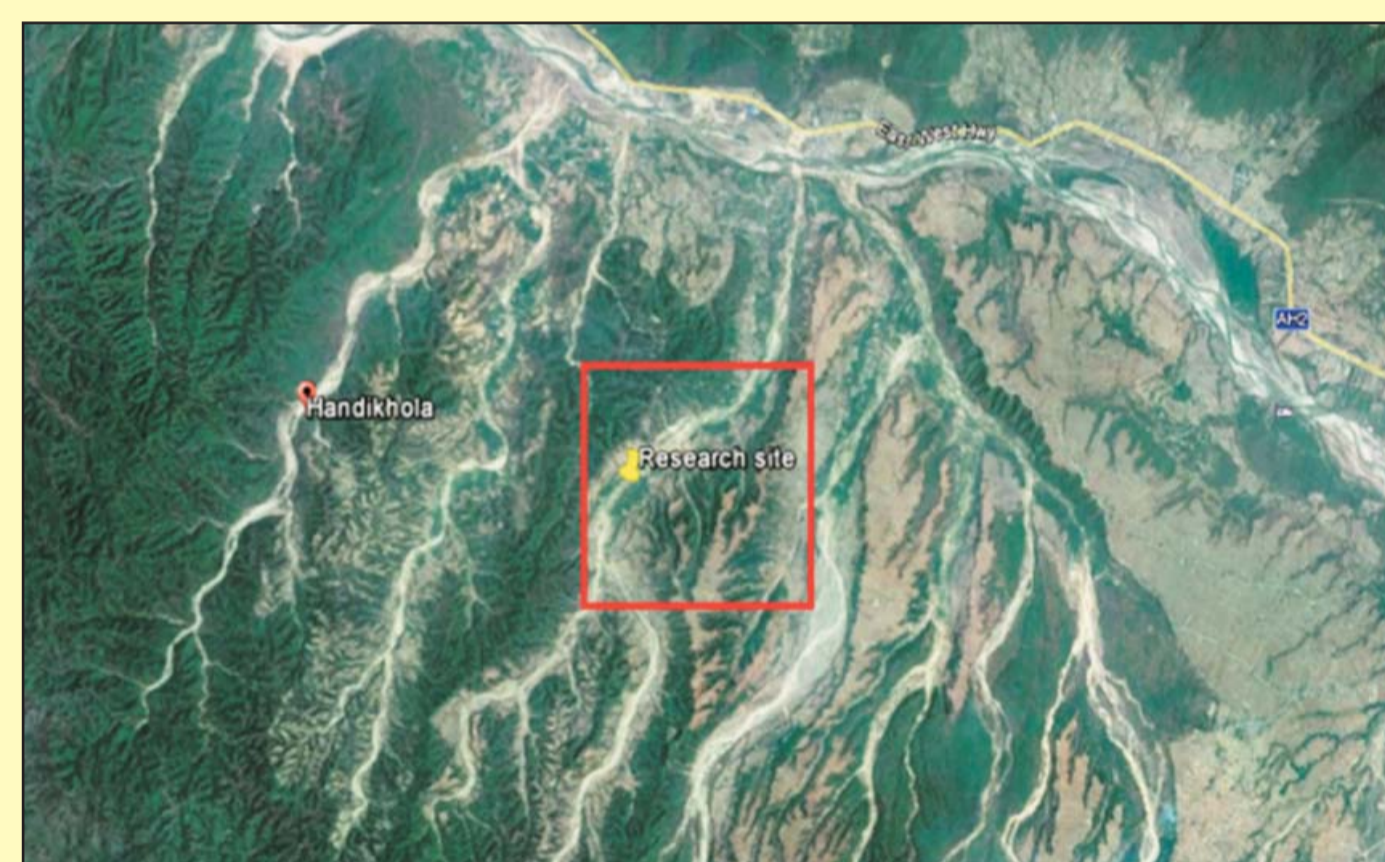
Increasing food and nutrition security, cash income for household family expenses and full utilization of family labor are the major issues of the rural poor. Communities residing in the foothills with minimum available agriculture land, using forest land for livestock grazing and no accessibility of road and transport further compounds the food security issues and livelihoods. Small-scale pond aquaculture for such rural poor communities is one of the options for improving household family nutrition with supplemental income. The role of small-scale aquaculture in household food and nutrition security, income generation and empowerment of women and marginalized communities has been increasingly appreciated in recent years (Shrestha et al., 2012) However, availability of suitable land for pond construction is a major limitation in most of the cases. Gravel bed flood plains with frequently changing river courses by monsoon floods are the available resources in most of the foothills of Nepal.

Objective:

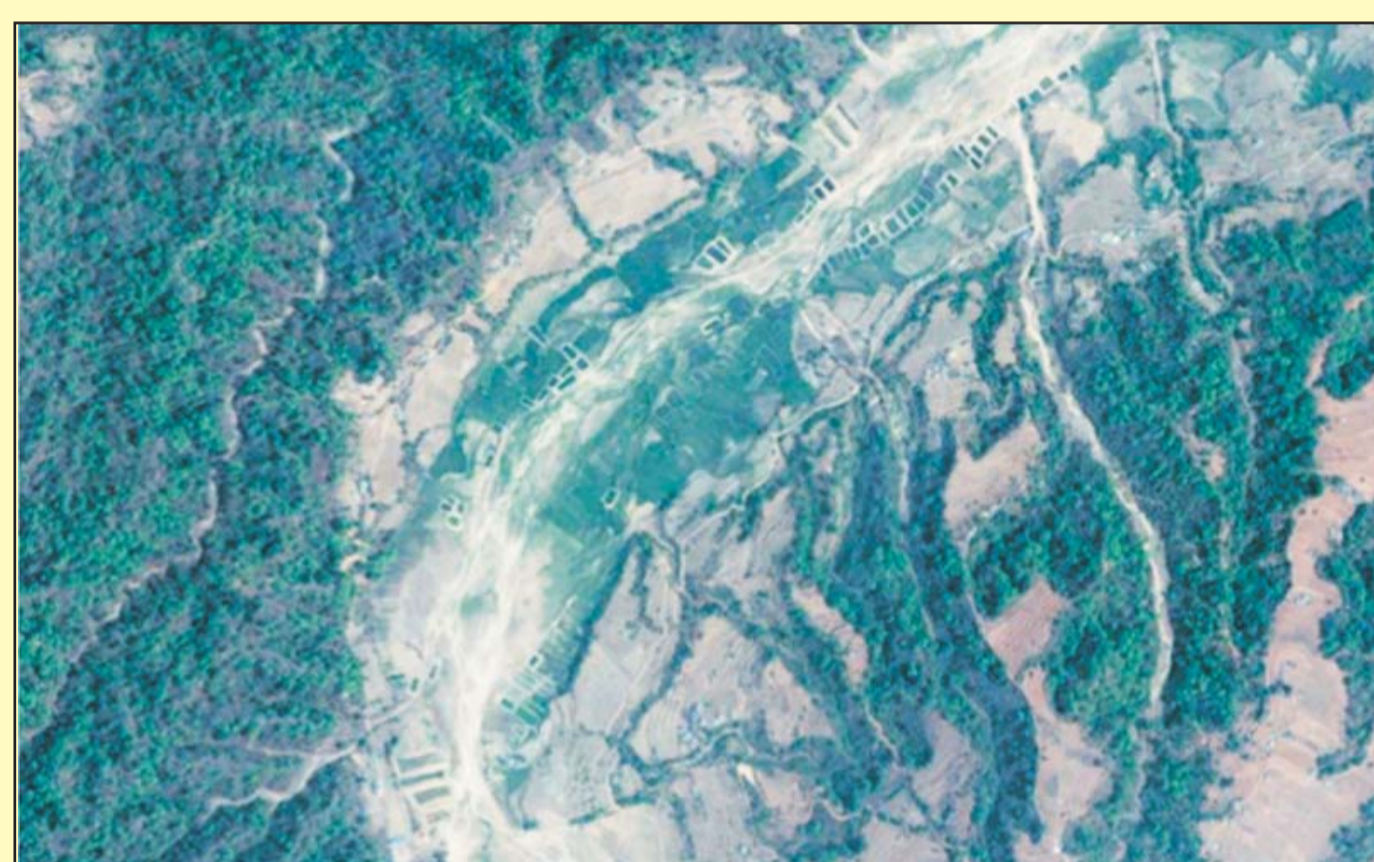
The overall objective of the project is to demonstrate how floodplain gravel bed riverbanks can be utilized for pond aquaculture by household women to improve livelihoods of poor and marginalized ethnic community of the foothills.

Project Location:

Project Location was Bhundrung and Thado khola flood plain river bed of Jhulyan village of Hadikhola VDC of Makawanpur district of Nepal. Ninety nine percent of the inhabitants of this area belong to Tamang communities - an ethnic community. Agriculture and livestock farming are the major occupation for livelihoods and income (INSAN, 2016). It supports for 6-10 months for household consumption. The rest of 2-6 months period people this location works as non-skill labor outside of village for livelihoods (INSAN, 2016).



Satellite map of foothills of Nepal



Project location with river beds

Project activities:

Activities carried out from March 2015 to February 2016 were – inception workshop with village households, woman aquaculture group formation, and group tied up with existing cooperative, exposure visit to women participants to a established women aquaculture cooperative of Chitwan district, pond construction using excavator machine, monthly hands on technical training to



Inception meeting



Exposure visit

participants in the field for 8 months, supply of fingerlings, supply of equipments like fishing net, weighing balance, water pump, fish baskets, vegetable seed supply for pond dike farming, establishment of weekly market for product sale, and, establishment of live fish sale market in city in Hetauda.

Fish species used for culture were: grass carp, common carp and Nile tilapia. Local river species were allowed to enter and grow in ponds, and asked to harvest regularly for family consumption. Pond dikes were used for vegetable farming and grass cultivation. Some households made pig stay in dike and raised pigs. The program was launched for one year and culture period for fish were for about 6 months.



Pond construction



On site training

Outcomes:

Various tangible and non tangible changes like societal and awareness in households women has been observed as an output of the program. Total income estimated from the aquaculture and pond dike farming from the communities is about NRs 1,350,000 (US\$ 13500). Outcome of the one year program has been summarized in Table 1 and 2.

Table 1. Physical and societal assets developed by the of the program.

S.N.	Particulars	Outcome
1.	Total pond constructed (no.)	90
2.	Total households involved (no.)	53
3.	Mean and range of pond size (m ²)	170 (100-500)
4.	Women aquaculture groups registered in District Agriculture Office (no.)	2
5.	Women group started monthly saving program (current saving) NRs	63,600
6.	Established weekly market (Haat Bazaar) for or weekly sale of products (no.)	1
7.	Fish and vegetable market outlet established at Hetauda, in coordination with DADO, Makwanpur and Churiya Cooperative, Handikhola-7.	1
8.	Farmers started integrated farming activities at pond dike	Grass, vegetables, pulses, banana, pig
9.	Farmers encouraged increasing area for constructing new ponds with subsidy supported by District Agriculture Development Office in the coming year.	About 7 ha

Table 2. Items and volume of production pond and pond dike farming during 7 months of period.

S.N.	Production item	Production (kg)
1.	Fish production	2755
2.	Local fish production	1590
3.	Pulses	600
4.	Vegetables	173
5.	Banana	150
6.	Pig	380



Pig shed in pond dike



Pulses in pond dike



Fish harvesting



Fish for sale

Conclusion:

Project benefited poor ethnic communities, empowered women, supported family nutrition, enhanced family income, increased food security, and developed saving behavior of women by proper use of available natural resource.

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