

Ethnic Women in Aquaculture in Nepal: A Model for Participatory Research and Development



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The project:

- Joint pilot project between AARM & IAAS
- A 4-year project started in 2000
- Funded by WDP-German Committee – An NGO
- Basically participatory research and development project
- Project site: Central Terai of Nepal
 - Chitwan (Phase I)
 - Chitwan and Nawalparasi (Phase II&III)

Main objectives

- Food security - protein supply
- Income generation
- Employment/family labour utilization
- Women's training & participation – especially ethnic women
- Tilapia introduction
- Develop a model to promote “small-scale aquaculture (S-SA)”

Target: Ethnic Tharu Women

- Largest ethnic group (4%)
- Native of Terai (thick forest in past)
- Mosquitoes prevalent – Tharu are thought to be resistant to Malaria
- As mosquitoes were eradicated, people from the hills migrated and started to dominate Tharus (landlords are becoming landless?)
- Fishing in streams, rivers & rice fields by tradition
- Fish or aquatic animals are considered precious and offered to the guests



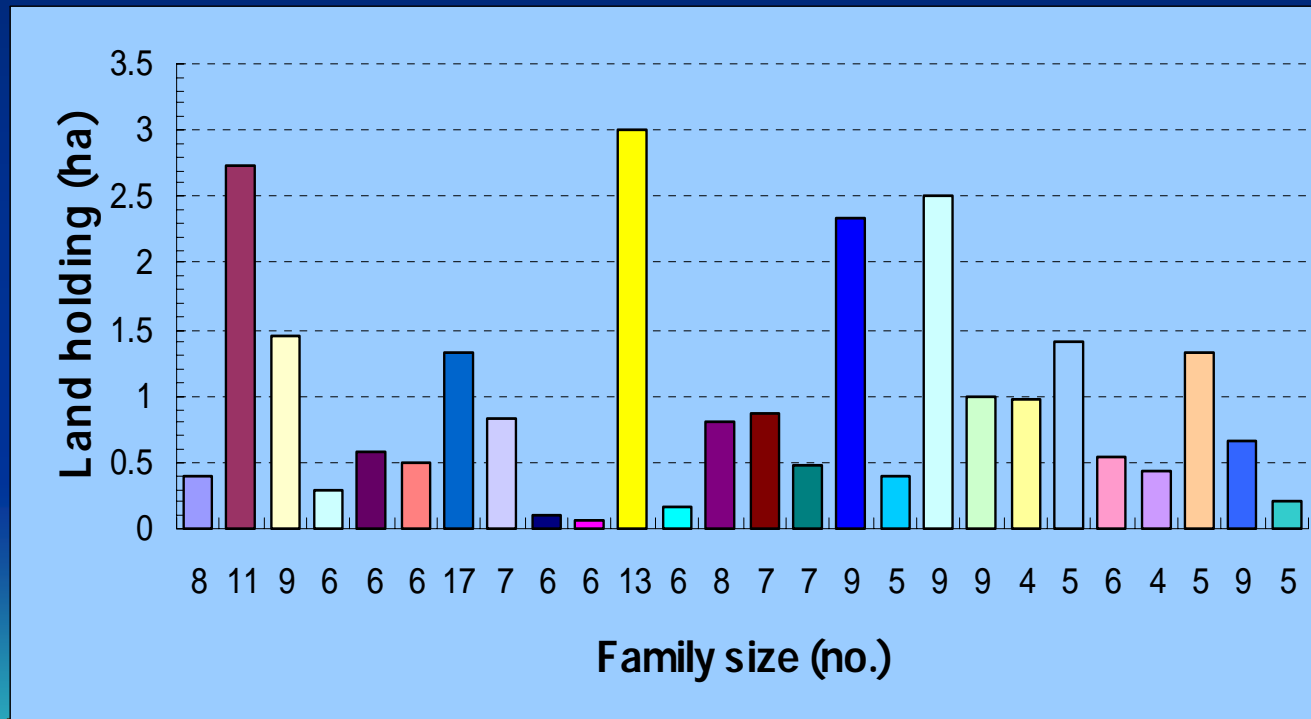
Project farmers:



Selected families

In brief:

- About half of them have <0.5 ha land
- Only 4 farmers have land >1.5 ha (national avg 2 ha)
- Family size ranges from 4 – 17 (with average of 7)



Project activities

Phase I (2000-2002)

- Established a women's fish farming group (26 families)
- Pond construction – using family labour
- Financial support – 50% of the pond construction cost and fish seed
- Full technical support – IAAS staff and two M. Sc. students at IAAS (scholarship)
- 4 old farmers assisted for fry (seed) production and supply to the project farmers
- Provided with a notebook (log-book) to keep records of all the inputs & outputs
- Fish species: 60% chose Tilapia, 40% Carps

Activities

Phase I (2000-2002)

- Two trainings for women followed by field visits
- Feeding – fertilizers and on-farm supplementary feeds
- Grow-out: 8 months
- They were allowed to harvest fish whenever they wanted but were asked to keep all the records of consumption/sale





A girl taking care of her fish in her green pond surrounded by rice field

Results & Discussion (Phase I)



Participation of women: harvesting fish



Results & discussion:

Number of families: 26 farmers (target 20)

Pond size (mean):

Carp growers = 234 m²

Tilapia = 131 m²

Weighted mean = 175 m²

Recommendation = 200 m²

Results & discussion:

	Production (kg/family)		Productivity
	8 months	Per Year	(t/ha/yr)
Target	-	100	-
Carps	66	99	4.2
Tilapia	42	63	4.8
Avg.	52	78	4.5

Results & discussion:

	Consumption of fish (kg/family)	Target (expectation)
Carps	25 (38%)	20 kg (20%)
Tilapia	17 (40%)	
Mean	21 (40.4%)	

- Average size of family in this ethnic group = 7
- Avg. consumption per person = $21 \div 7 = 3$ kg (national avg 1.6 kg)
- Per capita consumption has doubled!

Results & discussion:

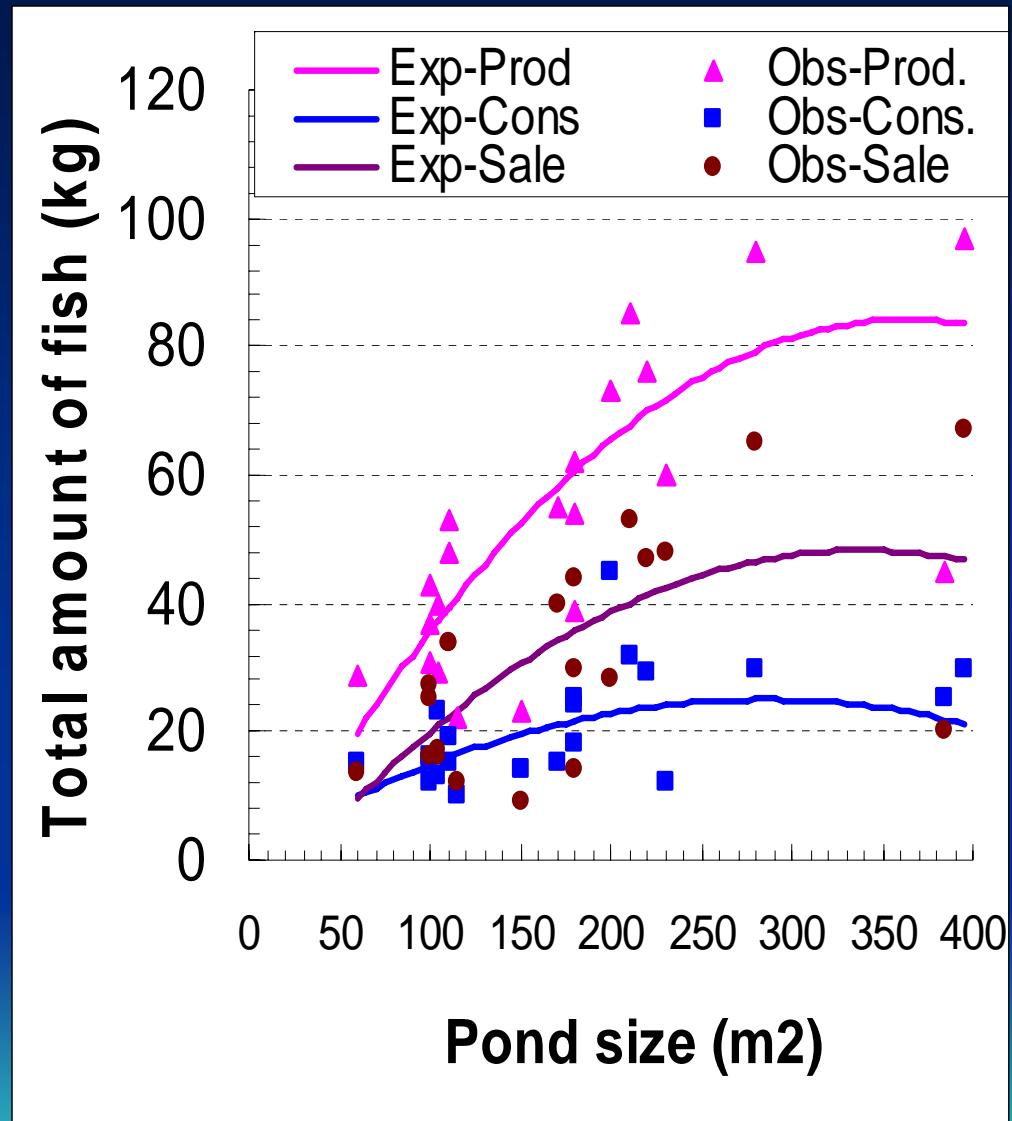
	Income from sale (US\$)	Total value of fish produced (US\$)	Contribution to bench mark income
Carps	47	75	20%
Tilapia	22	37	10%
Average	33	55	15%
Target		100 US\$	27%

Notes:

- UN - poverty bench mark = 1US\$/person/day = 365 US\$/yr
- Considering the income was from the women member of the family

Results & discussion:

Relationship between the size of the ponds and fish yield, consumption and sale



Project impacts/implications

1. **Has brought happiness – it is more important than economic benefits!**
e.g. a happy farmer – with his small pond



2. **Good societal impact(?)**

e.g. husband and wife work together:



Project impacts/implications

4. Increased women's participation

e.g. monthly meeting



5. Increased fish consumption – 3 kg per capita

6. Supplemental income – 33 US\$/family => mostly child education

Impacts:

3. More farmers (neighbours/relatives) joined the group or started doing by themselves

e.g. 13 farmers were counted immediately at the end of Phase I



Neighbor of a project farmer is constructing a new pond without any support of the project.

Impacts:



Women neighbours constructing a pond together with husband without the help of our project

Expansion: Phase II



1. Area: from one to two districts:
Chitwan (1 & 2) and Nawal Parasi
2. Culture system: Fish + vegetable
3. Other ethnic groups i.e. Tharu + Darai,
Gurung, Pun etc.,

Phase II: fish + vegetable



Women gathering to discuss about the project

Phase III:

- Proposal for 2-year (2005-2006) project was launched funded by CIDA or CCO for the continuation
- Fish + Freshwater prawn (post-larvae were introduced from Thailand)



Freshwater prawn
introduced from
Thailand



Women's gathering
place

So far.....

Projects sites	Women farmers	
	Target	Actual
Phase I: Chitwan	20	26+2
Phase II: Chitwan	20	23
Nawal Parasi	20	30
Phase III: Chitwan	30	30
Nawal Parasi	30	30
Total	120	141

Lessons learned

1. direct aquaculture intervention is possible in ethnic fishing communities - model successful
2. ethnic women - can manage small ponds (small-scale aquaculture) and is suitable for them
3. promotion of small-scale aquaculture is easier in clusters or through group formation
4. small pilot project can have big impact
5. however, selection of suitable sites and families or community groups is very important for success and sustainability

Recommendations:

Following points can be considered for the promotion of small-scale aquaculture in Nepal and other countries

Parameters	Minimum	Maximum
Pond size (m ²)	150	300
Fish production (kg)	52	89
Fish consumption (kg)	21	36
Fish sale (kg)	31	53
Income (US\$)	30	60

Sustainability?

Donors do not support all the time – what to do next?

1. We have established or registered cooperatives – CCO (CIDA) has provided 200,000 NRs (~3,000 US\$) as capital investment for each group to initiate
2. Farmers can get fish seed easily and now IAAS has been successful in breeding prawn to supply seed (post-larvae) to farmers

Rest they have to help by themselves....



Thank you!