



Italian Development
Cooperation
Ministry of Foreign Affairs



The Role of Integrated Aquaculture in Improving Livelihoods Through Entrepreneurship in Women (e-Women) in Myanmar

E. Pantanella*, G. Colla¹, R. C. Bhujel², W. Myint³

¹University of Tuscia.– Viterbo, Italy

²Asian Institute of Technology (AIT), Bangkok Thailand

³Environmental Economics Research institute (EERi), Yangon, Myanmar

3



WORLD
AQUACULTURE
Society

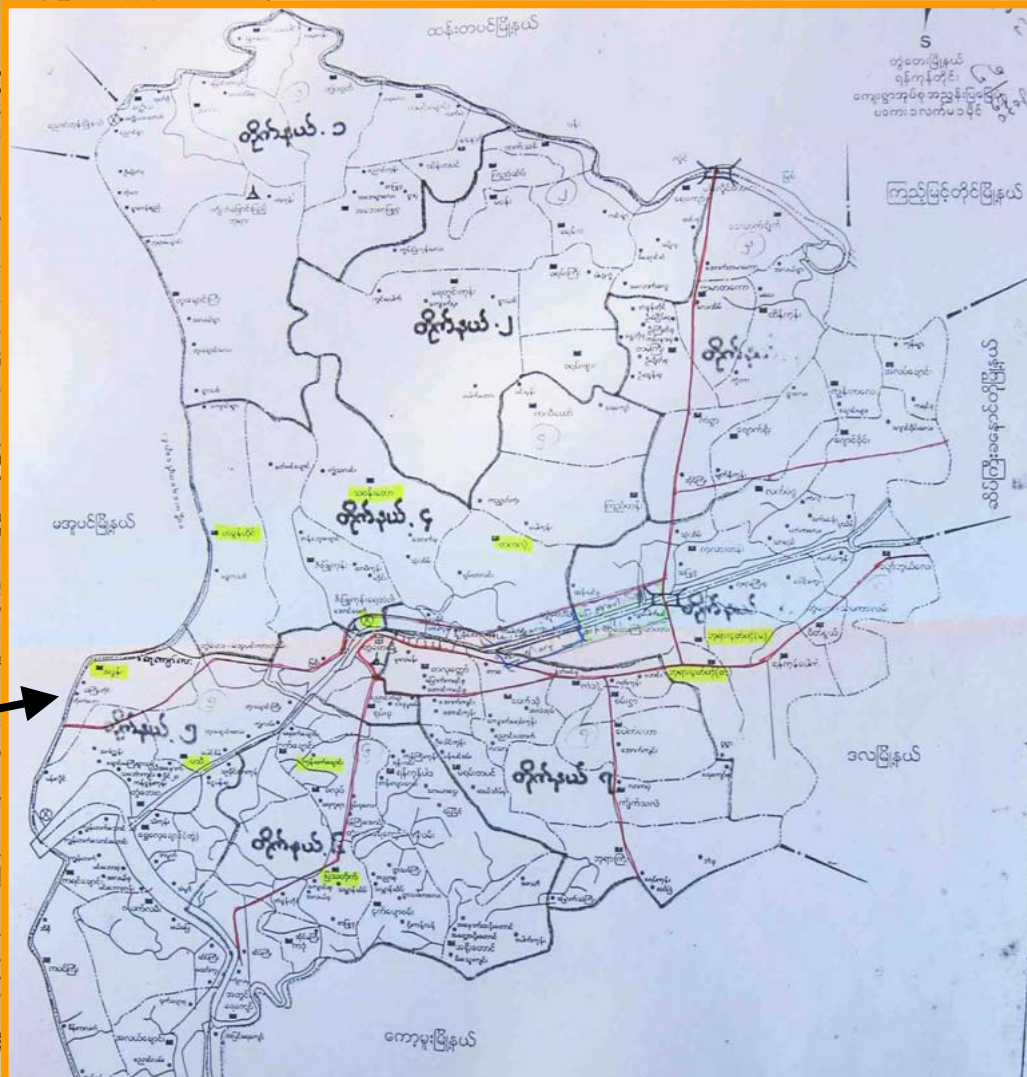


Introduction

- In December 2012 a development project founded by the Italian Ministry of Foreign Affairs was launched in Myanmar to support food security and livelihood in women and vulnerable people.
- The project was set in one of those areas hit by cyclone Nargis



On 2 May 2008 Cyclone Nargis hit Myanmar, claimed more than 138,000 lives causing the worst natural disaster in the country



99 women and their households living in 11 villages in Twantay Township

Why e-Women

- Women are the engine of every family
- Income goes directly to support families/children
- Investing in women education helps to maintain the transfer of technologies at local level
- Increased wealth:
 - reinforces rural economy,
 - reduce emigration to cities
 - maintain environment

But also

- Entrepreneurship
- Empowerment
- Environment
- Economy



Project methodology

Participatory bottom-up approach

“Help people to help themselves”

- **Listen** to people problems and needs
- Develop a **shared visions**
- **See** what is available
- Think at **solutions together**
- **empower** singles/families/communities by giving voice to singles and create a security network
- Work in **synergy** with institutions
- Identify issues that need to be addressed at **governance** level



Field findings

Problems

Livelihood below
poverty line (<1 \$)

Land ownership
landless condition

Credit access
(interests 15% month)

Unskilfulness

Limited job access

Limited mobility

Scarce resources

Market knowledge



Strenght

Community web

Willingness to change

Own livelihood plan
mostly exhistng

Interest in farm
integration

Openness to new
technologies

Project objectives

1. Improving the livelihood in women and the most vulnerable groups
 - *Income generating activities to meet the target of 2,000 Ks/day*
2. Empowerment of women and households
 - *Transfer of technologies/training*
 - *Community development /awareness building*



Project activities

facilitators



1. Development rural business:

1. Animal husbandry
2. Fish
3. Vegetable productions
4. Mushrooms



Vegetable farming

Home use

purc

GOAL

Guarantee for every farmer a daily income of 2,000 Ks (2\$) per day with farming activities

→ 200-300 USD project contribution for every beneficiaries

→ 50% contribution by farmer

Fish

manure fertilization

husbandry

facilitators



sell



market

bicycle

purchase

Home use



Vegetable farming

Home use



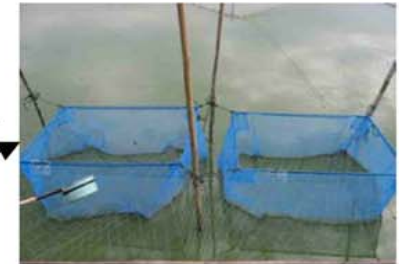
hydroponics

wastes



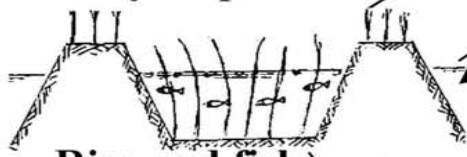
Family

Home use



Fish production
in water bodies

Home use



Rice and fish

bran

Home use



Fish



Community run credit system

manure fertilization

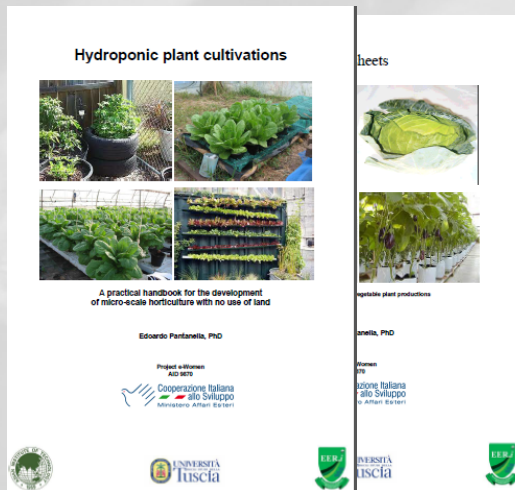


Animal
husbandry

2. Empowerment

Training of trainers

- Two training groups for aquaculture at AIT – Thailand
- Trainings on horticulture, hydroponics
- Trainings animal husbandry (pig/duck)
- Procurement of manuals



2. Empowerment

Training of farmers

- Aquaculture training
- Vegetable/hydroponics training
- Livestock training
- Procurement of manuals
- On site training and monitoring



2. Empowerment

Farmers' school

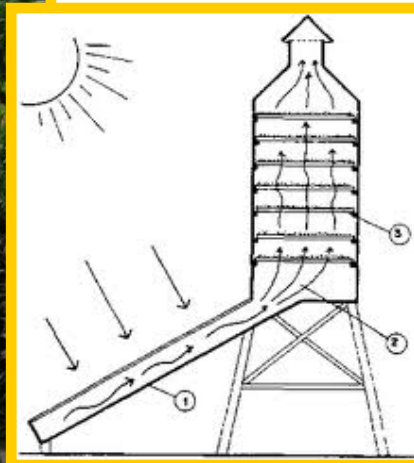
- Train to new technologies
- show how better productions can be obtained (risk free way)
- Challenge farmers and let them run cost-free trials and share results to the group



2. Empowerment

Farmers' school

- Train to new technologies
- show how better productions can be achieved (e.g. by using a new way)
- Control the quality of the products and the safety of the food



2. Empowerment

Farmers' school



2. Empowerment

Livelihood self-appraisal

- Book keeping is a simple tool to help women to understand what is profitable by simply analyzing costs and revenues



Group empowerment

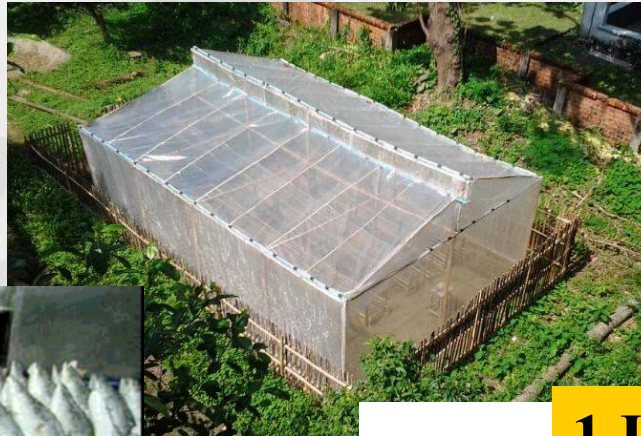
- Developing womens' group helps each member to share ideas, problems and to get a community support for any change and entrepreneurial decision.



2. Empowerment

Developing market knowledge

Exploring new ways for agribusiness



1 USD

13.5 USD



2. Empowerment

Work at governance level

- Promoting the development of aquaculture industry by training fish farmers and fishery officers on new technologies.
- Promoting new agenda to government on land and water access for landless people. Promoting new ideas of development for future projects



**Meeting with Chief Minister
And his cabinet 9 Oct 2013**

3. Revolving fund

**Women's groups are growing
revolving fund for**

- loans at very low interest rates
- Foster new businesses
- Develop a safety net

**Project will contribute x10 times the
amount of money collected**



3. Revolving fund



Development rural business

20,000 sex reversed tilapia for nursing (and growout)

- Project contribution: fish fry and hapa
- Land area 100m² → 1 acre

	Tilapia nursery (existing pond, renovation costs)
area of crop (m2)	100
crop length (day)	60
net profits - Ks	126,335
net profit per day (Ks)	2105.6
net profit per day/m2 (Ks)	21.1

1 USD = 1000 Ks



Development rural business

7000 Prawns for nursing and growout

- Project contribution: prawn larvae and some feed
- 1+ acres area



	prawn (existing pond, renovation costs, 1 crop per year)
area of crop (m2)	4,046
crop length (day)	180
net profits - Ks	962,500
net profit per day (Ks)	5347.2
net profit per day/m2 (Ks)	1.3

1 USD = 1000 Ks



Development rural business

7 Goats for reproduction

- Project contribution: animals
- Feed independent where fodder is available

goat	
total animals	7
females	6
net profits - Ks	619000
net profit per day (Ks)	1696

1 USD = 1000 Ks delivering 1.5 babies every 6 months



Development rural business

3 Pigs for reproduction

- Project contribution: animals and start up feed
- Animal are fast growers but need supporting feed

pig	
total animals	3
females	2
net profits - Ks	759000
net profit per day (Ks)	2079

1 USD = 1000 Ks

delivering 6 piglets
every 6 months



Development rural business

100-135 Ducks for eggs and reproduction

- Project contribution: ducklings and 2/5 of input costs
- Shift between duckling or egg production according to demand

ducks

total animals	135
females	50%
net profits - Ks	727600
net profit per day (Ks)	1993

1 USD = 1000 Ks



Development rural business

0.1-0.3 acres vegetable productions

- Project contribution: seeds, fertilizers and accessories for the desired crops
- More labor intensive than other choices
- Rainy season



	cucumber	ladyfinger	Long bean	bitter gourd	Pineapple	sugarcane
area of crop (m2)	270	1000	400	1200	1200	8000
crop length (day)	60	90	60	90	365	365
net profits - Ks	125,445	423,000	337,282	559,000	780,000	2,740,000
net profit per day (Ks)	2090.7	4700.0	5621.4	6211.1	2137.0	7506.8
net profit per day/m2 (Ks)	7.7	4.7	14.1	5.2	1.8	0.9

1 USD = 1000 Ks

Development rural business

Rice-fish

- 1 pump for 5+ families
- Use of better quality rice varieties with use of pump (Jasmine rice → 120 days)
- Flexibility to grow pulses in dry season



Before project



With project

	rice-fish (rainy season)	rice-fish dry season)	rice only (rainy)
area of crop (m2)	4,046	4,046	4,046
crop length (day)	100	100	100
net profits - Ks	357,907	346,478	146,667
net profit per day	3579.1	3464.8	1466.7
net profit per day/m2 - in Ks	0.9	0.9	0.4

1 USD = 1000 Ks

Development rural business

Straw mushroom

- Project contribution: spawn and plastic liners
- Outdoor choice requires more space than indoor (weather-prone)

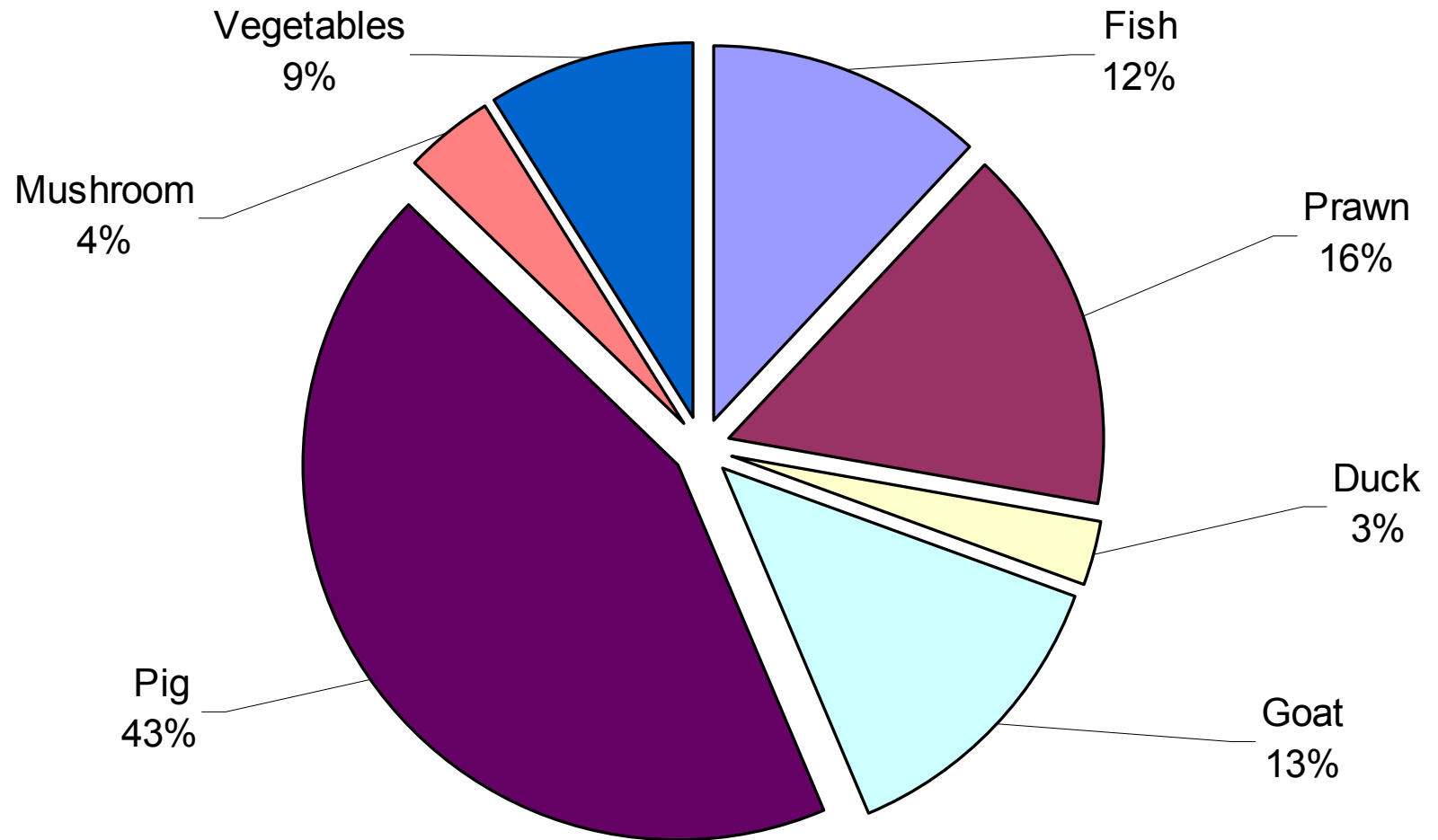


	mushroom indoor 8m2
area of crop (m2)	8
crop length (day)	365
net profits - Ks	784,338
net profit per day	2148.9
net profit per day/m2 - in Ks	268.6

1 USD = 1000 Ks



Farmers' choice



e-Women SWOT Analysis

Strengths

- Increased food intake
- Increased income/diversification
- Minimal work need
- know-how and empowerment
- Build up savings for following livelihood strategies

GO, NGO support, extension
Microcredit
Development of business networks
(suppliers of inputs, buyers etc)
Community /cooperative production
Risk sharing/safety web

Opportunities

Weaknesses

- access to inputs (seed, feed, dig)
- Insufficient work availability
- Cultural acceptance (mindset)
- Capacity of management (time horizon in poor is short)
- Seed quality/availability

Climate
Alternative job opportunities
Market competition (ASEAN)
Urbanization → cost of land
Change in people needs
Land policy, access, ownership

Threats

Roadbook towards rural development and poverty alleviation

- **Landless** condition is a key cause to **vulnerability**
 - Guarantee easier access to land for poor people
 - Find other opportunities to develop farming
- **Agribusiness** with local and sustainable means
- **Vocational training** is key to build skills in women and vulnerable people
- **Applied research** on practical problems (partnership with universities to support rural development in Myanmar)
- **e-Women bank** → Access to (micro) credit should be organized and supported to boost local economy
- **Tutoring** to help beneficiaries to grow their business/livelihood
- **Group building** to improve people commitment and responsibility at planning and governance level

Questions?

edpantanella@gmail.com

bhujel@ait.asia



***Be the change
you want to see in the world***

Myanmar - Twantay Township

Project AID 9870

2012-2013

