PAPUSSA

Production in Aquatic Peri-Urban Systems in Southeast Asia

INCO : International Scientific Cooperation Projects (1998-2002)
Contract number : ICA4-CT-2002-10020

2nd Year Report
UAF - Ho Chi MinhCity

Penang, December 2004

Works done in the year

- ✓ 09 – 13rd Feb: workshop in Bangkok planning for baseline and monitoring surveys
- ✓ 15th – 30th March: piloting questionnaires
- ✓ Completion of SOS report (until May 2004)
- ✓ 4th April – 20th June: baseline and 1st monitoring survey
- ✓ 15th August – 15th October: second monitoring

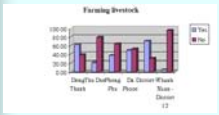
Works done in the year

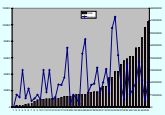
- ☑ 15th – 20th October: training on database entry
- ☑ 25th October – 11th November: baseline data entry to be completed
- ☑ 30th Oct – 25 Nov: data analysis (trials – errors – experiences)
- ☑ 12th-24 Nov: materials preparation for AFF presentation (posters)
- ☑ 25th – 28th Nov: report preparation

Time for 3rd monitoring

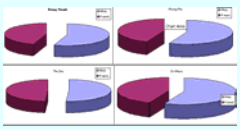
- **Third monitoring would be after Tet holiday in Vietnam – farmers would sell fish before Tet**
- **Rainy season ended earlier this year**
- **During February is suitable time for 3rd**

Men	Month											
Events	1	2	3	4	5	6	7	8	9	10	11	12
Dry season	■	■	■									
Rainy season				■	■	■	■	■	■	■	■	■
Flooding									■	■	■	
Pollution		■	■									



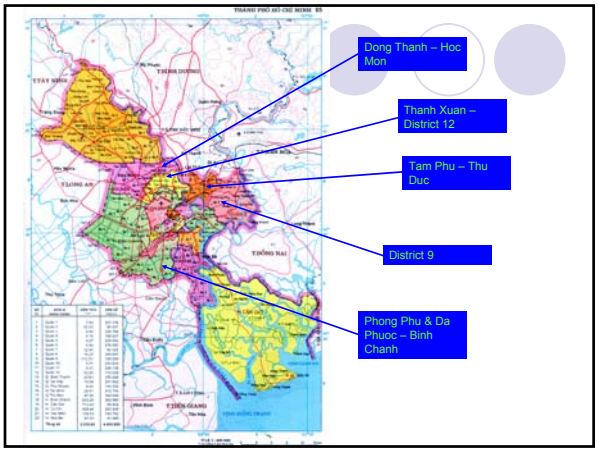


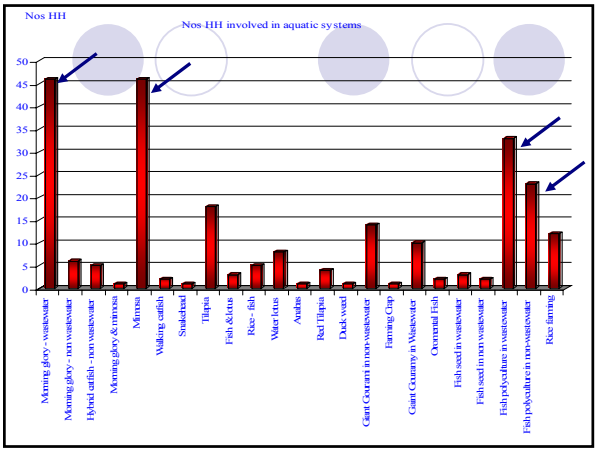
Preliminary Results Baseline Survey

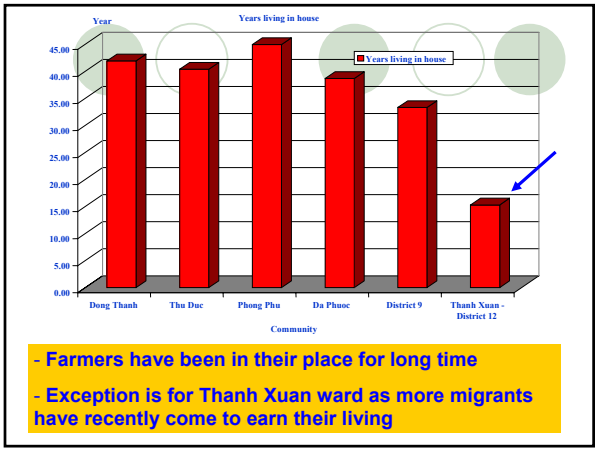


Communities and Samples size

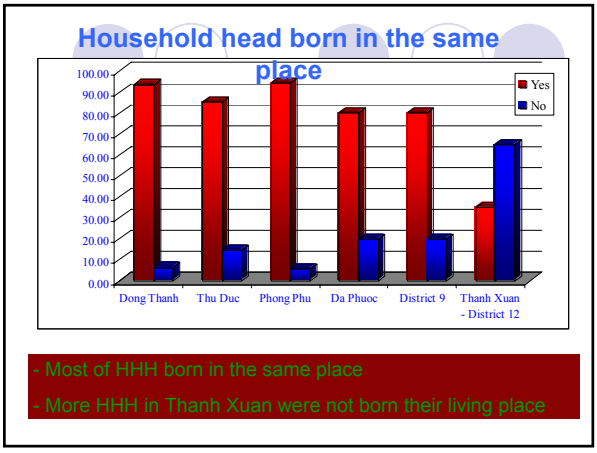
Community	Nos Households
Dong Thanh	16
Thu Duc	48
Phong Phu	55
Da Phuoc	25
District 9	10
Thanh Xuan	43



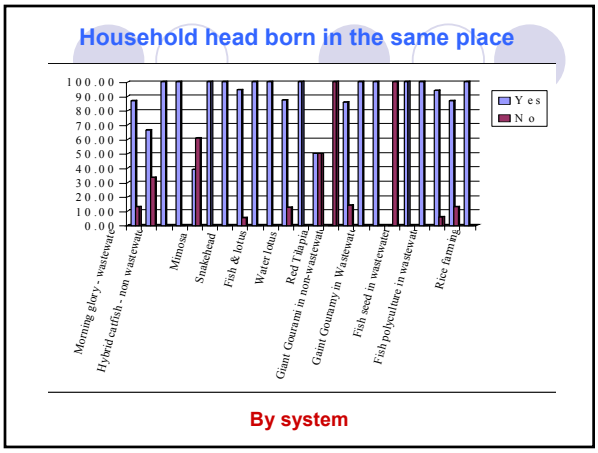




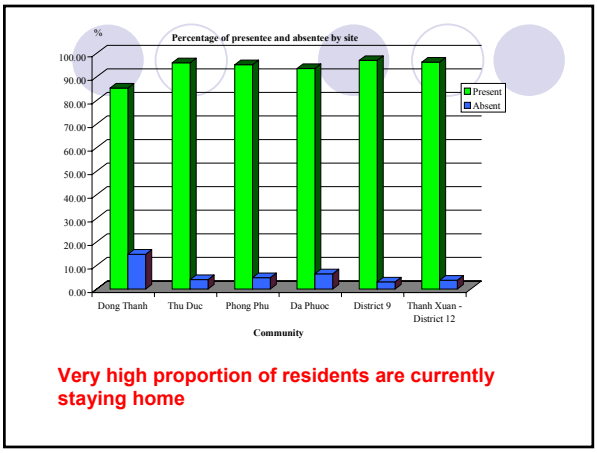
- Farmers have been in their place for long time
- Exception is for Thanh Xuan ward as more migrants have recently come to earn their living



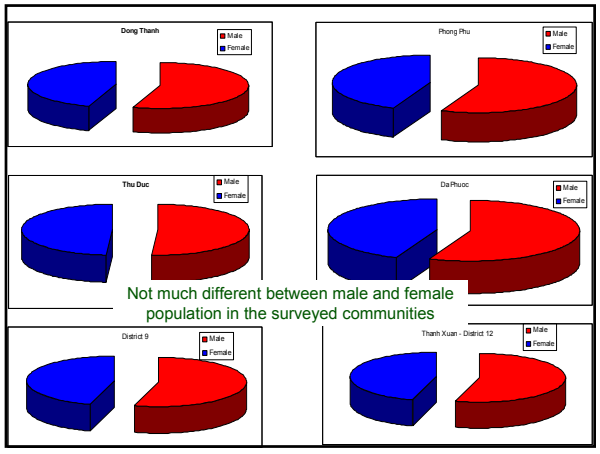
- Most of HHH born in the same place
- More HHH in Thanh Xuan were not born their living place



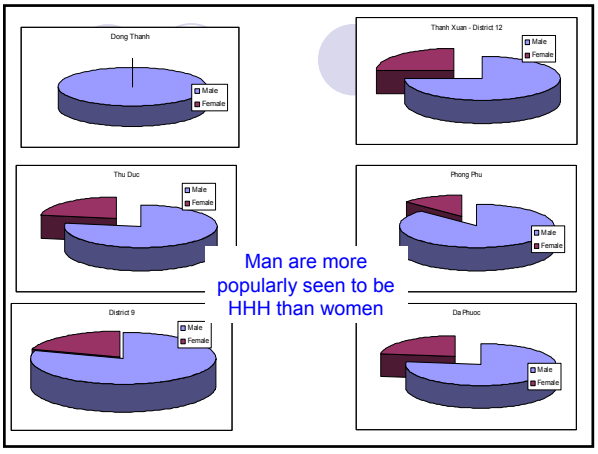
By system



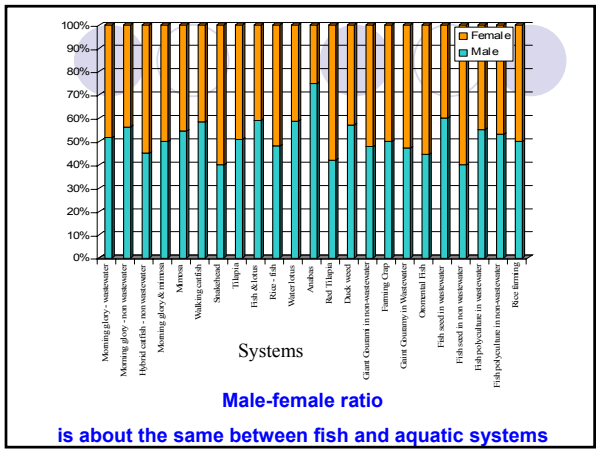
Very high proportion of residents are currently staying home



Not much different between male and female population in the surveyed communities

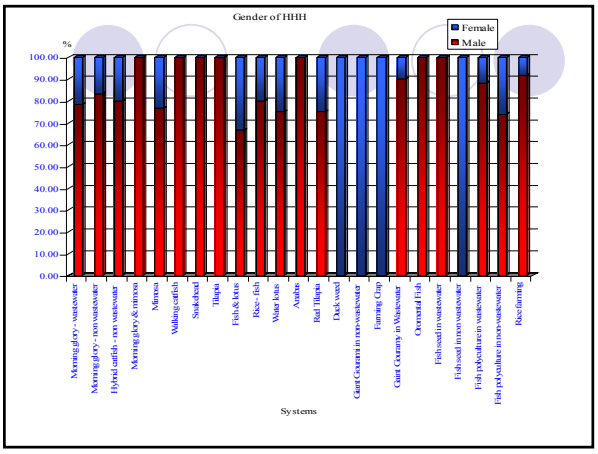


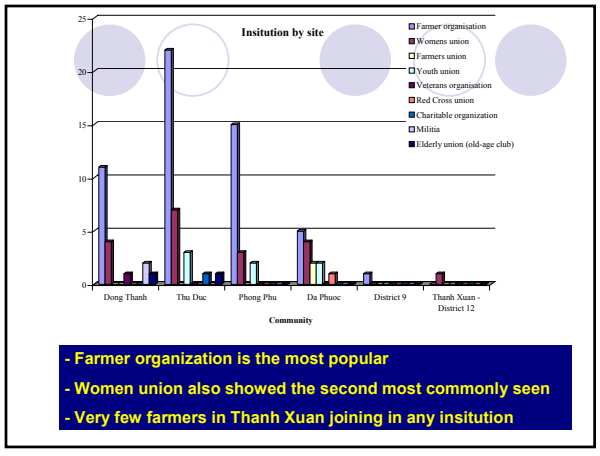
Man are more popularly seen to be HHH than women



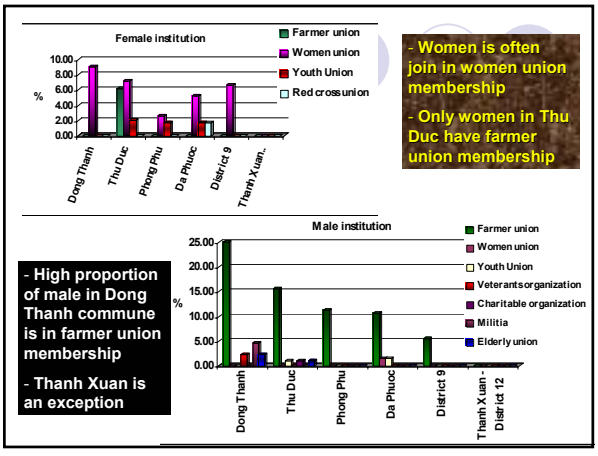
Male-female ratio

is about the same between fish and aquatic systems



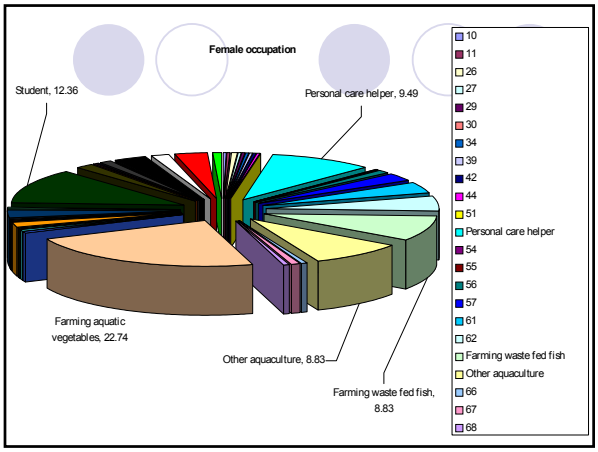


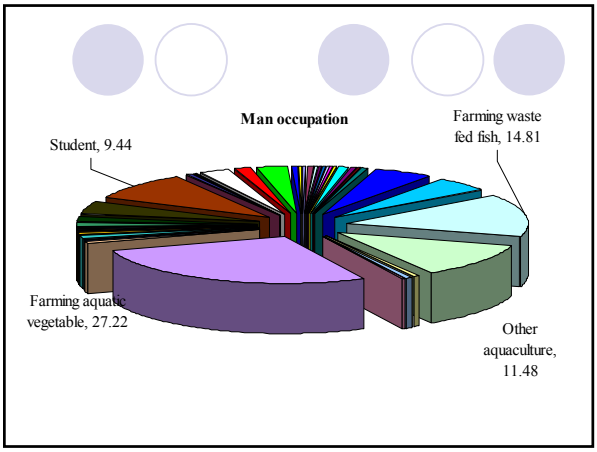
- Farmer organization is the most popular
- Women union also showed the second most commonly seen
- Very few farmers in Thanh Xuan joining in any insitution

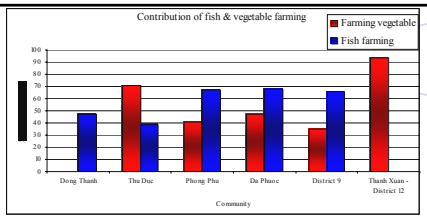


- Women is often join in women union membership
- Only women in Thu Duc have farmer union membership

- High proportion of male in Dong Thanh commune is in farmer union membership
- Thanh Xuan is an exception

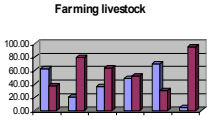


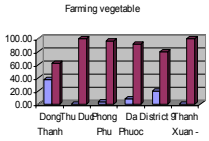




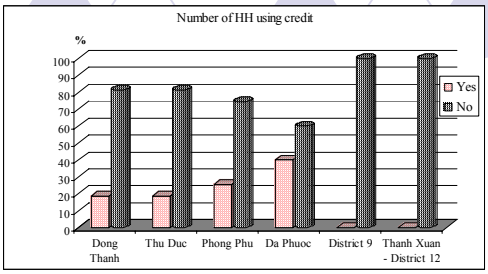
-Fish farming contribute more in some communities but less in some others

- Thu Duc and Thanh Xuan are typical aquatic plant communites



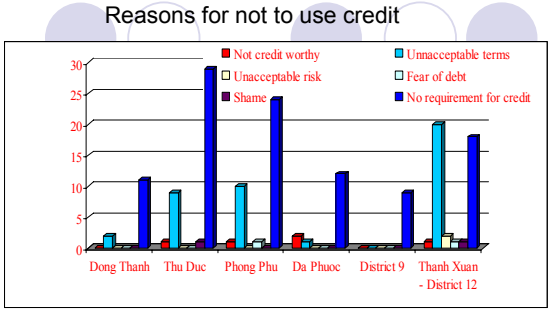


Diversity of agri activities in Dong Thanh



✓More number of households did not borrow money from any source

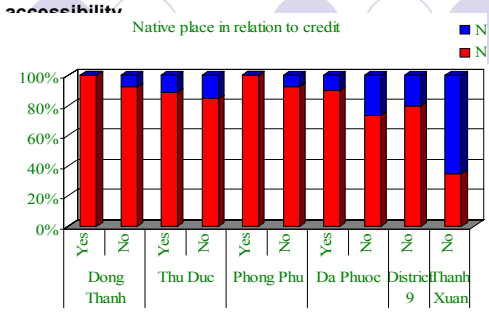
✓Completely no credit activity for farmers in District 9 and Thanh Xuan – district 12



- Unacceptable terms are more commonly seen in Thanh Xuan

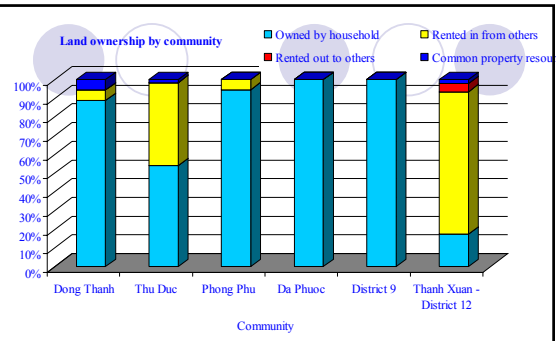
- No requirement for credit is seen often in many communities, except for Dong Thanh

Native – none native place in relation to credit accessibility

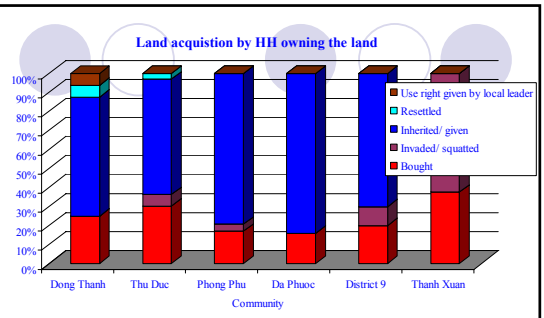


- No relationship between residential factor and credit accessability

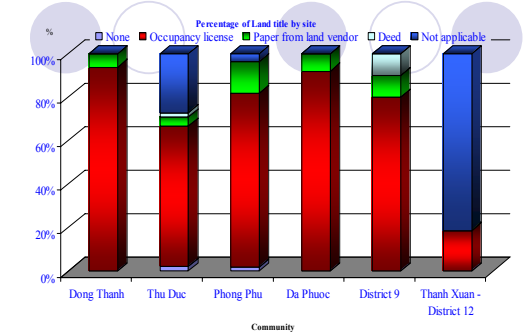
- Exception is for Thanh Xuan – no farmers took credit – most are non-native resident



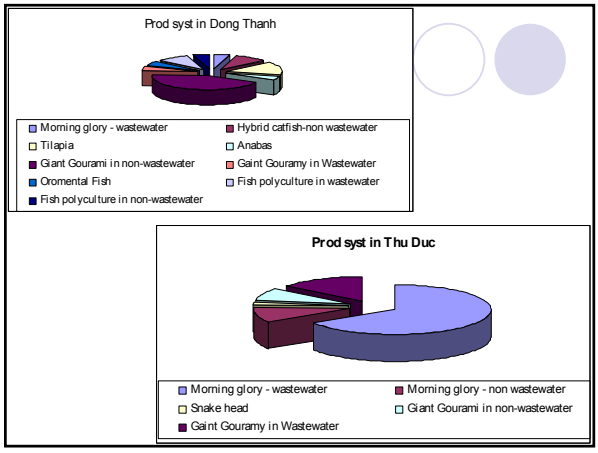
- **Most of HH own their cultivation land**
- **Thu Duc and Thanh Xuan have more HH using rented land**

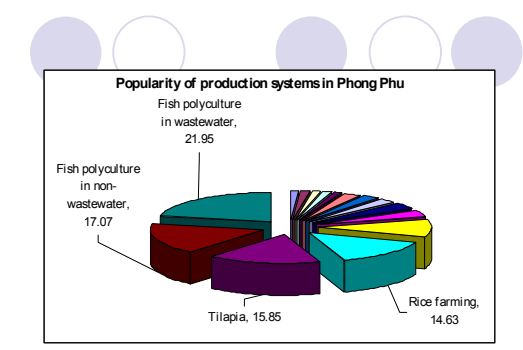


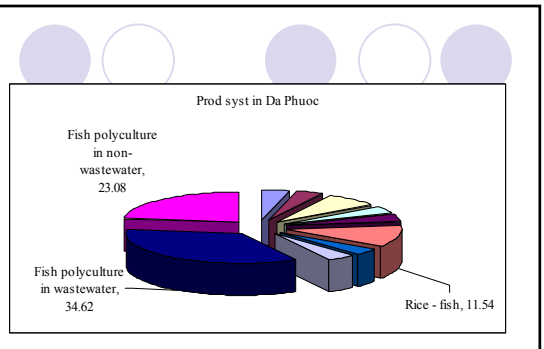
- Most of land owners has taken their land from their family
- Fewer has bought their land by themselves

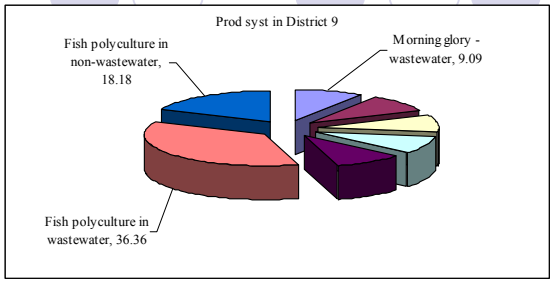


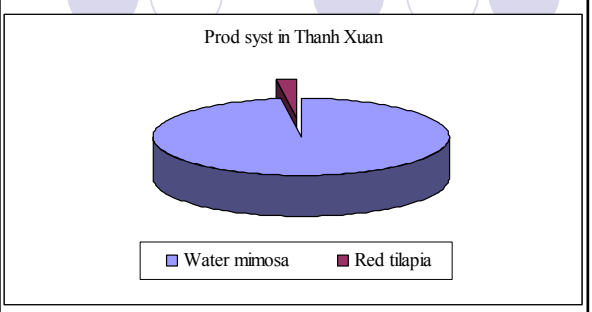
- High percentage of HH has occupancy license to use cultivation land



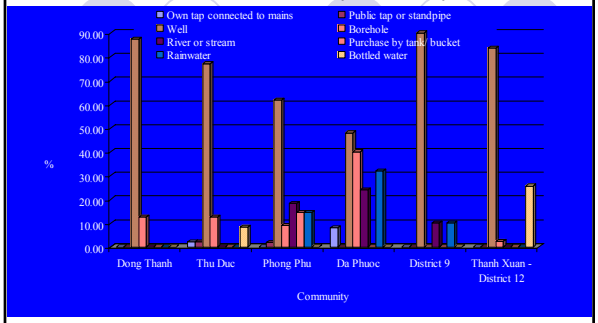








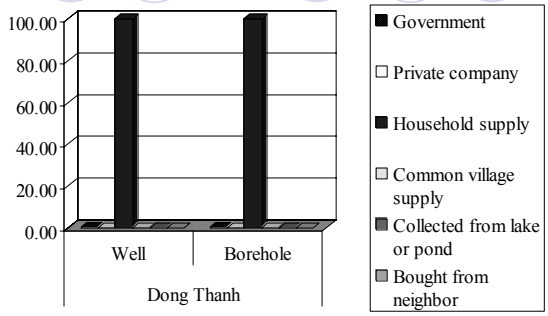
Domestic water sources by community



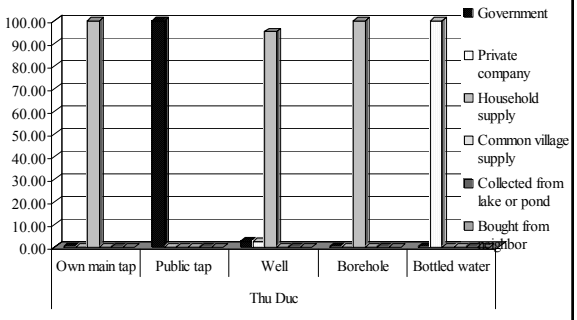
Farmers are popularly using well for domestic water supply

Some are still using bore-hole

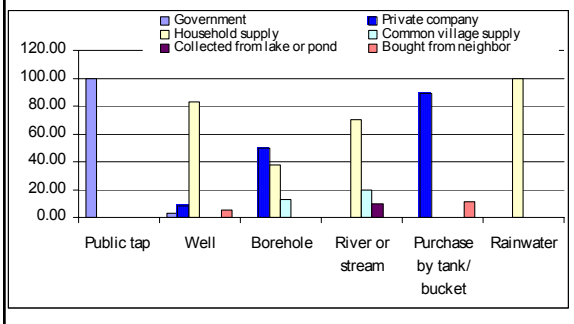
Water suppliers



Water suppliers

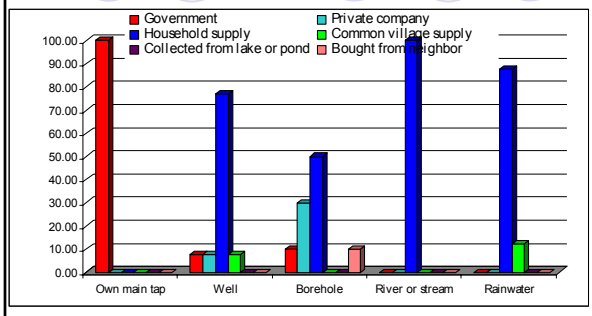


Water suppliers



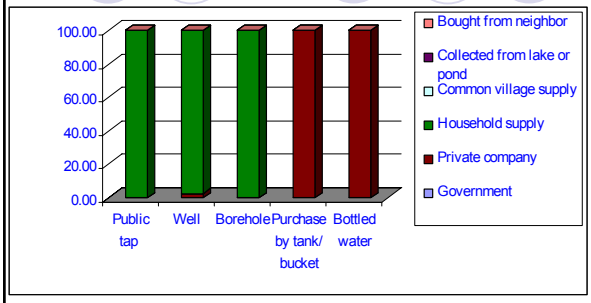
Phong Phu

Water suppliers



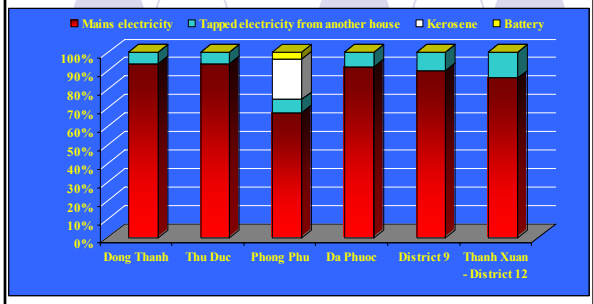
Da Phuoc

Water suppliers

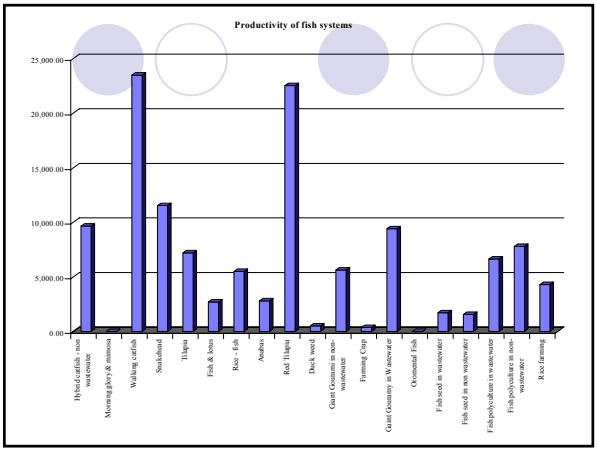


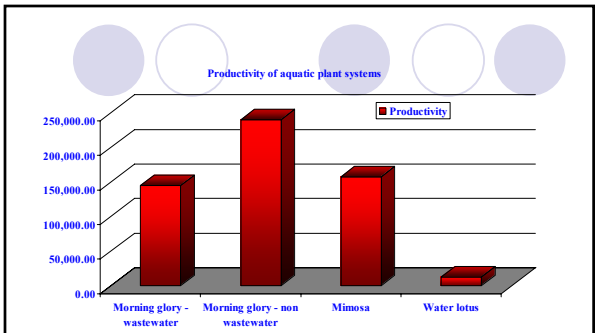
Thanh Xuan

Power sources by community



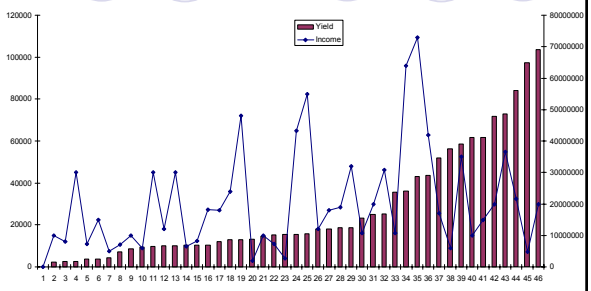
- ☑Farmers mostly have access to main electricity source
- ☑Some are still using kerosene
- ☑Fewer are tapped electricity from neighbour



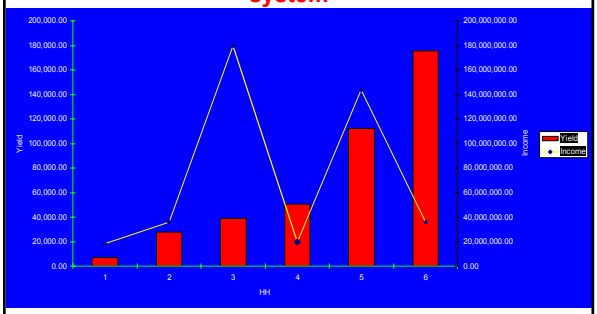


		AquaticSystemSize		EstIncomeLastYr	
2	System	Min	Max	Min	Max
3	Morning glory - wastewater	500.00	10,000.00	-	73,000,000.00
4	Morning glory - non wastewater	1,000.00	30,000.00	18,000,000.00	180,000,000.00
5	Hybrid catfish - non wastewater	700.00	2,000.00	-	20,000,000.00
6	Morning glory & mimosa	500.00	500.00	-	-
7	Mimosa	1,000.00	8,000.00	-	110,000,000.00
8	Walking catfish	1,200.00	2,200.00	24,000,000.00	30,000,000.00
9	Snakehead	1,300.00	1,300.00	25,000,000.00	25,000,000.00
10	Tilapia	600.00	32,000.00	1,250,000.00	60,000,000.00
11	Fish & lotus	1,400.00	25,000.00	7,000,000.00	55,000,000.00
12	Rice - fish	1,600.00	20,000.00	6,000,000.00	15,000,000.00
13	Water lotus	4,300.00	31,000.00	6,000,000.00	72,000,000.00
14	Anabas	2,500.00	2,500.00	8,000,000.00	8,000,000.00
15	Red Tilapia	800.00	30,000.00	8,000,000.10	50,000,000.00
16	Duck weed	7,000.00	7,000.00	1,000,000.00	1,000,000.00
17	Giant Gourami in non-wastewater	200.00	6,000.00	-	46,800,000.00
18	Farming Crap	10,000.00	10,000.00	16,200,000.00	16,200,000.00
19	Giant Gourami in Wastewater	200.00	2,000.00	-	18,000,000.00
20	Oromental Fish	1,000.00	4,000.00	30,000,000.00	30,000,000.00
21	Fish seed in wastewater	8,000.00	31,000.00	30,000,000.00	100,000,000.00
22	Fish seed in non wastewater	1,700.00	10,000.00	-	18,000,000.00
23	Fish polyculture in wastewater	200.00	19,600.00	-	50,000,000.00
24	Fish polyculture in non-	300.00	18,000.00	1,000,000.00	150,000,000.00
25	Rice farming	401.00	27,000.00	-	50,000,000.00

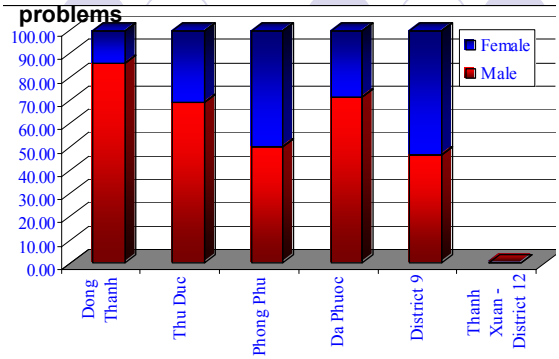
Yield and income relationship of morning glory – wastewater system



Yield and income relationship of morning glory – none wastewater system

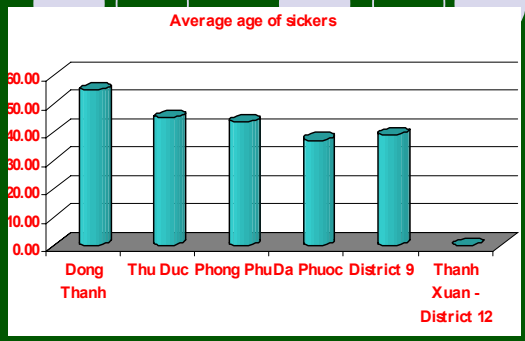


Gender of persons having health problems

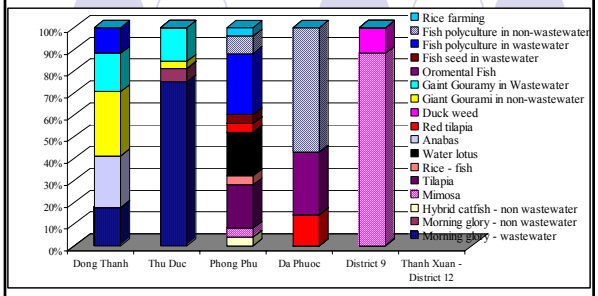


Man seems to have more health problems than women in Dong Thanh, Thu Duc and Da Phuoc

Average age of sickers

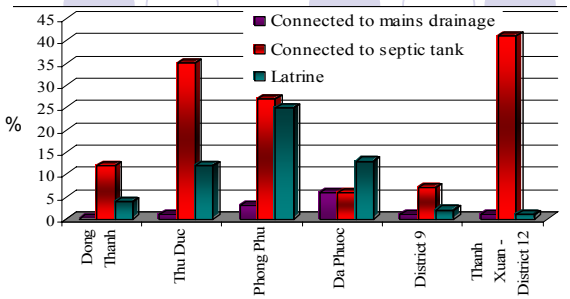


Count of health problems by systems in community



- More morning glory farmers in Thu Duc got sicks
- Farmers in polyculture fish-wastewater have more health problems than others

Types of toilets by community



Different in communities

More latrines in Phong Phu, Da Phuoc and Thu Duc

Conclusions

- ☑ Thu Duc and Thanh Xuan are specified for aquatic plants (morning glory & water mimosa)
- ☑ Fish culture systems are diversity – fish polyculture is more often seen
- ☑ Large range of system size among the systems
- ☑ Farmer Union and Women Union are most popular
- ☑ Mostly own their land – few have rental land
- ☑ Most have occupancy license – Exception - Thanh Xuan

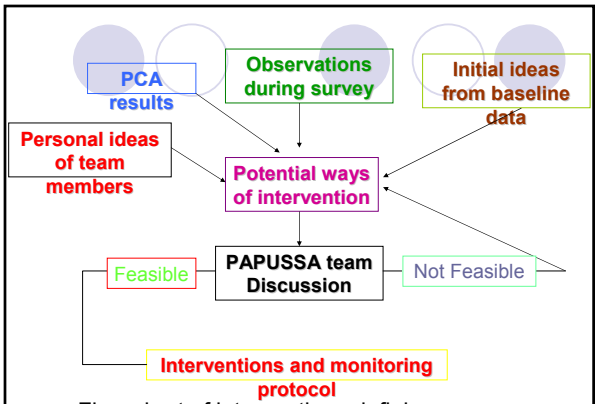
Conclusions

- ☑ Farming vegetable, student, personal care helper are the most common occupation for women
- ☑ Farming aquatic vegetable, student, farming wastewater fish and other aquaculture are the most common occupation for man

Conclusions

- ☑ Low proportion borrowing money – unacceptable terms and no credit worth – Thanh Xuan with no residential registration – unable to borrow
- ☑ Fish and vegetable farming contribute high percentage to HH income in most of communities
- ☑ No relation between estimated net income and last year aquaculture production
- ☑ Highest productivity is for intensive – less popular systems (hybrid catfish, red tilapia)
- ☑ Most farmers has access to main electricity
- ☑ Well is the most common water source – family self supply

Interventions



Flow chart of interventions defining progress

Progress of intervention

Site	Interventions	How to carry out?	How to monitor it?
Dong Thanh	Improving the efficacy of aquaculture farmers group	- Re-establish the aquaculture farmers group - Encourage the interaction between farmers and local gov.	- How much farmers evaluate the interaction between them and local gov. - How they this benefit their aqua activities
Thanh Xuan	Improving water mimosa farmers' knowledge by providing	- Collecting information and prodcucing booklets on water mimosa disease to provide to farmers - Take reponses	- Number of booklet versions produced - Farmers' assessment-how this help them in their technical

Progress of intervention

Site	Intervention	How to carry out?	How to monitor it?
Phong Phu	Fish polyculture – fish composition & density	- Recommend farmers using appropriate fish species and density	- Nos farmers apply the recommended technique - How do they find the improvement: fish growth, possibility of the application
Da Phuoc	Dissemination of crab fattenning technique to farmers to utilize more effectively natural	- To recommend farmers using crab wild captured to culture in ponds for ditcheches – getting bigger size – increase	- Nos farmers see and apply the technique - How they assess the beneficiaries of the recommemded application

Water sampling – time

- 1st sampling: during February 2005
- 2nd sampling: late June – early July 2005
- Problems:
  - Same inlet and outlet -> difficult to take sample
  - Wastewater concentration different in hightide and low tide –
  - More dense in low tide – no water exchange during low tide

Water sampling - protocol

Site	System	Location	Tidal cycle
Phong Phu	Tilapia seed	- Water inlet –inside the system - Water outlet – 10 days after – time for water exchange	- High tide – outside the system – at sluicegate - Low tide – outside the system – at sluicegate
Hoc Mon	Fish polycultur e		
Thu Duc	Morning glory		
Thanh Xuan	Water mimosa		

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Thank You For Your Attention!