Production and livelihoods monitoring in Peri-urban Hanoi

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Summary

Phase 1.
Situation appraisal and feedback

Institutions assessment
Marketing survey: fish and aquatic plants
Identify representative communities
Participatory Community Assessment (PCA)
Feedback

Phase 2. Production systems and livelihood monitoring

Baseline and monitoring survey
Water sampling

Phase 3. Production systems and livelihood pilot

Intervention

Activies in 2004

- Carrying on WP3 to assess livelihoods and aquatic production systems:

1. Questionnaires survey: Baseline + Monitoring 1, 2, 3 regular over a year.

2. Water sampling and analysis

Progress in 2004

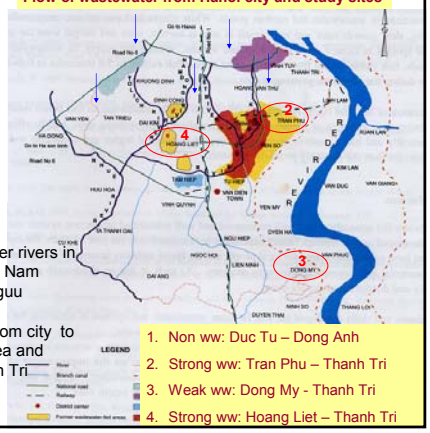
Design Questionnaires in Bangkok	8th-14th Feb
Baseline & Monitoring 1 surveyed	14th Apr to 18th Jun
Monitoring 2 surveyed	15th Aug. to 30th Sep.
Access database training	11th-15th Oct.
Data entry	11th Oct -20th Nov.
Water sampling	28th Oct. -4thNov.
Primary analysis/make presentation	20th Nov. – 29th Nov.

Four study sites

- 1. Duc Tu commune - Dong Anh district: fish polyculture in non-ww, VAC system, rice/fish.
- 2. Tran Phu commune - Thanh Tri: fish polyculture in ww and aquatic plants
- 3. Dong My – Thanh Tri: fish polyculture in ww, fish nursing, prawn, water morning glory.
- 4. Hoang Liet – Thanh Tri: aquatic plants in ww

igure 1. Hanoi sub-urban area

Flow of wastewater from Hanoi city and study sites



There are 5 wastewater rivers in Hanoi: Nhue, To Lich, Nam Dong, Set and Kim Nguu

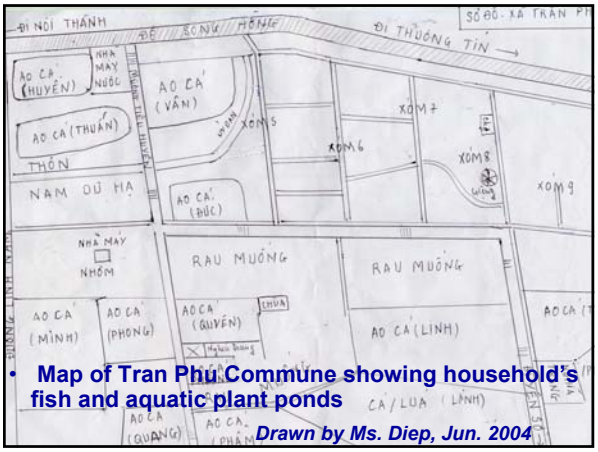
Flow of Wastewater from city to the south of Hanoi area and concentrated in Thanh Tri District.

1. Non ww: Duc Tu – Dong Anh
2. Strong ww: Tran Phu – Thanh Tri
3. Weak ww: Dong My - Thanh Tri
4. Strong ww: Hoang Liet – Thanh Tri

Numbers of Household surveyed and aquatic production systems

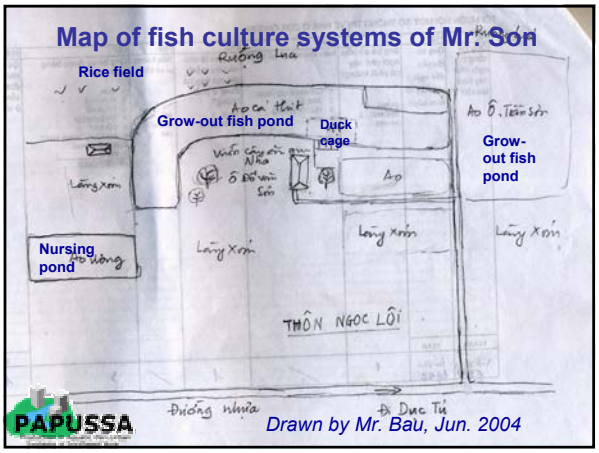
Commune	No. HHs	Aquatic production systems
Tran Phu	53	- Fish polyculture in wastewater - Water morning glory/dropwort
Hoang Liet	30	- Water mimosa/dropwort, - Water morning glory/ dropwort/cress - Water morning glory/dropwort,
Dong My	66	Fish seed in wastewater Fish polyculture in wastewater
Duc Tu	60	-Fish polyculture in non ww in VAC system (garden, pond, livestock), - Rice/fish

Total 209 Households



- **Map of Tran Phu Commune showing household's fish and aquatic plant ponds**

Drawn by Ms. Diep, Jun. 2004



Drawn by Mr. Bau, Jun. 2004

Summary of Baseline Analysis:

- Household identification
- Institutional membership
- Housing and economic infrastructure
- Domestic water source
- Household income/credit for aquatic systems
- Aquatic food production systems
- Health and consumption issues
- The future

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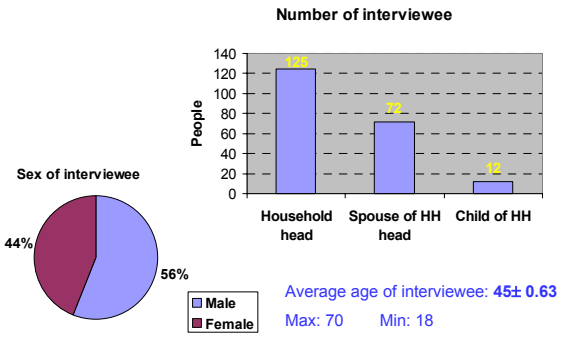
Baseline Survey: Interviewed 209 Households

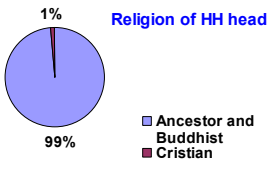


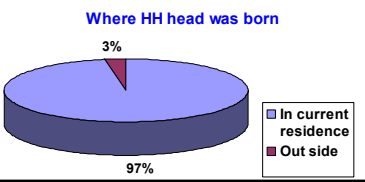
Average age of interviewee: **45± 0.63**

Max: 70 Min: 18

Household (head)

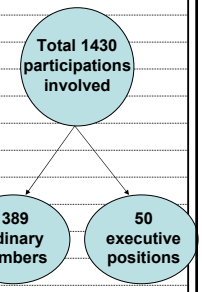
- **100% Vietnamese in Kinh group ethnic**
- **Average 4-5 members/HH**
- **In 209 Households:**
  - **80 HHs better-off**
  - **111 HHs- medium**
  - **18 HHs-Worse-off**



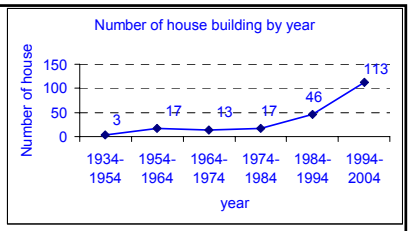


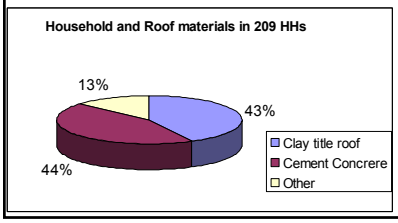
Institution membership

No.	Name of some Institutions	Count No. of member involved
1	Joint Co-operative Organization	385
2	Farmer Union	385
3	Women Union	222
4	Youth Union	213
5	Elderly Union	76
6	Trade Union	47
7	Party committee	28
8	Veterans Organization	19
9	Coeval Union	17
10	Fish Farmers Organization	15
11	Gardener Union	5
12	Civil defence	5
13	Bird culture Union	1

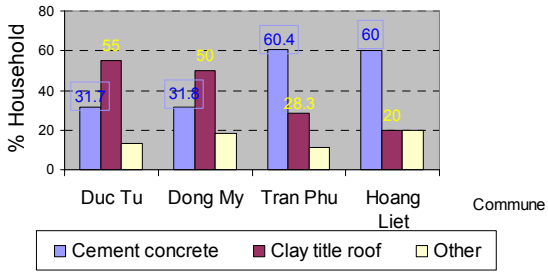


Housing





Rate (%) of roof materials in communes



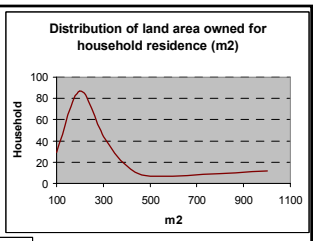
Rate (%) of some assets in 4 communes

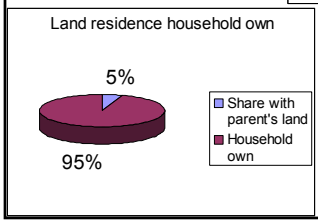
Asset	Duc Tu*	Dong My*	Tran Phu*	Hoang Liet*	Analysis in 4 communes
Television	98.3	100	100	96.6	*99*
Bicycle	95	98.5	98.1	83.3	*95.2*
Motorbike	86.7	68.2	83	70	*77.5*
Landline telephone	51.7	30.3	47.2	23.3	*39.7*
Refridgerator	16.7	27.3	67.9	26.7	*34.4*
Car/van	13.3	3	5.7	0	*6.2*
Air-conditioner	0	0	11.3	0	*2.8*

(*) Analysis rate (%) of HHs have asset/total number of HHs surveyed in one commune.

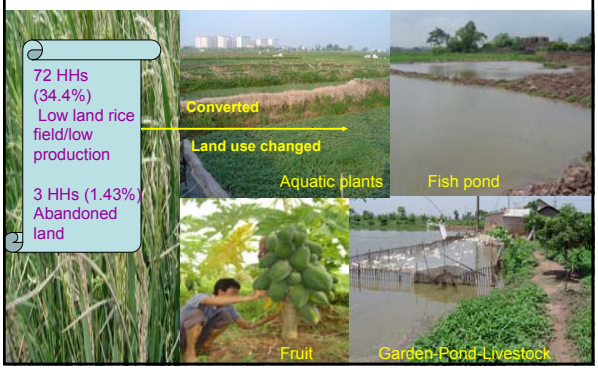
Land Areas for household residence

Ownership issues





Changing Land use in the past 5 years



Main production systems: Fish/prawn

Systems	No. HH involved	Average size of system (m^2)	Average Productivity (Ton/ha/year)	No. crop
Fish nursing ww	58	2,028	For grow-out	2
Fish nursing Non ww	13	3,996	for grow-out	2
Non ww fish polyculture	45	4,568	4.54	1
WW Fish polyculture	67	7,910	5.4	2
WW fed Fish in swamp	20	53,389	5.49	4
Rice/fish	11	67,872	1.46	1
Prawn	6	12,656	0.35-1.08	1

Main systems: Aquatic vegetables

Systems	No. HH involved	Average size of system (m^2)	Average Productivity (Ton/ha/year)	No. crop
Morning glory WW	64	589.06	87	1
Morning glory for fish livestock, HH consume	49	767.15	-	1
Mimosa/dropwort	18	864.94	153	2
Morning glory/ Dropwort/Cress	12	387.83	197	3
Morning glory/Dropwort	8	232.50	275	2
Mimosa/dropwort/cress	6	888.50	179	3
Morning glory/cress	3	156.00	230	2
Mimosa/cress	3	401.00	204	2

Difficulties/problems in Duc Tu

Difficult	Rank
Fish Disease	1
Lack of knowledge/technique	2
Low quality of fish seed	3
Lack of capital	4
Lack water for production	5

Year 3- Intervention in Duc Tu commune

- **Training aquaculture techniques**
- Formal training
- Visit Dong My commune
- Test HH's techniques by questionnaire before training and after 6 months (let's HHs do themselves)

→ Comparison techniques/production year 2005 and 2004

Year 3- Intervention in Duc Tu commune

Trial	New seed	Polyculture	Nutrition	Fish Health management
x	x	x	Grass, Pig manure	x
x	x	x	Chicken manure	x
x	x	x	Dug manure	X
Control		x	Grass, Pig manure	x
		x	Chicken manure	x
		x	Dug manure	X
		x	Grass, Pig manure	
		x	Chicken manure	
		x	Dug manure	

Difficulties/problems in Dong My

Difficult	Rank
Lack water for production	1
Lack of capital	2
Low quality of fish seed	3
Fish Disease	4
Lack access to market	5

Intervention for ww fish pond
Dong My commune

Trial 1. Water quality management

Due to lack of water for production the fish farmers reuse water from neighbor's pond: potential epidemic of fish disease

- Inlet: flow of water supply run through Lime bag.
- Apply Lime monthly into the water surface
- Apply Bio-chemical in water ???

→ Water sampling/analysis in every 3 month or seasonal

Intervention for ww fish pond
Dong My commune

- **Trial 2. Fish health management**

- Apply suitable fish species /resistant with low quality of water environment

- Increasing nutrition for fish/effect

→ Questionnaire from: before and after apply management

Difficulties/problems in Tran Phu

Difficult	Rank
Lack water for production	1
High input cost	2
Fall market price	3
Low quality of fish seed	4
Short time auction	5

Intervention for ww fed fish
Tran Phu commune

- ***Trial 1. Stocking rate***
- Optimum income by apply suitable stocking rate
- Fish species: Tilapia, Common carp, Silver carp, Indian carps...

Intervention for ww fed fish
Tran Phu commune

Trial 2. Fish seed

- Increasing production by apply high quality fish seed: Tilapia, Common carp

→ Monitoring production/income by questionnaire and notebook

Difficulties/problems in Hoang Liet

Difficult	Rank
Lack water for production	1
Aquatic plants disease	2
Low quality of water	3
High input cost	4
Loss land use	5

Intervention for aquatic plants Hoang Liet commune

- *Trial 1. Produce Aquatic plant's Booklet*
- Summary technique from HHs experience
- Reference technique from HCM, Phnompenh, BKK
- Make the Initial AP's booklet
- Let Agriculture cooperative as a deliver and keep name of HHs involved
- After a month come back with Questionnaire
- To give supplementary information from HHs

→ Complete Aquatic plant technique's booklet after 6 months

Intervention for aquatic plants Hoang Liet commune

- **Trial 2. Apply IPM technique in aquatic plants/prevent AP disease**
- To learn IPM knowledge from Institutions
- Apply suitable IPM land vegetables to aquatic plant

→ Monitoring/questionnaire and compare with last years

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Problems and difficulties during year 2004

- Database late: training, entry, analysis
- No plan water sampling for RIA1 from last P&P and meetings before – to remain passive
- Not enough time and capacity analysis data from new Access database for P&P meeting, only Baseline/ Not enough evidence prepare for next intervention.
- Affect to progress next year: survey monitoring 3 + water sampling + intervention progress.

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Planning in year 2005

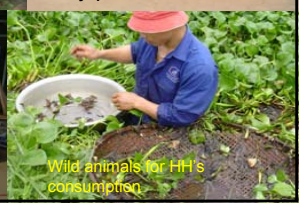
Final Monitoring Survey 3	15 Dec. to 30 Jan.
Check data entry Monitoring1,2	15 Dec. to 30 Jan.
Entry Monitoring 3	Feb.
Water sampling	Feb. and Jun
Interventions	Feb. to Sep.
Baseline/monitoring analysis Report 2004	Feb. to Sep.
Intervention analysis and report 2005	Sep. -Dec.

Pictures: Livelihood monitoring


Making New road in commune


Survey questionnaire


Making shrimp trap- income of elderly


Wild animals for HH's consumption

Thank you!