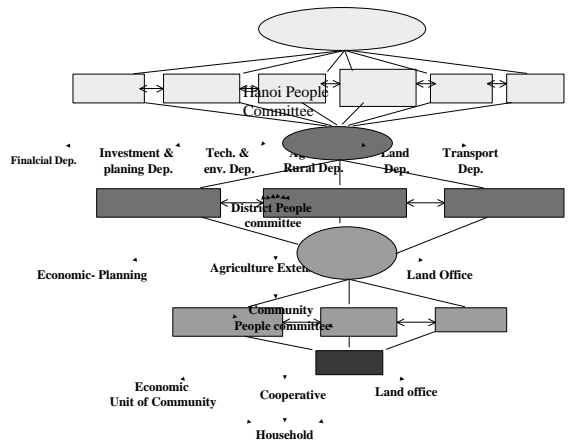
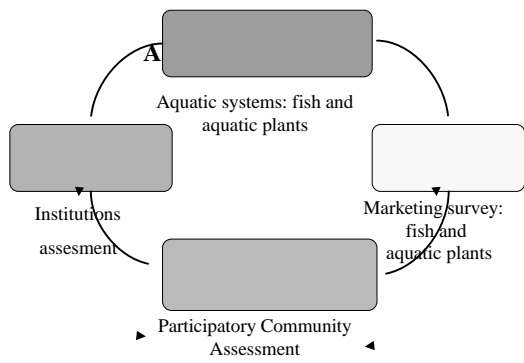
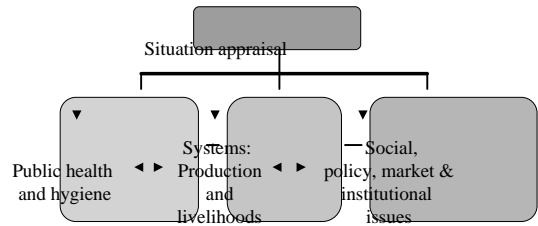
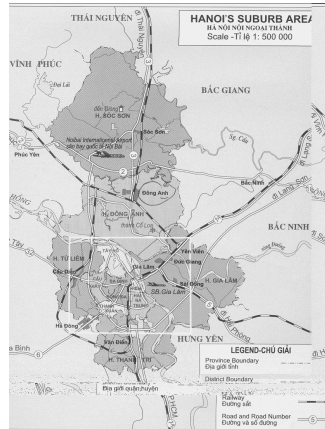
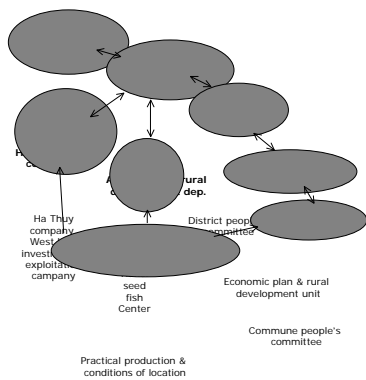


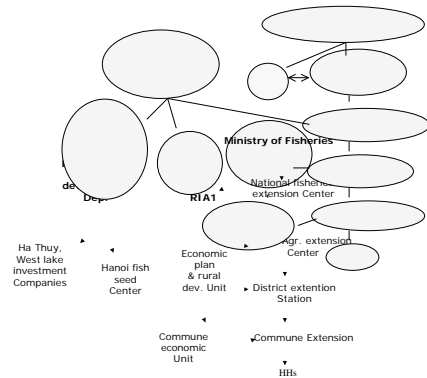
The Status of Aquatic Peri-Urban Systems in Hanoi



Relationship between institutions and producers



Relationship of institutions in Hanoi Aquaculture planning



Relationship between fisheries institutions in Hanoi aquaculture development

Aquatic Production Systems

Aquaculture

- Fish hatcheries
- Fish nursing
- Fish & prawn cultured in pond
- Fish sewage-fed pond
- Rice-Fish culture
- VAC system
- Fish culture in urban lakes

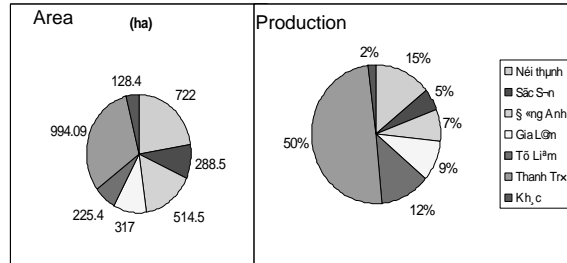


Aquatic plants

- Water Morning Glory
- Mimosa
- Water dropwort
- Water cress
- Spice vegetables

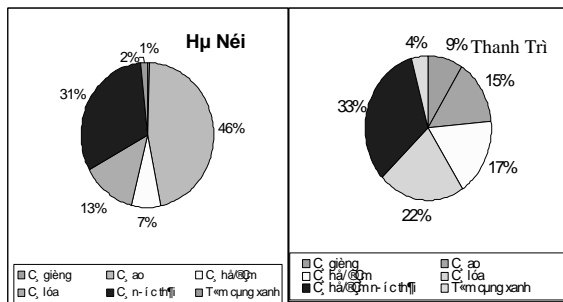


Area & Production of Aquaculture



Total Aquaculture Area: 3,190 ha

Aquaculture Area by Systems



Fish Seed Production

- ☞ only 2 hatcheries
- ☞ 40% of seed required from the City
- ☞ Breeding species: S.C, B.C, Rohu, Mrigal, G.C
- ☞ Fish nursing: Tilapia, C.C, Colomsoma, M. rosenbergii, Catfish

Fish & Shrimp in Sewage-fed Ponds

- ☞ Pond area: 1,700 ha, of this 52 ha for prawn culture.
- ☞ Supplementary feeding: corn, rice bran, waste beer... Only 3% of HHs used artificial feed.
- ☞ Fish species: C.C, G.C, S.C & Indian Carps, Tilapia, Colomsoma & M. rosenbergii.
- ☞ Sewage sources: City and concentrated peri-urban areas.
- ☞ 1.3 ton/ha in large, and 2.2 ton/ha in small ponds
- ☞ 10-15 ton/ha in some ponds.



- ☞ VAC system: Dong My (Thanh Tri), Duc Tu (Dong Anh).
- ☞ Duck – Pig – Chicken – Fish & Fruit
- ☞ Rice-Fish: Dong Anh.



Urban lakes:
Landscape, tourism,
entertainment, flood
control.

Fish production: less
important

Fish ponds for
sport: Gia Lam,
Dong Anh.

Aquatic Plant Production Systems

Aquatic plants: WMG,
mimosa, water dropwort,
water cress, spice veg.

Main Area: Thanh Tri

Others: Gialam, TuLiem

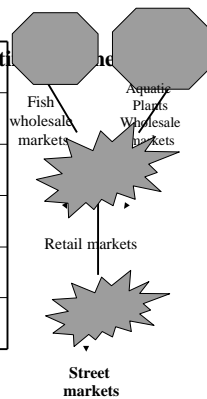
WMG produced almost
through year, Mimosa:
Summer, Water dropwort &
Water cress: Winter

Mimosa: high labor cost,
but higher income



Fish & Aquatic plant Markets	
Fish clue market	Aquatic plant clue market
Yen So three way cross road	Southern clue market of Hanoi
Thanh Tri lorry station	Van Dien bridge
Giap Bat bus station	Long Bien bus station
Van Dien bridge	Cau Giay

Long Bien bus station
Nga Tu So



Fish source supplied to Hanoi

- From Hanoi:
 - 10-20%
 - Thanh Tri: major source
 - Quality fish stayed
 - Small and poor fish to provinces (remote areas)
- From provinces:
 - Thanhhoa
 - Hungyen
 - Haiduong
 - Hatay
 - Namdinh
 - Phu Tho

Aquatic plant sources supplied to Hanoi

- Thanh Tri & Gialam: major sources
- Tu Liem, Dong Anh: less
- No aquatic plant from Hanoi to provinces

Hoang Liet-Thanh Tri: Water dropwort, water cress & mimosa area with wastewater. This area is urbanizationed.

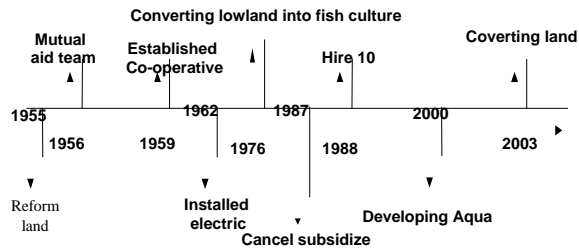
Thanh Tri: glory, fish wastewater. This area will be urbanizationed.

PCA

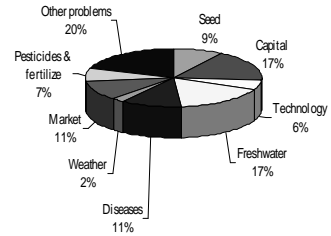
Dong My-Thanh Tri: New VAC system. Wastewater is still used.

Duc Tu- Dong Anh: VAC & Rice-Fish
Non wastewater.

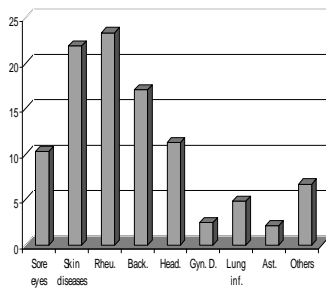
General timelines



Problems of Aquatic Producers



Diseases Related to Aquatic Production



Main diseases:

- Rheumatism
- Skin diseases
- Backaches

Action & research needed:

- Extension: aquaculture, safety fish/vegetables
- Land use
- Loan/investment
- Wastewater treatment and clean water supply
- Safe Fish and Vegetable production
- High quality supply
- New market & high value products
- Use of city lakes