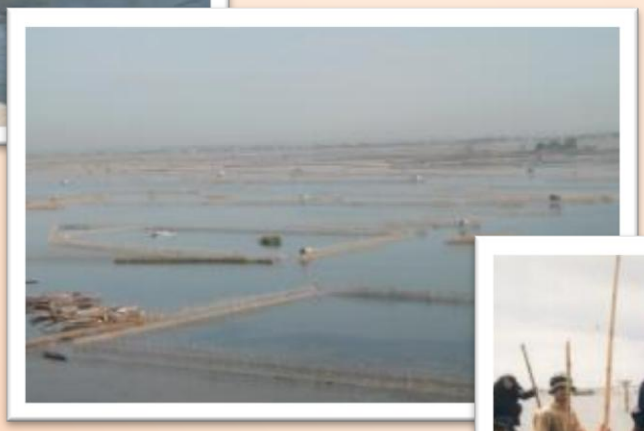
Fisheries co-management in Viet Nam



Ha Noi, Vietnam - 2015

OVERVIEW OF FISHERIES CO-MANAGEMENT MODELS IN VIETNAM

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Strengthening of Capture Fisheries Management (SCAFI)

Abstract

Community-based/ Co-management for coastal resources has generally been implemented iN Vietnam for nearly 2 decades. However, it has remained difficulties in the process of implementation, without a firmly legal and financial framework and organization for effective and sustainable development. This paper will overview on the current status of fisheries sector of Vietnam; advantages and disadvantages, challenges in the process of fisheries co-management implementation. At the same time, experience and lesson learnt and recommendations will be useful for effective and sustainable development of co-management that contribute to generating incomes, reducing state management cost, protecting resource for future generations, security at local level.

PART 1

OVERVIEW OF VIETNAM FISHERIES

Vietnam has 3.260 km coastlines with its EEZ more than 1 million km^2, system of rivers, lakes, reservoirs, ponds, rice-fields, flood areas distributed nationwide which can be seen as a potential for water area and plentiful aquatic resources for development of fisheries sector.

With 2.372 rivers of over 10 km, 13 big river systems with total area of 10.000 km^2 and 2 main deltas of Red river delta about $1.9.10^6$ ha and Mekong delta about 4.10^6 ha. This is both rice and fish potential of the country. Due to needs of irrigation and electricity production, Vietnam has built a lot of big and medium size reservoirs: Northern mountain area has 1.750 reservoirs; Red river delta has 35 reservoirs; North central; coastal south central has 32 reservoirs, Highlands have 972 reservoirs, South east has big reservoirs such as Trị An, Thác Mơ, Dầu Tiếng, Hàm Thuận and many small ones. Total area of fresh waters in Vietnam for fishing and aquaculture activities is about $1,4.10^6$ha.

Vietnam is a country that has sea, mountains, rivers, lakes, deltas and island as well. Such characteristics of territory create diversity of natural landscape and fresh, brackish and marine waters. This is a very essential for a strong and diversified development of fisheries. Fisheries of Vietnam could be developed in many types of water as different natural lakes – ecosystem from mountain, plain to islands. Therefore, fishery production is a traditional occupation which is very close to people in coastal areas, remote area; livelihoods for local people, especially poor people.

1. Freshwater fisheries resources

Vietnam is considered as a high diversity freshwater fisheries in the region. 544 fishes were totaled up belonging to 288 races, 57 families and 18 groups. Of which, there are 97 economic

species. 226 species were identified in Northern area; 306 species identified in the south. 145 species identified in the Central provinces from Thanh Hoa to Thua Thien Hue; southern central from Da Nang to Binh Thuan with 120 species.

Besides, natural resources are also diversified in fresh waters, invertebrate aquatic species such as: tiger shrimp, tiny shrimp, freshwater crab, mussel, shells which have not been target for export but they are very necessary for local livelihoods.

2. Marine fishery resource

About 2030 fishes identified, of which there are about 100 economic species, 225 marine shrimp, of which 43 economic species, 53 squids, 653 seaweeds etc.

Marine stock is about 5.075.143 tones, fishing capacity is 2.147.444tonnes.

3. Potential for development of capture fisheries and aquaculture

Coastal area is being overfished, however, we focus on livelihoods, policies, applying appropriate management approached, community-based management, develop local community strength to coordinate with government to do good coastal management that will be sure to protect the resources for next generations, contribute to improving people life, social and political security in rural area.

Offshore fisheries are still very potential such as tuna, squid…Vietnam promotes to negotiate with regional countries to cooperation for fisheries activities (capture and processing) in order that Vietnamese vessels could fish in another sea areas in the region and Vietnam is preparing for participating in International Organization on Resource Management, that Vietnam will have the rights to fish in international sea as regulation.

Total area for aquaculture development in Vietnam is about 2,20 mill. ha, of which freshwater is 1,07ha, marine and brackish waters are 1,18ha. Potential for aquaculture development is mainly in coastal provinces, Mekong delta and Red river delta; in potential area for aquaculture including Mekong delta accounted for 60,8% total area nationwide, Red river delta accounted for 9,4%

II. Achievements

1. Fact and figures

It is from a handicraft and backward occupation with simple working tools, such important fields as processing, export and logistic services managed by the Government, Fisheries sector has become a production sector with the participation by many economic components. It develops the strong points of nature, innovate economic policies and market that drives the fisheries sector to become a stable and fast growth sector.

In the 1985-2008 period, the sector had continuously grown with average from 6-10%/year. The average growth of fisheries achieved 6,17%/year. If in 1985, fisheries yield was 1,161 mill tones that increased to 4,6 mill. Tones (nearly 4 times) in 2008. In which, capture fisheries was 2,35 times,

the speed of average growth was 3,79%/year; aquaculture increased nearly 8,82 times, the average growth was 9,99%/year

Structure movement of fisheries towarded positive tendency, fisheries turnover in total GDP in 1991 was around 1,2%, increased up to 3,37% in 2000 and 4,02% in 2007. In general fishery production structure, , aquaculture yield and value tended to continuously increase from 0,35 mill. tonnes in 1991 to 2,4 mill. tonnes in 2008 (everage growth for the period was 11,86%/year), accounted for 53% total yield nationwide in 2008. fishing yield increased from 0,71 mill tonnes in 1991 to 2,2 mill tonnes in 2007 (everage growth for the period was 6,49%/year);

For processing, due to the fast development of material production, especially aquaculture recently which increase the fishery materials in production and capacity of processing factories and needs of labour force increased; labour force in processing field have been trained and developed capacity to meet the requirements of new technologies for the importing markets. Processing industry had just focused on urban areas now it has developed nationwide. In 1995, there were 170 fishery processing factories nationwide with total labour force of 58.768 workers (everage 1 factory had 346 workers), to 2007, there were 532 industrial-scale factories, applying for internationally advance technologies in production, of which there were 269 enterprises who gained the export standard to export to EU markets; 370 enterprise gained HACCP to export to USA.

Export value has continously increased for the past time which rank Vietnam as the top ten largest countries for fisheries export in the world. As compared with 1985, total fisheries turnover was 90 million USD, this figure in 2008 was 4,51 billion USD, increasing 50 times.

2. Contributing to national food, sea and island security

Activities in fisheries sector have created a huge quantity of products to meet the demand for domestic consumers. The domestic consumption of fishery products increased from 12kg/person/year in 1991 to 19kg/person/year in 2000 and 22kg/person/year in 2007, 1,29 times higher than average consumption of fishery products per head in the world.

In agricultural production alternative, 377.269 ha of lower field, fallow, low productivity were transfered to aquaculture (in 44 provinces), most of changed areas increased the using value of 4-10 times, that has not affected to national security. Mekong and Red river deltas are the main areas for food prduction nationwide, as a part of land use changed into aquaculture which were still highest food production for domestic markets and export.

Developing fisheries, particularly offshore fishing which contribute to protecting the sea sovereignty, fishermen become an important force to implement administration, civilianization and contribute to implementing national and sea security.

The presense of fishermen in the sea, islands had not only participated in monitoring, surveillance of activities in the seas, security, managementa and protect sea sovereignty, but also

contributing to resolving conflicts in the seas and counterbalance with other countries who inconsiderately proclaim sovereignty and banned fishing areas in Vietnamese sea areas.

3. Structure of fisheries economics

Development of fishery economics has attracted about 800 thousand people in 1991 increased 3,4 million people compared with 2000 and nearly 5 million people in 2007 (both ful time and part time labourers). Structure of labour also change in coastal areas, from coastal fishing to offshore fishing; aquaculture, processing and services. From 2001 to 2006, fishing households increased from 512.342 to 692.197 with nearly 1,4 people, accounted for 4,56% total agriculture and fishery labor force, increased 1,11% as compared with 2001, while agriculture laborers decreased 10,39 %.

Household economics continue developing and become a main part in fishery economics. Household structure according to main income in 2006, the rate of agriculture/ fishery production households was 66,45% /4,38%, of whom households had biggest income between agriculture/ fisheries was 62,94%/4,59%.(Mekong delta -11,35%, coastal central provinces-7,8%).

Farming economics continue developing and tend to increase in numbers. In 2001, there were 17.015 fisheries farms nationwide, it increased to 33,711 farms in 2006 (two times). Farms almost focused on aquaculture and business. One farm uses everage 3,5 permenent workers and area of 3,1ha/1 farm, increased over 80,05% on area as compared with 2001.

Together with achivements, the fisheries sector has coped with difficulties and challenges.

III. Status of Vietnam fisheries

1. Resources

Vietnam seas have nearly 100 rare species endangered metioned in Vietnam Red Book (1994, 2002). Due to overfishing, many economic and rare species in coastal area are threatened to extinction. Checklist of endangered species increased from 15 species (1989) to 135 species (57 freshwater and 78 marine species (Vietnam fisheries resources 1996). Some special fishery species are in risk of being exhausted such as abanlone, oyster, mussel, peanut worm, shell, horse fish, dugong ... this means that biodiversity resources in coastal areas decreases.

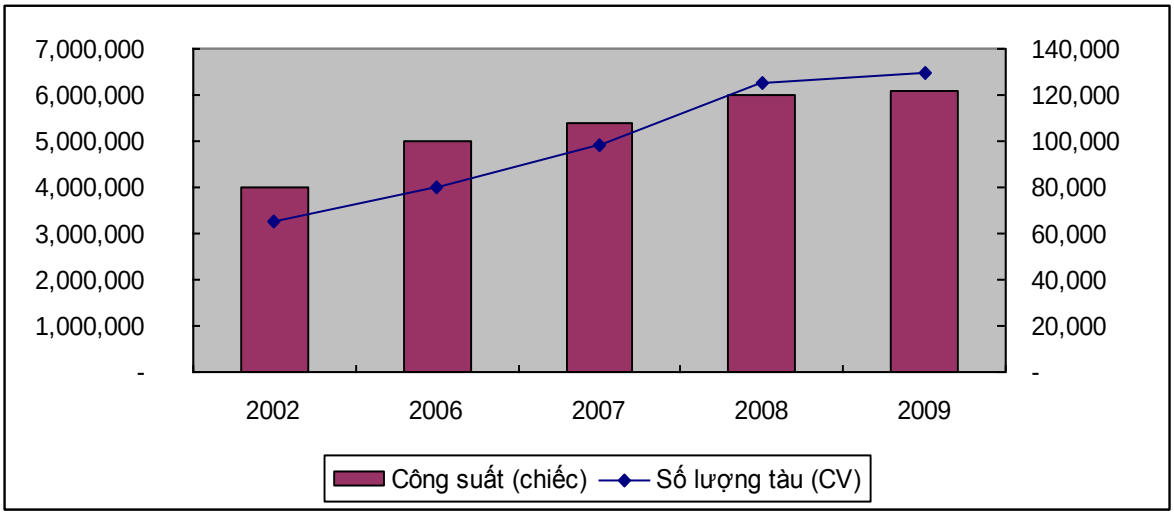
2. Capture fisheries

2.1. Fishing vessel structure

- Until 2008, there were about 126.600 fishing vessels and boats in Vietnam, of which 44.800 non-engined boats and 81.800 engined vessels with total of 6.038.000 hp, increased 65% conpared with 2002 on numbers and 34,4% on horse power, vessel capacity was increased from 49 cv (2002) to 75 cv (2008). Vessels are under 90 cv accounted for 80 %, offshore fishing vessels accounted for 20% in total of engined vessels, 17.000 vessels

- But from 2002 to 2009, number of engined vessels slowly increased as compared with everage annual increase of 4%, while total capacity fast increased with 28%/year.

Table 1: Corelation between power and number of vessels



2.2. Catch and occupation structure:

a. Fishing catch

- Total catch in recent 10 years continuously increased with everage speed of 9%/year. In 2008, total catch was 4.582 thousands tonnes, of which 2.134 thousands tonnes accounted for 46,6% total catch nationwide.

- As compared fishing catch and capacity from 2002 - 2009 showing that it was everage 11%/year, while productivity (ton/cv) decreased 7%/year; and capacity increased 28%/year, productivity decreased 7%/year

Table 2: Corelation between catch and capacity

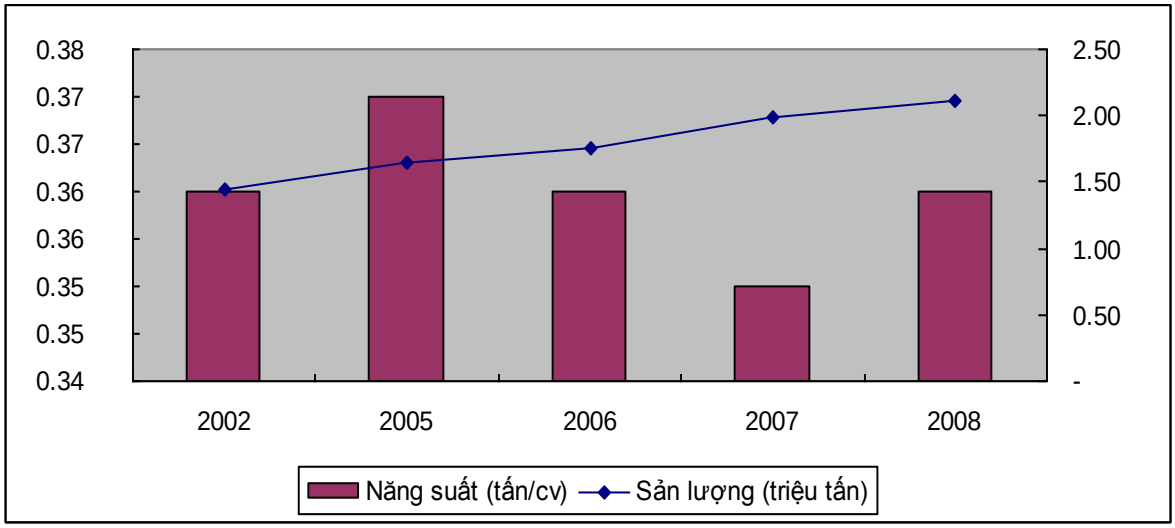
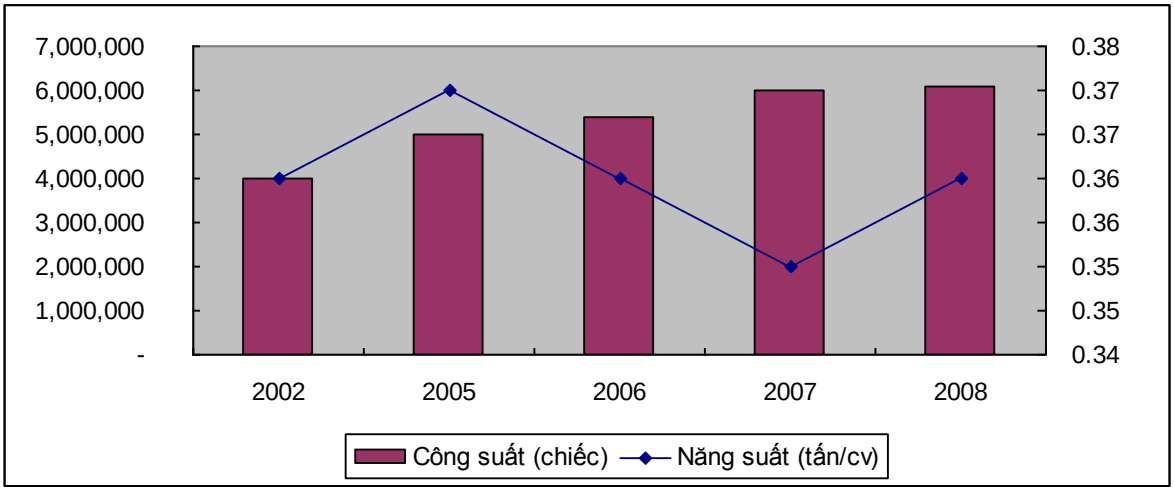


Table 3: Correlation between capacity and power (ton/cv)



This shows that fishing catch in coastal area surpassed fishing capacity so that effectiveness decreased.

Catch in freshwater fisheries in natural waters from 1981 – 1986 was from 85.000 – 97.000 ton/year, from 1990 – 1991 remained 59.000 – 60.000 ton; 1994 – 1995 was about 65.000 – 70.000 ton; 2001 gained 243.582 ton and gradually decreased to 193.500 ton in 2006 and about 200.000 ton from 2007 to date.

2.3. Fishing ports and landing sites:

Though the planning of fishing ports, landing sites and fish market has not approved, the development of fisheries in the plan from 2001-2005 to date, the Government has invested fishing ports and landing sites according to Sea and Island Programme with total fund of 2.200 million.

Until 31/12/2008, there were 91 fishing ports and landing sites which were under investment, of which including 18 fishing ports, landing sites belonging to islands and 73 fishing ports and landing sites in coastal area and estuaries.

3. Aquaculture

Until end of 2008, water area used for aquaculture nationwide was 1.204.990 ha, of which shrimp area was 623,790 ha, white leg shrimp was 14.824 ha, tra fish was 5.622 ha, marine fish aquaculture was 1.559 ha, mollusc was 17.722 ha, seaweed was 1.290 ha, tilapia area was (snapper) was 1.186 ha, of which there were 3.432 cages, aquaculture area for other species was 538.997 ha. Aquaculture yield in 2008 was about 2,4 million ton increased 16% compared with the same period last year *(provincial reports)*. While shrimp yield was 309.015 ton, white leg shrimp was 45.451 ton, tra fish was 1.094.879 ton, mollusc was 86.031 ton, marine fishes were 5.029 ton, seaweed was 11.270 ton, tilapia (snapper) was 52.476 ton, other species were 832.945 ton.

The decrease of aquaculture yield due to the increase of productivity in a unit of area and widening aquaculture area. These increase led to the continuously development of aquaculture yield which more investment for infrastructure and technologies to meet the requirement of development, together worth limitation of management, production and environment that pollute the ecological environment not only for aquaculture species but also local people.

4. Difficulties

a. Input has not been controlled

- Issuing fishing licience, number of vessels and density of vessel in coastal area, duration of vessel operation in sea.

b. Output has not been controlled:

- Controlling fishing catch for a certain objects in total resource is very important and certain species overfished such as shrimp, squid….but statistic system of the sector from central to local level is still inadequate, statistics on vessels, catch, power, yield by fisheries and main species have

not been collected correctly so that it is lack of scientific base to monitor overfished species in order to protect and manage resources sustainably.

- Sector management agencies have not had suitable solutions and researches have not provided sufficient data for monitoring such as shrimp, squid, tuna.

c. Development of Vietnam Fisheries has coped with difficulties, high risk and unsustainability. Fast growth but effectiveness has not reflected itself, the number of people and vessels suffer from losses accounted for ¾; Aquaculture developed but without planning, it is always in situation 'good crop low price'; processing and export strongly developed but the competition is not high, the integration and prodcution arrangement stil have many problems, brand name development seems to be new starting; material sources are unstable.

d. Fishery resources, freshwater area, habitat of aquatic species destroyed, quality tends to decrease.

e. Infrastructure for fisheries has not invested for development need, particular irrigation for aquaculture; quay system, storm shelter; safety for people and vessels in sea areas also improved but it needs to be more concerned.

f. State management on the sector is inadequate; current policies have not been effectively, have not met the need of local people.

g. In capture fisheries, vessels are fishing in coastal areas, while offshore fishing vessels tend to decrease which affect the national security and sovereignty in sea areas.

h. In aquculture, lack of collaboration among sectors in protecting environment; environment warning; monitoring diseases in aquaculture are still limited. Disease inspectors are not enough at local level, lack of equipment; fishery inspection system has not worked; lack of agreement in disease inspection among provinces, many batches of imported goods lack of disease check certificate or just for procedure.

i. In processing and export, aqua product quality, seed quality, management of aqua areas in accordance with food safety, traceability is in the process of overcoming.

5. Fisheries Co-management a necessary road for small scale fisheries

- Limitations

Vietnam fisheries sector is still small scale, unpromted and diversified in an area of nearly 1 million km^2 while human resource for the management and protection limited both people and facilities; there are 67 patrol boats for monitoring about 131.000 vessels nationwide. Inspectors and officers involved have not had enough to monitor operation and use of fishery resources and ensure safety for ecological environment, food safety and hygiene of fishery products, aquaculture,

processing, trading Besides, equipment for monitoring and checking is lack of fund and resources to implement nationwide.

- Regulations and rules for management and protection of fishery resources have not strict enough. Law and regulations on capture fisheries and resource protection have been promulgated but their implementation is not effective.

- Cost for specialized agencies to implement management, monitoring and checking is very expensive.

A necessary road?

Due to limitations mentioned above though management agencies have tried their best to implement their duties, it has not been effective and seems to arise many problems in capture fisheries and resource protection. We do have enough human resource to monitor 01 mill. km^2, more than 80 thousand vessels in the seas. Why shouldn't we base on people, assign for fishermen to help us manage? Co-management is an approach that seems to be effective for management of aquaculture, fishing areas, coastal and inland waterbodies, multi used water bodies.

Co-management with advantage is to mobilize strength from stakeholders involving in management of fisheries and environmental and resource protection in general, fisheries resource in particular in identified waters so that this approach tends to be effective in management and exploitation, environmental protection, resource potential and contributing to food safety for fishery products as well.

Therefore, finding of small scale fisheries management in Vietnam which is suitable to Vietnamese condition is very necessary and that shows the right way Vietnam has approached this management in more than a decade. Co-management/ community-based management will be a necessary road for sustainable development of coastal resources

PART II

STATUS OF FISHERIES CO-MANAGEMENT IN VIETNAM

I. Forming process

- The concept of community-based management appeared in the 19th century in the world, which was defined in Fisheries Law of Lofoten in 1897 in Norway. Next was Japan from late th 19th century and early the 20th century it was formed community-based fisheries management. In 1992 a workshop on development of coommunity-based coastal fshery mangement in Asia organized by FAO in Kobe, Japan Until now, most of country in the world from poor, developing countries in Africa, Asia to new developed countries of Korea, China, India to European countries such as

England, Denmark, Norway and Australia, USA also applied for this approach to their fisheries management.

As success of community-based maangement/co-management for coastal resources in general, fishery management in particular in the world, Ministry of Agriculture and Rural Development (former Ministry of Fisheries) has paid much attention to this approach since the 1990s (1991), Ministry fo Fishries allowed Vietnam Institute of Fisheries Economics and Planning to cooperate with international organizations to study this approach. Since then, some cooperations, workshops, study visit on community-based management/ co-mangement applied for Vietnamese fisheries management.

Having supported from national and international organizations and provinces, there have been 34 models of community-based management/ co-management implemeted in Vietnam to date including aquaculture and fishing ones in 18 provinces and cities belonging to 7 ecological regions.

In 2005, MARD (MOFI) established task force on studying and applying for fishery co-management and assigned for VIFEP to be in charge of coordinating this task force. Since 2007, with support by SCAFI component, there have been many activities related to co-management implemented in central level and 9 pilot sites in 9 target provinces including Sơn La, Quảng Ninh, Nghệ An, Thừa Thiên Huế, Bình Định, Đắc Lắc, Bến Tre, An Giang and Cà Mau.

II. Activities have been implemented SCAFI

1. Why fisheries co-comanagement is in SCAFI

Adaptive fisheries co-management approach in Vietnam was developed and applied in output 3 under SCAFI Component.

There is one reason why Vietnam should not copy ‘western approaches’ for fishery management. One side it is very expensive for research, process of making decision and Monitoring –management-Surveillance system. Moreover, ‘western approaches’ are based on detail forecast of cvhanging fishery resources by researchers, but as a fact showing that forecast was limited and management is normally skipping what science and fisherfolk mentioned.

Due to complication of Vietnam fisheries which much more than North Atlantic Ocean so that if the management is based on the detail forecast that very costly. Even when Vietnam could cover these cost, the management will not be effective. Therefore, it needs to identify an alternative solution. The solutions should be effective on cost, practice and sustainability and solutions should start by practical issues of Vietnamese fisheries and they are applicable by conditions, history, culture, customs of each area.

International experience showed that if the management system has not come from the local people and has not received consensus from local people it will not be sucessful. Operation method is adaptive fisheries management based on indicators in co-management. The requirement for this

approach is to have a well multidisciplinary advisory system and need to develop co-managed fisheries in Vietnam.

Some mechanisms could be achieved as follows:

- Develop adaptive fisheries management. This system needs to operate in accordance with adaptive regime so that regulations should be based on experience, results which can be adjusted in the future;

- Develop appropriate fishery management systems. The systems should be developed with participation and cooperation by local fishermen or fishing communities. This is an essential condition to get consensus without being taking into costly monitoring-management-surveillance system;

- Change institutional of fishery management system by developing organizational structure for wide cooperation among governmental agencies at all levels and fishery communities/ fisherfolk on collecting data, increasing knowledge, making decisions and implementing decisions.

2. Activities at central level

a. Criteria Selection

- Since 2007, SCAFI developed **Criteria for selecting sites for developing fishery co-management** in 9 target provinces. To be sure successful it needs to have criteria for good selection. Because, it does mean that co-management could be applied for any place.

- **Developing Criteria for selecting sites for developing fishery co-management**, to have scientific base for assessing effectiveness of successful or failure models it needs criteria. Criteria includes criteria on development and implementation of models, criteria and indicators on application of model, criteria and indicators on sustainability and transferability of models.

b. Develop advisory structure and network

- Advisory structure: in 2007 SCAFI supported DECAFIREP, VIFEP to develop advisory team for fisheries co-management (FICO), the task of this team was to co-ordinate activities of co-management in fisheries sector, from selecting site to implementation of activities, provided technical assistance for policies, strategies on applying for co-management in fisheries sector However, the team was not very effective so that it was requested to stop supporting this team by Director of DECAFIREP.

- Established fisheries co-management network: SCAFI developed fisheries co-management network in 9 target sites with activities as follows: develop operation rules, training from staffs from commune, district and province on co-management, this is core persons for implementing co-management from the beginning.

- Supporting provinces to develop action plans, provide advices on implementation,

orientation and process.

c. Training & Study visits

2 training courses conducted for FICO members who are from DECAFIREP, VIFEP< Departments under MARD; 4 courses for network members including facilitating to develop action plans for 9 target provinces.

Study visits to Malaysia, Phillippine.

d. Communication Strategy

Support DECAFIREP to develop communication strategy on capture fisheries and resource protection in accordance with co-management, translated 13 handbooks and printed 4 books on fisheries management…..

e. National Guideline on small scale fisheries Co-management in Vietnam

In 2008, SCAFI supported VIFEP to develop National Guideline on fisheries Co-management. This is a basic guideline for organizations, individuals and relevant agencies to provide advices, appraise, implement, monitor, make decisions and adjust fisheries co-management nationwide; support for the process of small scale fisheries co-management in Vietnam; to be base on development and implementation for co-management model at local level.

However, this Guideline has not provided detail instruction, but only introduces basic steps or framework for developing and implementing co-management in accordance with Vietnam orientation and law.

f. Assessment of existing fisheries co-management models in Vietnam

This activity done by VIFEP from 2007 – 2008, 38 models on community-based management / co-management were surveyed in Vietnam including both aquaculture and capture fisheries in 18 provinces of 7 ecological regions: Mountainous northern area (Quảng Ninh, Sơn La, Yên Bái), Red River delta (Hải Phòng, Nam Định), Central North (Nghệ An, Hà Tĩnh, Thừa Thiên Huế), Coastal Central South (Quảng Nam, Bình Định, Khánh Hoà, Ninh Thuận), Highlands (Đắc Lắc); Southeast (Đồng Nai), Southwest (An Giang, Sóc Trăng, Bến Tre, Cà Mau).

Result summarized as follows:

(1) Classification of models

it's noted that the classification of fishery co-management models is merely relative, because there are many activities for different goals in the same water area.

Regarding the subject of fishery production, including groups of model as follows:

- The group of co-management models in exploitation and protection of fishery resources comprising of inland fishery exploitation (lakes, reservoirs, rivers) and coastal and adjoining water fishing and fishery (18/34 survey models).

- Aquaculture consisting of aquaculture in lakes, reservoirs and large-scale aquaculture in freshwater, brackish water and marine water (14/34 survey models).
- Conservation and preservation of sea resources (2/34 survey models).
- Fishery processing, mainly in traditional craft villages

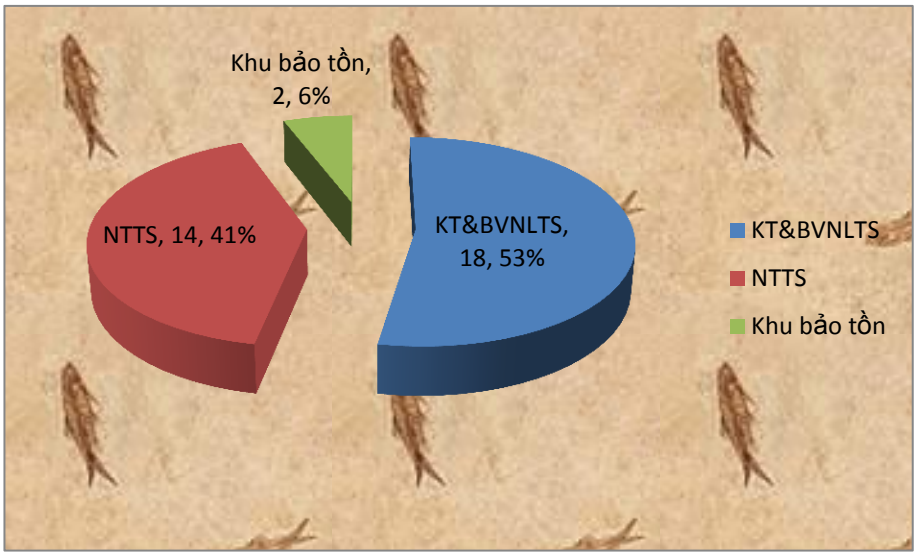


Figure 1. Diagram on structure of co-management model classification surveyed by production fields

Regarding the organization of fishery management models, there are such groups of co-management models as:

- The group of co-management models based on the formation of fishery Associations/vocational associations: 9.
- The group of co-management model based on the formation of occupational craft teams/ community teams/clubs: 20.
- The group of co-management model based on the formation of co-operatives: 5.

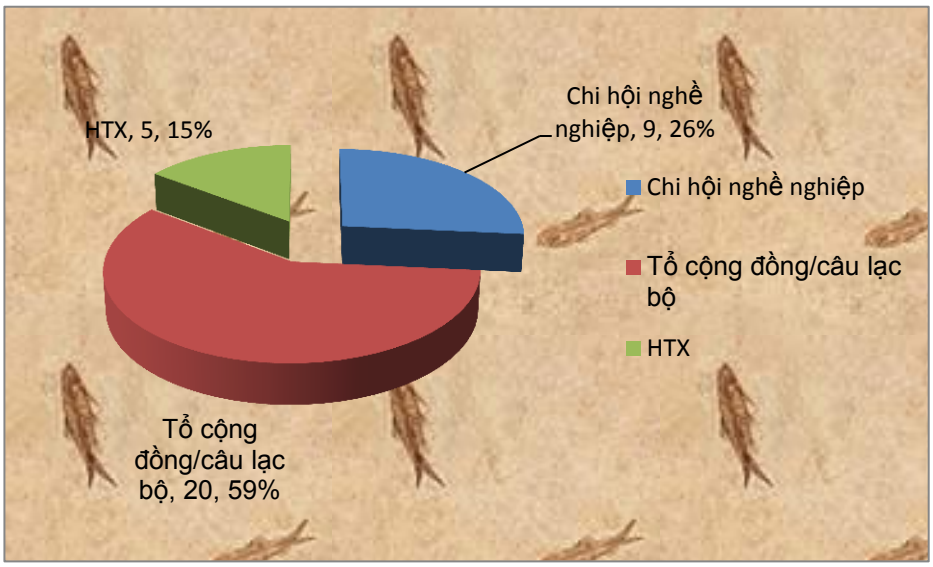


Figure 2. Diagram on structure of co-management model classification surveyed by management organization

(2) General Assessment

Assessment based on criteria

There were forming many models in Vietnam in term of co-management but no assessment carried out for the effectiveness and sustainability of co-management models.

Based on developed criteria, the assessment of fisheries co-management model in Vietnam implemented, it scored as follows: decree of co-management developed and implemented, effectiveness and sustainability of models based on survey in 18 provinces (Annex 1).

Problems and issues at areas before implementing co-management:

- There were many components using common resources, having same needs (capital, selling products, ...); without an effective management, conflicts among users, resources reduced, pollution, ineffective economic activities, unsustainability.

- Small scale fisheries (household); possible to identify borderlines (inland and coastal).

We can see clearly that the picture of co-management in Vietnam is at different level in the same ecosystem. There were 6 models forming, which have not had specific results, including 3 models in: Sơn La, An Giang, Cà Mau (total score was under 10). The other 28 models with effective operation which was classified as follows:

- There were 2 models assessed to be high level of co-management (45-56 scores): **1 model in Ben Tre (MH31) was 49 scores and 1 model in Khánh Hòa (MH19) was 48 scores. These 2 models** had rather high scores in 3 groups of criteria – which were the 2 best models in total 34.

- There were 8 models assessed to be average co-management level (35-44 scores), including: MH1-Quảng Ninh (38 scores), MH7-Hải Phòng (41 scores), MH8-Hải Phòng (39,5 scores), MH13-TT Huế (43 scores), MH14-TT Huế (37), MH18-Bình Định (42 scores), MH20-Khánh Hòa (39,5 scores), MH32-Bến Tre (39,5 scores). There were some models at rather high scores in group of criteria of development and implementation of model (over 20 scores) but they were not enough high in group of criteria for effectiveness of application (over 20 scores) and general criteria (over 2 scores).

- There were 12 models assessed to be low level of co-management (25-34 scores), including: MH5-Yên Bái (31 scores), MH6-Yên Bái (31,5 scores), MH2-Quảng Ninh (26 scores), MH9-Nam Định (28 scores), MH10-Nam Định (29 scores), MH11-Nghệ An (34,5 scores), MH12-Hà Tĩnh (32 scores), MH16-Quảng Nam (27 scores), MH21_Ninh Thuận (25,5 scores), MH22-Ninh Thuận (29,5 scores), MH23-Đắc Lắc (27 scores), MH24-Đắc Lắc (34 scores).

- There were 6 models assessed to be very low level of co-management (under 25 scores – under 50% total scores), including: MH15-Quảng Nam (23 scores), MH17-Bình Định (24 scores), MH25-Đồng Nai (21 scores), MH26-Đồng Nai (18 scores), MH 29-Sóc Trăng (18 scores), MH 30-Sóc Trăng (20 scores).

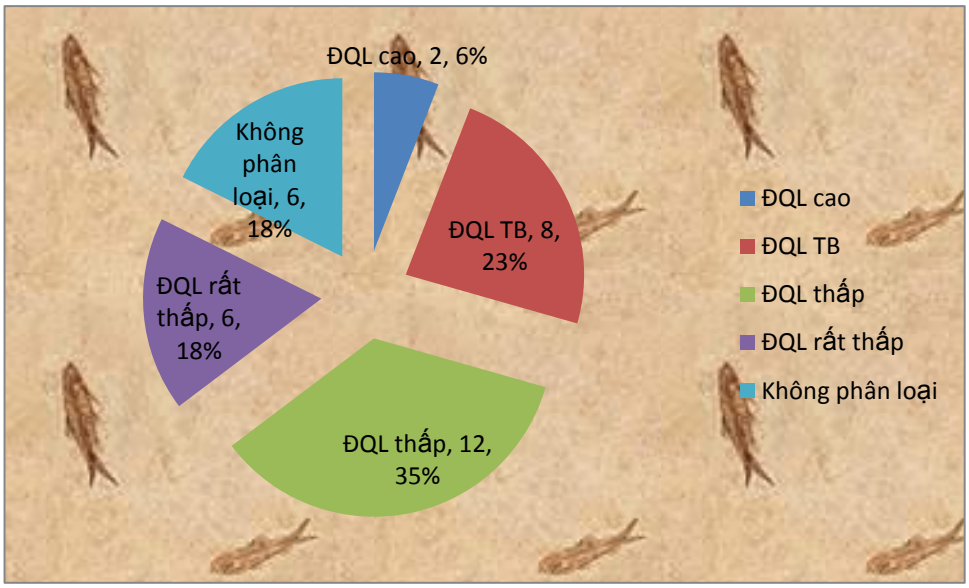


Figure 3. Classification of co-management models

General Assessment

- Effectiveness:

+ Co-management approach has been applied in different level in fisheries as a tool of management. Though government staffs become busier in the beginning and new issues arising

(more work on dissemination, training, co-ordination and fining violations, equipment, writing reports…), more effective from models.

Most of model formed, activities are effective in many aspects: environment, resource, socio-economics, institutional-management-policies which are not very good.

Co-management models also had significant result in many aspects: protection and development of fishery resources, reduce destructive gears, increasing incomes, raising awareness on environmental protection, capacity development, improving livelihoods and sustainability. Most of surveyed and assessed models were more positive than places where there was no model. There was no model which became worse than before implementing. Though occupation was reduced after implementing models due to the target of resource protection, it however brought good things to environment, resources and life of local people.

- ***Responsibility:*** Fishing communities and local authority where having models aware their roles and responsibilities for fisheries resources, environment and other business activities.

- ***Co-ordination***

The coordination between relevant parties on management affairs and the participation of the people in the management process have been enhanced thanks to the results of awareness raising and clear management mechanism/coordination, so the parties are more responsible for resources using in the management process; self-management capacity of the community, awareness of environment protection of the people have thus been enhanced and at the same time the participation of the people in management process have been deepening.

Almost all established models were originated from the reality, management pressure, or proposed by fishing community and they enjoyed the sponsors from projects, government agencies or NGOs. The good operating models are the ones that have high consensus, coming from the people's wishes and active participation with solidly effective support from the authorities, especially local authorities.

Difficulties:

- Together with achievements, models mentioned above still had many difficulties, particularly place where information was not transparent or wrong approaching.

- Due to misunderstanding of co-management and approaches which process of implementation was not good, overlapped among technical models and co-management models, applying top-down management

- Most of model had decision to establish Group, Operation Rule within the model … but without cooperation with stakeholders (only by document system) so that there was not much difference in management as compared with existing administration.

- Lack of legal framework to implement management.

- Most of models developed and implemented as an activity of a project. There was not proposal by local people or authority. Besides, there was not transferring , preparing for financial issues when project phased out so that many models also closed as without being funded.

- It is still project work but not daily work of public servant, this appeared some fishery staffs in process of development and implementation of models.

- Models were piloted in small scale (hamlet, communes, area), unprompted, they were not developed in system with high legal base so they faced a lot of difficulties in process of implementation and decree of success.

- For models which SCAFI has been implementing, private and common fishing rights are same in implementation. For instance, Quảng Ninh.

3. Activities at local level

Tóm tắt các các mô hình đồng quản lý nghề cá ở các địa phương

Sơn La: The co-management and protection model of fisheries resources protection in reservoir in Quy Huong, Moc Chau with area of 350 ha, population: 3722 people, poor rate of 70%, 100 households involved in fisheries.

- Quảng Ninh: Fisheries co-management model to manage peatnut worm in Đại Bình commune, Đầm Hà district. With area of 6894 ha, in 6 communes, population of 2165 people, poor households of 15,5%.

Nghệ An: Coastal Fisheries co-management model in Quỳnh Lập commune, Quỳnh Lưu district, area of 2080 ha. Coastal fishing.

Thừa Thiên Huế: Fsheries co-management model in reservoir in Quang Loi commune, Quang Dien district with area of 1200 ha, population of 7298 people, in which 31,3% poor households. Main activities are fishing and aquaculture.

Bình Định: Fisheries co-management model for protection of coral reef in Nhon Ha commune, Qui Nhơn City; with area of 1200 ha, population is 1221 people. Aquaculture, fishing

Đắc Lắc: Fisheries co-management model in Buôn Triết, Lắc district, area of 150 ha, population is 5.742 people, and minority is Êđê, Tày. Fishing is main activity.

Bến Tre: (1) Fisheries co-management model in Thạnh Phong Commune, Thanh Phú district, area of 5746 ha, population is 9571 people, main activities fishing and clam.

An Giang: Fisheries co-management model in Búng Bình Thiên located in 3 communes of Quoc Thái, Nhơn Hội, Khánh Bình in An Phú district; area of 200 – 300 ha, population is 6800 people. Main activities are fishing and aquaculture.

Cà Mau: Fisheries co-management model in Thị Tường lagoon located in 5 communes of Phong Lạc, Phong Điền, Phú Thuận, Phú Mỹ, Hoà Mỹ, in 3 districts of Trần Văn Thời, Phú Tân, Cái Nước, Cà Mau. There were 680 households involved in fishing and aquaculture.

Activities implemented

Since 2007, local level has implemented activities as: developed action plan, socio-economic survey, resource and environemnt survey, training, core group established, management unit established, Decision by PPC or DPC on model establishment, workshops, dissemination to local communities, develop regulations.

Provinces which do best are Bến Tre, An Giang, Bình Định. Bến Tre is good because the leaders of DARD, PPC who are very much concerned, they are always participate in workshop and training courses. An Giang does very good at dissemination as mobilizing movement of fisheries protection for youth in the area.

4. Difficulties, shortcomings as implementing co-management models in Vietnam

a. On Institutional and Interest by local authorities

Law allows everyone to participate in fishing without limiting quantity and no legal document said clearly that where is borderline in water area for co-management implementation.

Law, regulations existed but it does not have legal framework to implement and customs and traditions of fishing villages, communities have not been developed. There was no document to guide on process of co-management in fisheries sector.

- Lack of support and interest from local authorities, sectors in implementing management role.

- Develop regulations related to restriction/banning of fishing coped with response by many people, if local government has not involved it would be difficult to implement.

b. Living conditions

The people's living standards is low, fishing is their main livelihood, it is limited chance for livelihoods and it constrains to develop and implement government regulations.

There are a lot of fishing gears so it is very difficult to apply common regulations.

d. operating budget:

- The budget for initial activities of the management board is not enough to carry out the operating plans.
- The budget for enhancing the awareness of managers and the community is very limited.

c. Awareness

- The people are more regulated by traditional relationship of neighbours, so it is difficult to apply legal regulations.
- The people have very limited knowledge and understanding of the environment, resources, biological growth and conservation.

The staffs and people's understanding of co-management approach is still limited

5. Lessons leant

a. To identify clearly the management scope, subject and object

Identifying clearly management scope, object and subject is an important decision to make for the success of the model. How is the management scope? What is the management object? Who will be participating in the management? These are questions to be responded specifically; the clearer the answer is the higher success that the management model provides.

b. To raise the awareness of parties involved (direct and indirect) in the management (including the community)

This is an important work. Awareness rising for this model means the combined knowledge on economics, politics, the society, resource, ecological environment and management knowledge, in which two issues need to be stressed are the knowledge of sustainable development and community activities and understanding of specific issues of the management model.

c. To enhance the capacity of management for parties involved in management:

This is an important work. People taking part in managing must have a capacity on management. The management capacity must have also the combined content, i.e., management methods and means and content for management participation (building management regulations, plan and implementation of management). The managers especially who are directly engaged in, who have good capacity in management shall apply the model effectively. And with that capacity they know how to supplement, complete the model for higher efficiency.

d.To select management nucleus:

The management nucleus is, in fact, the management board comprising of key members of the community. It is necessary to choose qualified members who are have the capacity and conditions to take part in the nucleus and play their role and at the same time serve as examples to encourage and pull the whole community to implement together the model.

e. To build a mechanism for rational management:

The building of a management mechanism is based on such criteria as efficiency, ability to encourage participation by all parties concerned, especially the community; ensuring fairness for all related parties.

It is necessary to effectively coordinate between the parties involved in management works: the local authorities, the sector's management agencies, research centers/institutes and promotion

agencies, public security, tax, management board, fisher community are all involved in building and implementing management regulations in order to reach the goals.

The community is a key and decisive force in building regulations and operating plans of group; the authorities shall provide consultancy, approval and support when needed or requested by the community.

The community shall observe the regulations well when they have clear regulations, which clearly define the roles, responsibilities, benefits – and are mutually agreed by the parties.

h. The legal conditions to implement the model:

The management regulation of the model must not be contrary to current laws and legal documents, but it must bear within specific characteristics of the community in line with the conditions at the locality. It, therefore, must be mutually agreed and be supported by the authorities, especially the commune's authorities – the place where the model is applied, meeting administrative requirements and ensuring the mechanism for implementation.

The model also needs an active and responsible participation by the authorities in settling the issues of punishment, approving the management decisions (regulations, management board), but the authority should not interfere too deep into the management activities by the community.

The co-management is an approach in line with the policies on administrative reforms and democracy realization and the government decentralization. It is necessary to have a strong decentralization for the local authorities in their natural resource management.

g. Develop livelihood alternatives:

It needs to find a livelihood alternative for local people as the model started to ensure their life of people in co-management model and management regulation should be seriously implemented.

h. To efficiently seek and use the technical and financial supports from international development aid organizations:

The ecological environment has become a global issue; the model of co-management/QLTCSCD has been paid attention by all international development aid organizations. Seeking and using effectively the technical and financial supports of international development aid organizations will help raise awareness, conduct research, make review and summary, multiply the model in a more rapid and effective manner. However, the important thing is to have a method of using those supports efficiently to ensure the model's sustainability after the supports ran out.

III. Legal framework/base to develop fisheries co-management in Vietnam

1. Relevant documents

Recently with the development of fisheries co-management in Vietnam, the Government, MARD have issued many documents related to co-management or participatory community management. However, the documents have not sufficient and specific enough, it has been mentioned in many documents, which include:

Table 4. Legal documents related to co-management implementation in Vietnam

NO	Name of Documents	Level of issue	Content related
1	**The Fisheries Law dated 26.11.2003**	National Assembly, Việt Nam	- Item 1 Article 5 "…The Government has policies to ensure the development of sustainable fisheries; encouraging, facilitating organizations and individuals to appropriately use fishery resources; ensure rehabilitation of fishery resources and development of aquaculture in sea, rivers, lake, reservoirs, lagoon and other waterbodies..."; - Item 3 Article 15 "…organize local fishfolk to implement the rights of monitoring, discovering and informing violations of law in fisheries in fishing areas…"
2	**Decision No. 131/2004/QD-TTg dated 16.7.2004** on approving Programme on fisheries resources protection and development to 2010	Prime Minister	"…Develop management models on coastal area in term of traditions and customs of fisherfolk. At the same time, enhancing role of fisherfolk in management, protecting resources and habitat of aquatic species…"
3	**Decree 123/2006/NĐ-CP** dated 27/10/2006 on managing fishing activities for Vietnamese	Government	**1.1.1.1.1.1.1 " item 6 Article 10. Responsibility of Ministry of Fisheries (now MARD)** Guiding PPC to develop policies and mechanism to support fisherfolk for occupation changing from coastal fishing to other occupations; community-based management; legal contents related to

	organizations and individuals in sea areas		fishing activities and dissemination, education at local level". Item 4 Article 12. Responsibility of PPC…decentralizing to manage coastal waters for district and commune authorities; develop participatory community management for coastal fishery resources…"
4	**Directive 03/2006/CT-BTS** 27.03.2006 strengthen of capture fisheries management in Vietnam sea areas	MOFI (now MARD)	Strengthening of capture fisheries management in Vietnam sea areas "….reorganize the management of coastal fisheries accordance to community-based management, study to develop management model in accordance with each region; propose policies for allocating rights for local communities in order that MARD submits Prime Minister for approval..."
5	**Directive 02/2007/CT-BTS** dated 15.06.2007 strengthening of inland fisheries	MOFI (now MARD)	Strengthening of inland fisheries: "….management of inland fisheries participated by local communities; responsibilities sharing in fishing management, protection of resources and environment. Guiding to establish cooperatives, groups, associations and cooperate with local authorities for management of capture fisheries, aquaculture in rivers, reservoir, lagoon…"
6	**Decree 57/2008/NĐ-CP** on duties and rights of communities as participating in protecting and developing marine protected areas.	Government	**"Article 4. Community participates in protecting and developing MPA** 1. Government encourages organization and individuals, communities participate in management, protection and development of MPAs according to the law. 2. Organizations and individuals, communities allowed to participate in: a) communication, education, raising awareness on protection and biodiversity; b) Monitoring, patrol

			and protecting MPA; c) Study and training on MPA; d) services of ecotourism in MPA…….".
7	**Official Letter 1700 /BNN-KTBVNL** dated 16.06.2009 on implementing small scale fisheries co-management	MARD	Strengthening of activities to implement small scale fishery co-management in Vietnam

Basically, legal framework/base of the Government agreed on protection of coastal fishery resources, inland waters in term of integration with local community responsibility and duties for protecting resources, environment; develop participatory community management models.

However, institutional of fishery co-management by a specific document from central level (or MARD or Government) and technical guideline on processes to develop co-management models or for study, development, monitoring at all levels for implementing fishery co-management.

2. Legal framework for allocating fishing rights for local communities

Concept of fishing rights and liciencing for fishing have not been specified. Legal framework for identifying fishing rights and liciencing fishing rights is inadequate. Some provinces allocate fishing rights for local communities, groups or local organizations is to utilize legal base for allocating land use rights according o function of authorities in order to share rights and duties on protecting and using natural recourse sustainably. The case of liciencing fishing rights for Fishery Association of Giang Xuan (Tam Giang – Cầu Hai lagoon, Thừa Thiên Huế) was an example on allocating fishing rights in inland water. Therefore, strengthening of legal base and guiding on liciencing fishing licience is a requirement for improving sustainability of co-management.

PART 3

CONCLUSION AND RECOMMENDATION

I. Conclusion

1. Co-management models in fisheries sector are diversified in accordance with organization form and field of production; it is "co-management" but at low level.

2. Co-management approach seems to be effective with protecting and developing resources, environment for fishery activities in coastal and inland waters.

3. Co-management is a long process, dynamic and flexibility in structure and organization and management but it ensures the success of application which is still based on principles of consensus, equality, transparency among stakeholders on rights and duties.

4. for a successful management approach in general and co-management approach in particular, it is not simple applied independently to solve all problems of management, but it needs to solve basic issues related as policies, institutional, awareness and livelihoods.

5. For fishery co-management approach successfully applied and transferred in fisheries sector, it requires efforts for not only the fishery sector but also support from other relevant sectors, departments for technical assistance and financial support.

6. With initial achievements from fishery co-management in the fishery sector, SCAFI results, efforts from researchers and managers in developing this approach in the process of co-management which would be effective both cost and benefit in production, protection of environment, resources, sustainable development of fisheries sector.

II. Recommendations

To strengthen application of fishery co-management in particular and in agriculture sector in general, I would recommend the Ministry and Government as follows:

2. Re-organize Task force for fishery co-management – under Steering Committee of Sustainable Development of fisheries sector.

1. Establish the network and website on fishery co-management.

2. Propose the Government to supplement co-management in the Fisheries Law.

3. Develop the programe on fishery co-management model and summit to Prime Minister in order to solve co-management problems as: policy, institutional, organization, human resources, budget,…

4. Institutionalize legal documents on supporting the development of fisheries co-management through a specific decision including: identification and development of fisherman organizations and allocation and licience of fishing right.

TO NEED A SUITABLE APPROACH TO THE CO-MANAGEMENT MODEL OF COASTAL SMALL-SCALE FISHERIES IN VIETNAM

(Paper in the Regional Conference on small-scale fisheries in Vietnam,

Da Nang Province from 26-27, October 2009)

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Abstract

According to R.S Pomeroy, the coastal small-scale fisheries co-management needs to implement 4 factors: resources management, livelihood, capacity, support/network; the factors that associate and support each other, do not exist independently. While the draft national guideline on small-scale fisheries co-management in Vietnam has only carried out 3 factors whose main content is management. The situation of Vietnamese coastal small-scale fisheries after the Dicision 289 needs urgently to implement the second factor - livelihood/to develop suitable economy with Vietnamese precept "the way to a man's heart through his stomach". Co-management projects in other nations like in Vietnam, depend on NGOs'sponsor. It has not financed, co-management can not be carried out. The old co-management had done in the feudal period. The new co-management in Vietnam has been perfected, in which the managed object is society and the citizen only parts in coastal small-scale fisheries management then they will have the coastal small-scale fisheries co-management in Vietnam.

Fisrt of all, this guideline is very suitable to planned aquculture areas (lobster, marine fish, shrimp aquaculture, clam aquaculture cooperatives,...) where actors having good finace (even rich), the co-management implement is not complicated and easily success. To the coastal small-scale fisheries, it needs to discuss more.

Co-management

There are many definitions on co-management, but easily understood and fully, co-mangement is the share of responsibility and right between local community and the State to manage the fishery

resources or other natural resouces. The target of co-management is the cooperation between the authority and resources users in province to have responsibility and right in resources management [1].

The first problem: Co-management in Vietnam and current village organization

With the above theory of co-management, Dr. Bui Xuan Dinh [2] said that the co-management model in Vietnam had appeared in the feudral State. The feudral State delegated the right of self-control to villages to ensure the full tax resource (head-money and land-tax), other remaining problems were solved by villages. In order to enforce this right, villages maintained customs writen in the village regulation with the content not against to the Court's law. So village regulation is the embodiment of harmonization between the State and village, between village regulation and law. It means that, in Vietnam at the feudral period, the State had delegated powers to lowest administrative division (village) to self-control and the village regulation is tool to adjust social relationship in village community as well as to manage village.

Therefore, co-management is the political issue [3]. As co-management implement would collide with the lowest class in the political system, the village, (those are units to make commune, although the village was not considered as administrative level according to the Constitution 1992), but it has the very important role in the Vietnamese political system.

Basing on the results of human literature and science research, Vietnamese State issued legal documents [4], [5], [6], [7] to develop the current Vietnamese village. The new co-management in Vietnam currently has following features: The mechanism of community organization is self-control; management tool is village regulation or new regulation; the scale of community organization is village; managed objects are society and citizen; implement area is all society. The head of village is elected by citizens, his task and right are regulated by PPC. Therefore, to carried out the new co-management, Vietnamese State has consolidated rather fully the village level although it was not an administrative division according to the Constitution 1992.

The second problem: Need to identify clearly the coastal small-scale fisheries in Vietnam

In the conference of assessment the situation of fishery exploting in nine months of 2008, to develop the production task of moonsoon season 2008-2009 in Phan Thiet from 6 to 7, 2008, Minister Cao Duc Phat said that the main target of the Dicision 289/QD-TTg of Prime Minister on the oil support for fishermen is the quantification of managed object - the number of fishing board, including small-scale fisheries in Vietnam. The Government paid for 2.200 bil.VND to have this data.

To September, 2009 [8] there are 131.580 fishing board over the nation, in which the kind of board with capacity under 20CV is about 65.000, ~ 49,4% of the national total of fishing board. In some provinces, this number is higher as Khanh Hoa, 57,7% and Nghe An 52,6%.

Therefore, there is 50% of the total fishing board in Vietnam with the capacity of under 20CV act in the coastal area. In fact, this number is higher because kinds of board with the capacity of 30-50CV also capture in coastal region. It is very big pressure resulting from the coastal exploiting strengthening that impacts significantly on socio-economy of coastal area and leads to the exhaustion of the resources, the degradation of the ecological environment and poverty of fisherman.

Another aspect needs to be studied is the occupation classification to fishing vessels with capacity under 20 CV. Unfriendly environment small-scale fisheries as diving with dynamites, bottom trawl, two-wings trawl, electrical current, ... accounted for high rate.

The current coastal small-scale fisheries is facing with conflicts in coastal fisherman community: between non-engine and engine fisheries; between legal and illegal fisheries (trawl in banned area, dynamites, electrical current); between capture fisheries of neighbouring communities with marine aquaculture community and commune capture fisheries.

Therefore, the resources is limited in the coastal water leading to the high conflict within the fisherman community and the inadequacy between the authoried forces of fishery resources protection and the broken-law object.

Basing on above characteristics, to coastal small-scale fisheries in Vietnam, the urgent issue is not to re-organize production but mainly livelihood alternatives for small-scale fisherman to aquaculture.

Livelihood creation and alternatives for coastal small-scale fisherman have first and important meanings. A feature of coastal small-scale fisherman is poor and is not able to do offshore fishing (finance and experience) so fisherman's livelihood only bases on aquaculture. To deversify livelihood opportunity for fisherman, especially poor ones to increase their income and reduce risk. To indentify poor households needs to clarify. The sustainable development of aquaculture serving for the poverty-alleviation (SAPA) of Ministry of Fishery [9] has been still valued on science and reality those need to be brought to the life.

The third problem: **Finance to carry out co-management**

In Philippins, Malaysia,... community-based resources management or more advancedly co-management bases mainly on funding from NGOs. In Vietnam, co-management models mainly base on funding from NGOs and only implement at pilot scale. In recent years, SCAFI component has developed co-management basing on the funding of FSPS II from Dannish Government. If there is no finance, the feasibility of the small-scale fisheries co-management is not high.

The fourth problem: **Draft co-management guideline**

The main tenor of the Guideline is Chapter III: Activities to carry out co-management at locality, with 6 big contents: to improve awareness and develop the capacity at locality; to develop the mechanism of co-management implement at local level; to plan co-management; adaptive management; to identify conditions to centralize use right for community; to develop regulation in community.

Steering Committee:

Beside the province, district and commune, it needs to have steering committee of Directorate of Fishery (Ministry of Agriculture and Rural Development).

Structure organization at community level:

There are 5 parts: Membership meeting; community management unit; monitoring board; self-control team; community members. Which level of local authority is this community organization approciate to ?

Membership meeting:

Like the Fisheries association at communes, the membership meeting is highest power organization between two terms to elect community committee (Executive Board).

In fact, the biggest difficulty of occupation associations' activities at provincial level is finance and more difficult at commune and district levels. Co-management organization at community level is voluteer one, self-control and self-finance. The fact shows that an association of occupation without office can not operate well. Without money means no staff, no secrectary team and office.

Community management unit::

In Vietnam, person who has prestige to lead citizens (fishermen), is elected with the lowest title: head of village, village cell and other titles as: front, association of farmer,... Depending on title, there is allowance from local authority. The problem is that where is finace from to pay salary, allowance for organization that developes co-management. Otherwise, the human resources for leadership of community also coincides with approciate authority level, most of them will do plurality so the effectiveness is not high. Human resources to manage fisherman community is not collected from fishermen or a little because they are low educated and management skill. How is about the relationship among community management units and executive committee and local authority if it is not identified clearly?

Monitoring board

As we think, Youth team and night-watchman team in provinces are established to maintain the society's order, transport,... Currently its members all have badges, uniform and allowance from local authority. To be different from monitoring board only do patrol in land. Co-management monitoring board not only acts in land but also mainly on the sea, so the board must have board (patrol board), who will provide patrol board? In the Article 28, Ordiance [10] the President of PPC

has power of making administrative punishment to 2.000.000 VND. The co-management monitoring board must belong to DPC to administrative aspect, belongs to technical inspector to professional management aspect (specifically Fishery inspector, Department of Agriculture and Rural Development).

Self-control team

The given tasks are all suitable to social and economic tasks.

Discussion:

From analysis, some opinions can be given:

1. The draft national guideline on co-management mainly focuses on apparatus organization to manage, meaning that only implement of 3 factors: the fisrt, third and fourth factor of the co-management process [1]. To the coastal small-scale fisheries in Vietnam, the second factor - livelihood/economic development has a very important meaning. This was proved by the success of the provincial science project [11] sponsored by provincial budget. In four factors of implement co-management, to be imbued with Vietnamese precept: *"the way to a man's heart through his stomach"* , Khanh Hoa Department of Fishery has done the second factor: livelihood. As a result, they created works, reduced conflict, fishermen self-protect resources infront of their village; and apparatus organization that carries out co-management bases on village, commune authorities.

2. In four factors of implment co-management, no one can exist independently but they combines and supports to each other. So, beside re-perfecting the Draft to be approved by Prime Minister, the Government needs to issue Decision like the Decision 289 on " To support poor coastal community in developing sustainable livelihood and environment protection" in order to carry out the second factor of co-management.

3. The basic level of the apparatus to implement co-management is village. With rather closed organization, does it need to establish community management board? According to experts of co-management from ICLARM, if co-management in Philippins combines the management of culture, society, education and local legal frame, the effectiveness will be higher. In contrast, the new co-management in Vietnam is the management of society. From above analysis, an essential problem to

Vietnamese fisheries villages is to develop village regulation with much more articles on fisheries management than other agriculture villages, so the new co-management in Vietnam is really applied to fisheries management.

4. The co-management monitoring board can not belong to the community management boad but local authority. The co-management monitoring board can act only basing on local authorities at village, commune levels. The level that decides recognition for community management board is CPC. Beside province, commune and district management boards, it needs to have the management board of Directorate of Fishery (Ministry of Agriculture and Rural Development).

5. Need to launch the solidarity movement of whole population to develop the fisheries cultural village.

Conclusion

1. Need to carry out synchronically 4 factors of implement co-management, in which the second one - livelihood is the leading important factor;
2. There is new co-management in Vietnam with the managed objects: society and citizens then that is only combined with the coastal small-scale fisheries, we will have coastal small-scale fisheries co-management in Vietnam.

References

1. Đồng quản lý nghề cá Sổ tay thực hành R.S Pomeroy and R. Rivera - Guieb, Nhà xuất bản nông nghiệp, Hà Nội 2008
2. PTS Bùi Xuân Đính. Hương ước và quản lý làng xã. Trung tâm Khoa học Xã hội và Nhân văn Quốc gia. Viện Dân tộc học. Nhà xuất bản khoa học xã hội Hà Nội - 1998
3. Fisheries Co - Management and Small - scale Fisheries: A Policy Brief. Robert S. Pomeroy and Meryl J. Williams 1994. ICLARM

4. Quyết định số 104/TCCP-CCVC, ngày 29/6/1995 của Bộ trưởng-Trưởng ban tổ chức - cán bộ Chính phủ về việc ban hành "Quy chế tạm thời về tổ chức Bản ở các xã miền núi và chức năng, nhiệm vụ, quyền hạn của trưởng bản"
5. Pháp lệnh thực hiện dân chủ ở xã, phường, thị trấn, ngày 20/4/2007 của Ủy ban Thường vụ Quốc hội
6. Chỉ thị số 24/1998/CT-TTg của Thủ tướng Chính phủ V/v xây dựng và thực hiện hương ước, quy ước của làng, bản, thôn, ấp, cụm dân cư.
7. Thông tư liên tịch số 03/2000/TTLT-BTP-BVHTT-BTTUBMTTQVN, ngày 31/3/2001 của Bộ Tư pháp - Bộ Văn hóa Thông tin, Ban Thường trực Uỷ ban TW Mặt trận Tổ quốc Việt Nam. Hướng dẫn việc xây dựng và thực hiện hương ước, quy ước của làng, bản, thôn, ấp, cụm dân cư
8. Báo cáo tổng kết khai thác vụ cá Nam năm 2009 và triển khai vụ cá Bắc năm 2009 - 2010 của Cục Khai thác và Bảo vệ nguồn lợi thủy sản
9. Dự thảo Chương trình Phát triển nuôI trồng thủy sản bền vững phục vụ xóa đói giảm nghèo (SAPA - Sustainable Aquaculture for Poverty Alleviation)
10. Pháp lệnh sửa đổi bổ sung một số điều của pháp lệnh xử lý vi phạm hành chính của ủy ban thường vụ Quốc hội số 04/2008/UBTVQH 12 ngày 2 tháng 4 năm 2008
11. Đề tài NCKH cấp tỉnh "Quản lý nguồn lợi thủy sản ven bờ trên cơ sở cộng đồng tại các thôn biển của xã Ninh Ích huyện Ninh Hòa" từ 1999 - 2001. Chủ nhiệm đề tài ThS. Võ Thiên Lăng Giám đốc Sở Thủy sản Khánh Hòa.

INTEGTATION OF FISHERY CO-MANAGEMENT INTO ESTABLISHING INLAND FISHERY PROTECTED AREA IN SOUTH VIETNAM

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I. BACKGROUND

Vietnam with a total area of territory (the land) is 331,690 km2 is located in the Southeast Asian tropical monsoon, with sea area (including the islands, archipelago) wider than almost three times the land area with the coast

Line 3360 km long stretching for 13 of latitude from the North (Quang Ninh) down to south (Kien Giang). Vietnam has diversified and abundant fishery resources. Our country has an abundant system of freshwater body (inland) including rivers, lagoons, reservoirs, wetlands, etc ... with abundant water resources. There are over 2360 rivers. Especially nearly 90% of the water flowing into the system of the Mekong River delta and concentrated in southern regions.

Diversity of aquatic species and resources in freshwater bodies in Vietnam is very high. There are 1027 freshwater species of 427 varieties, they belong 98 families, 22 branch of which the Cypriniformes (392 species), the catfish (126 species), the striped bass (249 species) and economic species. (Nguyen Van Hao, 2005), there were over 100 economic species; 36 rare species recorded in Vietnam Red Book (2007). There are 612 invertebrates, including crustaceans group (190 species) and mollusks (147 species) which include many high economic species; there were 18 rare species recorded in Vietnam Red Book (2007). There are over 50 vertebrates living in the inland water bodies or live based in part of inland water bodies, including many economic species. There are more than 1,400 species of algae including green algae with 530 species, silica with 388 species; 344 blue algae etc. .. which are food for many aquatic species, especially fish, crustaceans and mollusks and also have an important role for environmental water bodies.

Freshwater fisheries resources in the Mekong Delta: Aquatic Resources in Mekong delta are diversified and abundant in species composition and quantity. According to some research findings, there are about 260 freshwater species beonging to 43 families, 130 branches. 55 economic species

of which 20 species are cultured. (Nguyen Van Chiem-DECAFIREP). Fishes in the Mekong Delta can be divided into three groups: group derived from marine fish (freshwater fish level 2), River Fish Group (white fish Group) and fish group. Besides of fish, there are other crustaceans such as shrimp, crab, mollusks: snails, mussel, etc ... Interestingly the prawn resource (Macrobachium rosenbergii) is for both natural exploitation and aquacultue. Ecological characteristics of the Mekong Delta fishes are migration: migration for fertility, migration for food, and migration to other regions to live in a lifetime.

Fisheries resources in estuaries in Mekong delta: coastline in Mekong delta is about 780 km. From Tieu estuary (Tien Giang) to Ha Tien (Kien Giang) having many rivers and canals pouring into the sea, including 17 major rivers and 3 big channels flows to the China Sea which has a strong impact on coastal areas. Biodiversity of coastal estuaries in the delta is diversified and abundant: 383 algae, 313 zooplankton, 375 Zoobenthos, 169 species of fishes, including Perciformes with 87 dominant species (51 , 38%), brackish fishes dominated 115 species (68.05%), groups of migration fishes between freshwater and marine with 22 species (13.03%); there are 25 species of marine and freshwater shrimps, crab and swimming crab which considered as important fishing species, there are many species of mollusks, including black cockle (Anadra granosa) distributed much more in the west sea, and clam (Meretrix lyrata) are distributed in east coast.

Mekong delta is the biggest area for fishery economic development in the country.

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Fishing activities in Hàm Luông estuary-Ben Tre

Fishing activities in Bình Thiên lake-An Giang

Fig 1. Photos o fishing activities in mekong delta

Orientation for developing fishery co-management integrated with establishing inland fisheriesprotected area in order to preserve biodiversity and ensure livelihood for local people, improve local life. Fisheries co-management in the protected area which increase the role and capacity of local communities for participating in protecting biodiversity and sustainable development of fisheries in inland waters in the south of Vietnam.

II. METHODOLOGY FOR RESEARCH AND APPROACH

1. Survey

- Conducting survey on socio-economics and fisheries, environmental chemics, aquatic fauna including Phytoplankton), Zooplankton, Zoobenthos, fish fauna.

- Conducting meetings/ workshops with communities and FSPS II/supportive staffs

- Collecting data and information from relevant local/sector staffs.

- Collecting previous materials, reseraches

2. Processing in lab

- Processing and analyzing environmental and chemical samples, aquatic fauna, fish fauna

- Processing and anlyzing questionnaires of socio-economics, fisheries activities

- Processing data collected from surveys related to co-mnagement model develoment

- Synthetizing data and writing report

- All samples are prserved in lab of Institute of Tropical Biology

III. INITIAL RESULTS ON INTEGRATION OF DEVELOPING FISHERIES CO-MANAGEMENT WITH INLAND PROTECTED AREAS

1. Research result on socio-economics, environemntal chemics, resources, aquatic-fisheries biodiveristy in the proposed protected area

- ***Socio-economics***

Doing survey to collect information from hoseholds by using questionnaires. Households will be randomly sellected from studied areas, based on diversity of land use or household livelihoods. Questionnaires will be implemented in separate households. Information for doing survey including:

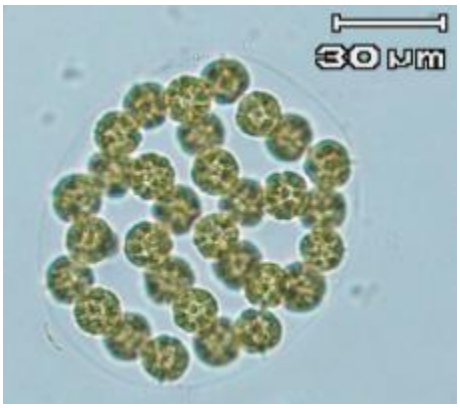
scale of households, living condition, occupations, incomes, spending; land use; cultivation; seasons; fishery livelihoods; status of fishery activities annually; awareness of household in management of natural resources. Other information related to life of local people around Binh Thien lake also collected.

- ***Water Environmental chemical factors***

Study on factors related to water environment and chemics including: pH, temperature, DO, TDS, EC, muddy, COD, BOD_5, NH_3, NO_2^-, NO_3^-, E.coli, Se, total oil, As, PO_4^{3-}, Pb, Pesticides, etc… survey on pollution from living activities by communities. The survey for assessment of environmental status includes water surface and sediment in order to assess environment of studied area, proposing solutions for reducing pollution (if any) and protecting environment in the future of the area including sustainable development and livelihoods for community, at the same time raising awareness of local communities in protecting environment and biodiveristy.

- ***Aquatic system (Phytoplankton, Zooplankton, Zoobenthos)***

Survey to collect samples to study Phytoplankton, Zooplankton, Zoobenthos, including qualitative and quantative. Study on structure of species composition, dominant species, indicators on Margalef (d), diversity indicator Shanon-weiner (H'), environmental indicators (species with being organic polluted, alum polluted, wide distributed species, food source species)



Pandorina charkoviensis (Phytoplankton)

Asplanchna priodonta (Zooplankton)

Oratosquillina pongpetes (Zoobenthos)

Meretrix lyrata (Zoobenthos

Fig 2. some pictures of Phytoplankton, Zooplankton và Zoobenthos

Using statistic method in biological resources and assessing water quality and solfware PRIMER-v5 to calculate biodiversity indicators for classification of resources and status of water environmental quality in studied area.

- ***Fish fauna and fishery activities***

Using different types of fishing gears to collect species composition such as net (including many mesh sizes); cast net, hooks, trap. Combine with fishermen to collect samples.

Research on the diversity of species composition and ecosystems of fish fauna, migrating fishes, the economic and scientific species (endangered, recorded in Vietnam's Red Book, 2007 and IUCN). Aquatic resources outside the fish, seed resources, breeding areas, habitats, nursing young larvae, etc. ...

Plotosus canius-economic fish

Elops saurus- endangered at VU

Channa striata-economic species

Natural crab (seed)

Toxotes chatareus-endangered at VU

Pangasius larnaudii-conomic species

Fig 3. Some economic and scientific species

Research on current status of fishing activities, including fishing gears used in the area (including appropriate and banned fishing gears), fishing seasons, the main species exploited, fishing production. The number of full time and part time fishermen. The dependency of communities on fisheries resources, etc. ...

Research on situation of aquaculture, extensive aquaculture, improved extensive aquaculture, industrial aquaculture, aquaculture in ponds, cage aquaculture. Total aquaculture production in the study area. Besides shrimp resources collected in the area for raising the daily life of households also contributed significantly in aquaculture production.

Trap

Chines trap

Nets

Cào hến

Fig 4. Some type of fishing gears

2. Resut of fishery co-management development

2.1. Period I, 2008

Implementing workshop/ communication activities for the fisheries co-management for core groups and communities. Disseminating relevant legal documents on aquatic resources for fishing communities.

Organizing meetings / workshops to gather community opinions, consensus and needs to build up co-management model

Figure 5. Training / dissemination and community workshops on building up co-management models in Ham Luong estuarine, Ben Tre Province

Figure 6. Training / dissemination and workshops on community building up co-management model in Bung Binh Thien, An Giang Province

2.2. Period II, 2009-2010 and coming time.

Identifying issues, objectives and orientations in the task of building the model. Building the basic principles of co-management

Community workshop / meetings to build core groups of co-management model. Developing rules, regulations for the model. Developing the commitment of the community to participate and implement co-management model.

Planning and implementation of model, identifying priority issues to be solved.

Continuing to finalze regulation, rules. Support for livelihood alternatives in the process of co-management arrangement

Promoting dissemination for awarenes raising on resource protection, biodiversity and co-management. Building capacity on co-management for core group and community.

Monitoring and controlling and assessment of resources in the process of co-management in order to improve resources.

Planning to support and monitor the model to ensure sustainbility for the model as phasing out process.

Summing up and assessment of model application and transfering to another areas.

IV. DISCUSSION

1. Integtation of fishery co-management development with inland protected area with two in one. This process include basic research on biodiversity, resources, socio-economics and needs of local communities in study areas.

2. Identifying issues, objectives and priority need to be solved as well.

3. Based on research results, the community will continue to approach and deaply understand on reason for co-management benefits.

4. Process of integration will benefit on communication and identification of plan for co-management as well.

5. Study on biodiversity, resources, socio-economics, etc will be the basis for assessment of model through monitoring and suveillance system.

REFERENCES

1. Outcomes of activity DOFI/FSPS-II/SCAFI/ANGIANG/2008/2.7.9
2. Outcomes of activity DOFI/FSPS-II/SCAFI/ANGIANG/2008/3.8.2B
3. Outcomes of activity DOFI/FSPS-II/SCAFI/ANGIANG/2009/2.7.11
4. Outcomes of activity DOFI/FSPS-II/SCAFI/ANGIANG/2009/2.7.12
5. Outcomes of activity DOFI/FSPS-II/SCAFI/ANGIANG/2009/2.7.13
6. Outcomes of activity DARD/FSPS-II/SCAFI/2008/3.8.4.1
7. Outcomes of activity DARD/FSPS-II/SCAFI/2008/3.8.4.2
8. Outcomes of activity DARD/FSPS-II/SCAFI/2008/3.7.3
9. Outcomes of activity DARD/FSPS-II/SCAFI/2008/3.8.2
10. Outcomes of activity DARD/FSPS-II/SCAFI/2008/3.8.4.6 (Pha I)
11. Outcomes of activity DARD/FSPS-II/SCAFI/2009/3.8.4.6 (pha II)

ROLE OF TRADITIONAL FISHERY MANAGEMENT, PROPOSING INTEGRATION VALUE OF FISHING VILLAGE "VẠN CHÀI" IN COASTAL FISHERY MANAGEMENT IN VIETNAM

Tuong Phi Lai[1] and Kenneth Ruddle[2], Nguyen Quang Vinh Binh[3]

ABSTRACT

This paper represents the value of fishing village "Vạn chài" in coastal fishery management in Vietnam in the past-that could be seen as the first co-management method (between government and fishing communities) in Vietnam. At the same time, discussion of similarity and difference, weak and strong points between two methods of Vạn Chài-product created by Vietnamese and had a long time adaptation; and management system based on *co-management approach*-imported from western countries through sponsors. Analysis and comparison based on fisherfolk management, resource management, production organization, community integration v.v..Since then, proposing solutions for integration of good points of Vạn Chài in small fishery management system at present: context of integration; population growth, new technologies and science...contributing to sustainable development of fisheries sector of Vietnam.

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I. INTRODUCTION

Vietnam is a coastal country, located in areas of favorable natural conditions climate for fisheries development with about 3,260 km coastline stretching from Mong Cai to Ha Tien, and about 1.7 million ha (Ministry of Fisheries, 2002) of potential area for aquaculture development with different types of water areas such as freshwater, brackish and saltwater. Fisheries sector increased from 1.7% in 1985 to around 4% in 2004 to annual Gross Domestic Product (GDP). In 2008, the fisheries sector also created employment for about 5 million people, reaching sector's total exporting revenue at USD 4.5 billion. With recent performance, as well as future prospects, the fisheries sector holds a significant position during the process of socio-economic development in renovation period in Vietnam. The fisheries sector has been contributing positively to increase in export revenue, poverty alleviation and assurance of food security. The role of the fisheries sector has been particularly concerned, especially in improving the efficiency of the economic restructuring process in agriculture and rural development. Fisheries sector is closely linked to livelihood of the community who directly produce material wealth from natural resources of the sea and islands.

However, apart from positive impacts, fisheries activities in recent years have made pressure towards socio-economic and environmental situation and became a challenge to the national target of sustainable development in general and fisheries sector in particular. A number of challenges are facing fisheries sector include: Environmental degradation, decrease of aquatic biodiversity, aquatic resources being at risk of depletion in some water areas, destruction of ecosystems and natural habitats of fish; increasingly harsh benefit disputes in exploitation and use of fisheries resources within fisheries sector and between fisheries and other sectors such as agriculture, tourism, transportation, etc..; livelihoods for the fishing community have not been improved, the role of fishermen in fisheries management has not increased, the problems of "fishing, fishermen, fishing grounds" have not been resolved uniformly...

The fishery management and development in Vietnam as well as in the coastal countries in the world ocean is of great importance for sustainable development, protection of fisheries resources and marine ecosystem. In recent years, the Government has issued several documents, policies and legal framework to support co-management such as Decree No. 29/1998/NĐ-CP on grassroots democracy, Fisheries Law, Decree No. 27/2005/NĐ-CP detailing and guiding the implementation of some articles in the Fisheries Law (includes guidance of allocation and leasing of sea surface), the master planning of fishery development, Decree No. 123/2006/NĐ-CP on management of fishing activities, the sustainable development program of fishery sector. However, the implementation of the policies expressed through the above documents is restrictive, failing to meet the need for sustainable development of fisheries sector.

One important reason leading to this situation is that people not actually involved in the protection of aquatic resources. People's self-autonomy is not enhanced; the traditional values

are not inherited systematically to be integrated into fisheries management practices in our country. History of Vietnam fisheries demonstrated that, Vạn Chài fishing organizations have been successful in protecting aquatic resources development, maintaining and developing the living of fishing communities through linking fishermen to all levels of management. "Vạn Chài" played an important part in the system of traditional fisheries management, protection of fisheries resources, benefit harmonization, conflict resolution and maintenance of the cultural values of our ancestors including the custom of worshipping the Whale ("cá Ông").

In the current situation, along with significance of economic aspect, security and national defense and protection of maritime sovereignty, the awareness of fishing communities on wise, rational use of fisheries resources is of strategic meaning for sustainable development of the fishery. Government, Ministries and the Sector are more concerned about promoting the role of communities for these strategic targets. One of the major orientations of the sector is reorganization of production and implementation of co-management to promote sustainable development of the fishery.

However, the problem raised is how to reorganize based on previous value inherited improvement. Vietnam has a long-standing tradition of collective activities at village level including decision making, establishment and operation of credit groups, labor sharing, together with many mutual assistance forms among community members. Coastal fishing community is a convergence of various and complex cultural and residential flows, but it also has cohesion through the daily livelihood activities. The understanding of cultural and spiritual aspects and its application in management, especially the study of the value of "Vạn Chài" to jointly manage fisheries has been absent from studies on fisheries management. Currently, the Ministry and the Sector are lacking information about the social aspects, especially the legacy of Vạn Chài quintessence and enhancement of the local people's role in managing and protecting fisheries resources

Compared to other countries in Southeast Asia, the organizational structure of traditional society in Vietnam has its own typical characteristics. Below the central authority dominated apparatus is the autonomous village community. To exist, each autonomous village must have its own village rules, even special regulations among small groups of community known as conventions. State institutions in Vietnam through the epochs have respected the independence of the autonomous village as well as rules, regulations or conventions among community groups. In the old days, feudal state only use the simple administration system and conventions, but the old society was managed well including the system of natural resources / fisheries. Conventions made the community's enforcement for each individual, it uses community to control individuals, and individuals are used to understand and run the organization through family relationships (men's rights , father's rights, rights of family chief, etc..) and society. Besides, the conventions are also combined the concepts of traditional ethics such as customs, rituals and

beliefs to make people voluntarily accept and implement conventions; therefore, its pressure created by public's opinion made self-management

> According to Mr. Nguyen Quang Vinh Binh, 2005, "traditional Vạn Chài based fishery management method" has existed over the course of its long history. There were changes and adjustment though each regime, each time, but management of fisheries resources (Tam Giang) has never been separated from the community. Central state, local authority, community and households are in an uniform management relationship with clear decentralization, responsibility distribution, as well as obvious benefits. Even fierce war period did not degrade much this management order.

Therefore, promoting the role of Vạn Chài (including conventions) is greatly important in fisheries management in our country. Because, they are standard values directly set up by fishing communities and acknowledged to be substantially effective in adjusting the behavior of economic growth, social assistance and protection of fisheries resources for fishermen. A paradox existing in the community is that the more awareness of the necessity to protect resources is, the more exploitation increased and fragmented. This suggests problems on the form of behavioral control management to protect aquatic resources for fishermen in which promoting the role of Vạn Chài in the community management models through the conventions associated with State management and ecosystem based management.

I. VẠN CHÀI-WHO ARE THEY

Vạn Chài is a socio-professional organizations have been formed very early and is voluntarily participated by fishermen; organizations and operations of the Vạn Chài are under the responsibility of the elderly people in fishing communities which was highly respected by fishermen; the code of conduct; contents of Vạn Chài's rules (management conventions) are built and voluntarily implemented by the fishermen in Vạn Chài (Luong Thanh Son, 2008).

Vạn Chài is the fishing community whose lives are attached to fishery, possibly in the sea, rivers or lagoons. Previously Vạn Chài mostly was often landless, living in association with fisheries (Nguyen Quang Vinh Binh, 2005). Later, thanks to the State's assistance and a part of the community were transferred to offshore fishing, granted land and participated in many other professions mainly in agricultural production (Nguyen Duy Thieu 2003).

Northwards from the North of Central region, in the traditional social structure, Vạn Chài is still considered as an social unit of similar function to village, but at lower position, under which only the citizens living in village social units are entitled to self-nominate or nominate to elect positions such as canton chief or deputy canton chief, while the citizens living in Vạn Chài do not have the authority. In many cases, Vạn Chài develop into the fishing villages such as Truc Vong and Giang Vo villages (Hung Thang Commune, Hon Gai town, Quang Ninh province) is one typical example (Nguyen Duy Thieu, 2002).

In the South, especially South Central provinces, the majority of Vạn Chài has become fishing villages and villagers' livelihood is mainly based on fishery (capturing, farming, gathering, trading, processing (drying) related to marine products recognized by the authority.

Different from the fisheries association or cooperatives for fishing, Vạn Chài is not a universal alliance but each village has its separated Vạn Chài linked relatively with other ones in term of professions, sentiments without official relations as in alliances (meetings, conference style) and as a network connection such as the Cooperatives and sub-association of fisheries today.

II. WHY CAN IT BE SAID THAT FISHERIES CO-MANAGEMENT APPEARED IN VIETNAM FROM THE STAGE OF VạN CHÀI?

According to Nguyen Quang Vinh Binh, 1999, Vạn Chài appeared in Vietnam from the 16th century, the record of ancient letters of the 16th century acknowledged Vạn Chài. The characteristics at that time is that feudal dynasty assigned to manage the water areas, based on fisheries units and approving the tax paid use of natural resources. This is considered the records of the first Vạn Chài in the relation with fisheries co-management. In "*Community-based management in Thua Thien Hue lagoon in the past*" in 2005, Nguyen Quang Vinh Binh also admitted that "co-management, community management or community-based management community actually has nothing strange to our ancestors. There was that strangeness because we have been kept away from this management". The author also said that decentralization, empowerment to manage capture fisheries from central to local level and then to Vạn Chài are expressed in two forms: the first form is *call for bid* and collection of taxes as in the case of villages: An Gia village for Sam swamp, An Truyen village for Chuon swamp, marshes Chuon Communication with the village of An, Thanh Lam village for Sam swamp ... and the second form is the rewarding board (for the merits units) with tax payment.

However, Vạn Chài might appear in Vietnam earlier, according to Nguyen Xuan Duc, "From Ong Temple and Ba Temper in Canh Duong, thinking about the whales worshipping custom of the Vietnamese people, Culture and People magazine No. 4 (112) 2007 acknowledged that the custom of worshipping whales in fishing communities have appeared in the coastal area of central province from the fourteenth century, and became the typical characteristic of Vạn Chài – worshipping whale – a god to shelter and protect fishermen at sea.

Meanwhile, the model of fisheries co-management (western approach) was first introduced in Vietnam in 1994, shortly after launching the cooperation project between ICLARM (now WorldFish Centre) and the Institute of Economics and Fisheries Planning, Ministry of Agriculture and Rural Development (IEFP, 2004).

III. ROLE OF TRADITIONAL VạN CHÀI IN FISHERIES MANAGEMENT

In fact, Vạn Chài has many other functions, but within the framework of this article, our focus is around Vạn Chài management aspect in terms of fishermen management (behaviors,

attitudes), production management, community management and management of fisheries resources. The article does not pay attention to analyze Vạn's fishing restrictions but the value or selectivity and the essence of tradition.

+The role to determine access rights to aquatic resources and fishing operations (resource access)

Fishing right: in traditional Vạn Chài, there was only concept of right to use instead of ownership right, these rights are clearly stipulated in the convention, accepted through practice, flexible and depending on specific conditions of each place. Fishing rights are determined mainly by the origin of people (their birth, or their parents who used to be fishermen in that area). However, it can temporarily divided into the following principle groups of rights: the right of priority, right from birth, the right to sell, lease, inherit and share. But in Tam Giang lagoon, Thua Thien-Hue, fishing rights are also established through the tax payment for the State in fishing communities in the lagoon to separate out the farming community who does not practice fishing activities.

Priority right to for close people or early comer (privilege). For example, in Quy Nhon, Vạn Chài regulates that the placement of fixed fishing gear such as lift nets, is prioritized for the person with nearest house. In other places such as Hai Son in Quang Nam-Da Nang, the provision 'first come, first prioritized' is more common regardless of whether the trawling location is near any house or not (Ruddle, 1998). This limited disputes on fishing spot and it was also basis for reconciliation in case of disputes.

Rights obtained from birth place (birth right). For example, in Quy Nhon, when father passes away, the fishing right is given to his son, if he has no son, his oldest son-in-law (who get married to his first daughter) will be entitled the fishing right, but if that son-in-law also inherited his father's fishing right, his son will inherit his grandfather in law's fishing rights. The situation is different in Son Hai. Only men who were born in Vạn and inherited fishing rights under the management scale of Vạn. The "outsiders" have to wait for at least 10 years to read and understand 140 provisions of the convention and behavior in Vạn. They want to make sure that the real fishermen must have experiences and behavior required for fishing. This is very interesting truths that we now need to learn.

Right to transfer, give/ donate, sell, land: At Dong Hoi, fishing rights (near fishermen's house) can be given, donated, sold, or lent for long term or fixed period. In Son Hai, fishermen can land fishing rights (annually issued) but only for other fishermen in Vạn. In Thua Thien-Hue, the villages, when being empowered to manage, in addition to the obligation to pay taxes and fishing rights, also have rights to lend or transfer fishing rights to other villages, individuals but are not allowed to sell fishing rights to private owners.

Right to share (sharing): in Dong Hoi, the right to share appears to share the overlapping or intersecting waters. In Son Hai, fishing rights can be shared with other fishermen who were not born or lived in Vạn region.

+ *The role to identify water areas of Village / Vạn (village fishing territories):* Vạn can best identify the waters under its management. The concept of *water under Village / Vạn* was popular before French colony period. This region covers areas near or adjacent to where they live with borders and towards the sea. Milestones are often caps, mountain peaks or river mouths often determined by the oldest; boundary towards the sea is often defined by a certain type of fishing gear which can still work.

+ *The role to regulate and manage fishing gears (fishing gears control):* Vạn sets up regulations of diverse fishing gears to avoid disputes. For example, in the Tam Giang lagoon, Thua Thien-Hue, the provisions are aimed at creating equal opportunities for fishing gears and avoid disputes. The distance between two bamboo stake traps must be at least 1 km and the distance between the bamboo stake trap and bottom trawl is 1.2-1.5km and to ensure fairness, the bottom trawl are not placed at the entrance of the lagoon, while the fixed fishing gears must be far from the lagoon's shores at least 10m. At Vạn Chài Thuy Tu, the regulations manage allowed fishing gears (11 types), fishing seasons, and benefit sharing among boat owners, captains and crew. Normally, to get fishing rights, boats and fishing gears must meet the necessary conditions (place-based criteria) and must contain fish on boat; fishing season usually starts from lunar January to lunar September 9th but after those days, if fish is still abundant and the weather is much better, fishing at sea is still allowed. For fishing spot of sardine net, two locations must be at least 300m far from each other and vessel owners must have a specific sign to mark the zone under control and to haul nets. In particular, other fishermen using nylon net, trawl net, longline are not allowed to catch fish at fishing spot for sardine net. In terms of conservation, fisherman is not allowed to use high-power electric lights and dynamites are strictly prohibited because of their severe effects on resources. A vessel-owner with sardine net has the right to move to other locations to catch fish, but when seeing the real owner of that position, he must leave immediately; any delay may be punished by dispossessing him of all his catch by the real owner. However, the real owner does not have the right to destroy (for example, cutting the anchor cable of strange boats, throwing his anchor to strange boat's net.)

+ *The role to allocate fishing spots for a fixed time:* in general, these rules aim at promoting fair and orderly fishing activities. In Vạn Son Hai, **annually**, before the new fishing season, all fishermen have to gather in Vạn Lang Ong for meeting to allocate fishing spots under the management of Vạn. The chief of Vạn will divide into groups of fisheries corresponding to the respective fishing rights at different fishing spots for that year. Each group will pay 20-30% of profit in that year for Vạn. To ensure fairness, the fishing spots are circulated from year to year

corresponding to fishery units. Vạn Son Hai normally has around 400 fisheries units and 50 fishing spots corresponding to 8 fishing units /fishing spots.

+ The role to conserve and protect fisheries resources (conservation): Actually, Vạn are not interested in the direct rules on conservation issues (for example, they do not specify the areas, seasons or species for conservation. any season to be conservation or species must be preserved, etc..). However they are aware of depressing resources due to more boats with engines, more effective fishing gears and more fisheries Vạn Son Hai. This case is similar to that in Tam Giang lagoon. In the past, the mesh size of cotton gill net is stipulated is 1 cm and the distance between two sticks of bamboo stake trap is at least 1.5cm to exclude small fish; however, today, it has not been existed because nylon fiber for making gill nets has become popular and traps are made of nets instead of bamboo. However, fishing with poisons and anesthetics are strictly prohibited in most of Vạn. Moreover, many provisions of Vạn indirectly contribute to responsible capture fisheries, such as fishing gears must be placed far apart, not too thick, or mesh size of traps and so on, custom of worshipping whales may help to protect this fish or propaganda of not going to the sea (for fear of strong wind, big waves) in some period of time contributes to protect some species in their breeding season.

+ The role to manage fishermen and adjust behavioral relations among Boat Owners, captain and crew member). Vạn pays attention to owners of old vessels, captain and crew members before deciding to hire a captain and crew. They strongly forbid to entice captain and crew of the other boat owners without informing.

- *Regulation on lending money or payment in adVạnce between crew members and boat owners.* Before, all villages have contracts on rights and obligation to advanced payment and lending of boat owners to workers on boat but villages do not give the maximum number in each “contract”. The following articles are noted in conventions:
- Before working for boat owners, crew members are paid in advance an amount of interest-free money to cover their family life. This amount will be deducted based on the profits of such ships in a year. In a poor catch year, if shared profits of the crew member was not enough, either he is not forced to pay immediately or he can signed a "contract" for the next year with the boat owner or even he can borrow money from other boat owners to pay and move to work for new boat owners.
- Crew members can also borrow an interest free loan from a boat owner, but it must be in cash and not be deducted from profits after each fishing time
- The crew members have received adVạnce payment or loan but do not comply with the commitments signed in the "contract" would be required to pay all such advanced payment and loans. They will also not receive wages.
- The conventions the advanced payments and loans for the captain as well as crew members but the number may double.

- Although the "contract" was signed for the entire year (working in the whole fishing season) but early termination of application may also be accepted however that person must introduce a person for replacement and must refund all the loan and advanced payment. Otherwise, they will have to try and be forced to compensate for boat owners, captains and other crew members (they have to work harder for shortage of people)
- *Captains and crew members are reminded to cooperate in each fishing season*. Any harassment, drunk, fighting affecting on the production of the vessel shall be brought to the authorities for punishing. The punishment is similar to captains or crew members borrowing money from different boat owner or showing unruly behavior or annoyed attitude.
- *The crew members and the captain must be responsible to preserve and protect fishing gears carefully*. In case of deterioration, village will pay in adVạnce but that money will deducted gradually from shared benefits for the person who cause that deterioration. These people could be subject to criminal penalties.
- *In Vạn Chai, sick leave for captains and crew members are well respected*. In normal conditions, each person has 10 day sick leave per year, but in difficult days and they leave over 10 days, they need to hire other person for replacement in case of being sick to be shared profits as others in the end of fishing season.
- *Costs and responsibilities for outsiders*: outsiders, who were not born in the community, often have to pay a fee, compensation or receipt for catching fish in that area. In Son Hai, the fishermen outside the community usually have to pay 30% of the catch value in water area of fishing village.

+ *The role to monitor and enforce regulations*: in fishing villages “Vạn”, monitoring and enforcement is mainly done at field, each fisherman also acts as a "police" and they regularly, continuously and daily monitor each other. At Thuy Tu fishing village, purse seine nets for catching sardine, scad, anchovy, fishermen monitors each other and all violations on regulations of fishing spots or poor performance will be reported to Vạn’s leaders. To ensure no dispute, each net owner must hire a person for recording, usually a relative of the boat owner, who will record in detail what boat owners, captains and crew have committed, bonus, fine for violation, and this person will receive 3%, equal to the money received by seller and collect money from selling fish. For more assurance, boat owners and each crew member have their own notebook for later confrontation. In Tam Giang lagoon, to support for Vạn’s leader, there is a group of night "patrolling" and detected violations are reported to Vạn’s leader for processing.

+*The role to settle down disputes (conciliation of fisheries conflicts)*: conflicts of fishing gears and fishing spots occurred particularly in purse seine vessels and fixed fishing gears. Normally, there are 4 levels of conciliation

- Self-conciliation by fishermen (most common)
- Conciliation through Vạn committee)

- Conciliation through People Committee at all levels

In the past, disputes over fishing gear, the person who come first would get priority or near house priority are usually resolved by the elderly and prestige people in Vạn. In the case of Vạn Thuy Tu, if there are violations on conventions of Vạn, first conciliation will be through Vạn's Administration Section; this unit will review and apply mediation, or transfer its comments to Hamlet Council and the Council will sanction according to the degree of violation by local regulations. This is to give objective treatments and good example for other fishermen. The important thing here is that self-mediation mechanism in the administrative section of Vạn, without applying penalties at authority level. Obviously, the role of the administrative section of Vạn more concentrates on advising government agencies, and they only consider when having proposal by boat owners or crew members. This unit does not have active authority to sanction (administrative fine), implement or upgrade/ supplement new regulations of the local authority. Normally there are 4 levels of penalties at Vạn Chài:

+ Explaining to people commit wrong actions

+ Warning

+ Imposing a level of penalty proposed to the authority

+ Proposing the authority to abort fishing rights

Disputes, conflicts among individuals and fishery units are often solved by conventions (consensus) of Vạn. Boat owners are not allowed to hit or insult captains, crew members and vice versa. Offenders will be punished according to authority's law.

+*Role of develping sanctions*: for Vạn chài, it is aften applied sanctions for conscience , spirit for violators of fishing rights of others or dsiregard of rules related to resource management. They created preassure on whom to make bad things that will be sanctioned as risky on sea; punished by God; or facing with unlucky things as fishing etc...in Vinh Hà, Thừa Thiên Huế if any person who enters assigned areas will be criticized and obstracized by community.

+*Role of mutual assistance among fishers:* this is obligation requirements for village rule in Vạn. In Vạn Thủy Tú-Phan Thiết, old rules from 1864 regulated that, if accident happened on seas that all vessels and other crew had to take responsible for helping victim vessel, first was saving people, then vessels and gears. As vessel owner requested that Council would make search and rescue. If anyone who did not follow would be punished by the Council. If fishermen was dead in fishing accidents, his family would be supported by Van. Vessel owner would return loans for the dead fishermen. Their family members (parents, wife, children) of fishermen were divided shares as the fishermen was alive. Vessel owner covered expenditure for funeral and find another fsihermen for ensuring the fishing activities.

+Role of production, management support for natural resource tax. According to Nguyễn Quang Vinh Bình, 2005, in 6 centuries, feudal dynasty assigned agriculture villages to manage water areas to collect tax and submit to authority by a certain percentage. With clear decentralization, the duties as well as benefits of each actor fromc central to local level, frm State to communities and each member, it therefore did not have any problem in fishery management: central, local and fisherfolk. For relationship among fishermen, as fishermen worked on water of any village that he had to pay tax for that village. If action without permision that fishermen had to pay for person who possessed the area or would be removed fishing gears and products. In economic relation, the use of resources in Tam Giang lagoon was very clear and equal. Farmers did not fish in water area belong to Van chai, if happened that was fined.

+Role of State and fisherfolk. By mechanism of self-managed, reporting the State on difficulties, problems could not be solved, taxed etc.. Vạn chài was active to cooperate with authority to manage production and operation of fisherfolk. At the same time, through Van chai activities, authority reduced burden but still got the target for management.

In consideration, the value of Vạn chài mentioned above is worth for us to stuty and learn and select for application in new situation including supplementing and adjusting and related documents. However, together with good things, there are also some limitation in Van Chai and couldnot be suitable for selling rights of fishing that should be considered to be away from exclusive right in fishing as the rich controlled to buy fishing rights from the poor which happened in Japan in the 19th century.

Besides, *Vạn chài* also has other values on culture, religion and worship: one of features of Vietnamese Vạn chài is the worship of cá Ông – the god who protects fishermen; to pray for timely rains and favourable weather, to protect fishermen on sea, good harvesting; most of Vạn chài have Lăng Ông/Dinh Vạn – the place to worship cá Ông's bone as well as the ancestor's soul/spirit, tutelary god of village or forefathers. Many fishermen believe that gods and ancestors have also decided their and their family members'success and happiness (Ruddle, 1998). This is the invisible link among people beside the spirit as: sentiment, the common of people whose career relative to water, risks that European co-management system has never had and focused on. The worship of cá Voi (considered as the god of life saving on sea) leads to the decision of not capturing cá Voi as food, therefore it has indirectly contributed to protect this fish out of extinction in Vietnam. The village regulations of most fish villages in Phan Thiet, Binh Thuan also regulate that before the pray for fishing, no one go to the sea, in fact it is the time or the storming season that is not safe for fishing or is the productivity of some important objects.

That reminds us: The cream of ancestor tranditional management that is valued and acknowledged by the advanced world, Kenneth Ruddle (1998) said that: "… to merge *Vạn chài* into the fishery management structure can be the practical way to solve principle problems in coastal fishery management in Vietnam. People who are managers and make planning of fishery

resources at provincial and national levels; to need re-orient their own special skills suitable to Vietnamese condition as well as persons that make national policies and carry out plans; specially need appreciate management at provicial and local levels.

However, besides positive sides, Vạn chài also exists some limitations (La, Lai 2009):

Partial characteristic: limitation in relations, not connect to make network (Vạn chài only pay attention to their own Vạn chài, has not cooprated with others as current cooperatives so they meet difficulties in utilizing of chances, information as well as power. Vạn chài exists in the tranditional society and has lots of fixed ideas on culture (eg: to assign power to man not woman, this is sex discrimination) (Hien, individual idea). This characteristics can lead to "custom rules the law": that happened in the past, can not suitable to the fact as management by law is put at first.

The characteristics of suitability is not high: in fact, fishery management requires "suitability" characteristics to changes by conditions (nature, economy, society and institution, …). Van chai however has values, willings and suitability to changes that can not be high (because they are acquainted to specific regulations for a group of fisherman at specific locality), therefore it need to be considered this aspect in organization of Van Chai (Hien, individual idea).

Almost Van chai do not mention to bussiness and product consumption; maybe most of Van chai are affected by the culture of physiocrat and bussiness disdain so there are not many documents that mention to this problem.

Perhaps these are reasons that make Van chai not suitable to the new context so during the development process of social republics, boats are associated to cooperatives then the role of Van chai was overshadowed from 1975, after many years Van chai could not recovered. In recent years, to maitain and develop the national culture, the Party and State have policies on many activities to recover cutural trandition in fishing village as: expenditure supports for reconstruction, repair of Dinh Van, organization of religious celebrations,… Therefore, some large Dinh Van hav been recovered, the role of Van Chai has been changed positively and receiving the fishermen's agreement. However, Van Chai's activities mainly focus on traditional culture, religion; these have not shown the linkage role in organization, management and development of production and environment protection and fishery resources (Lương Thanh Sơn, 2008).

Besides, factors as socio-economic change, fishery changing from small production, self-supply and demand to export (from 1980s); scientific and technical changes (the appearance of lưới giã cào, lưới rê ba lớp, các ngư cụ có tính hủy diệt) and very fast population increase those put pressure on overloaded fishery exploitation that is out of the control and capacity of Vanchai

in the implement context and the legal supervision of authorized agencies and fishermen are weak (Nguyễn Duy Thiệu, 2002), these lead to the decrease of the Van chai's role. Moreover, the policy of capital loan for new boat to develop offshore fisheries from 1997, households had chance to pass the coastal small fishery and community, so Vanchai continued to be separated while there was no organization at central level that allied them.

Finally, and being the most important problem, in our opinion, is the olivion of the Van chai's role as the management mechanism is changed. After the period of freedom and social republic development in the North then unifying the South and North in 1975, the State focused on management of resources into one clue and unique object that is the State, therefore the management role of Van Chai is overshadowed. Until now, researches on Van Chai are limited and the State has not been carried out strict and systematical researches or policies that encourage the recover of Van Chai to the task of coastal small fishery management. While the cultural sector has been exploited positive aspects of Van Chai on religion, custom and culture to develop tourism and society union, the fishery sector has not been had the right acknowledgement on Van chai in coastal small fishery management.

IV. Discussion on combination of Van Chai to the State current management system

Basing on above historical documents, according to our opinion, the discussion of combination Van Chai to the coastal small fishery management is essential; however following notices should be considered:

The characteristics of Vietnamese fisheries is coastal small fisheries, tropical and multi-species and multi-fishing gears, besides Vietnamese fisheries also multiforms in capturing method and trandition so the approach of fisheries management basing on ecosystem is right. In efforts of doing ecosystem approach into fisheries management, we begin to focus on environment and resources problems and social issues (poverty, interests conflicts) are policized, planned and managed, however cultural, religious and tranditional knowledge aspects as Van Chai's have not been considered fully. We think that in next time we need appreciate more this problem and focus on the suitable management approach and co-management basing on Van Chai need to be strictly examined.

Vietnamese Fishery should manage suitably to conditions in Vietnam: we should also consider the application of European fishery management methods or not, however in our opinion, to the small and tropical fishery and multi-species, we should not apply methods and technical indicators as quota, ITO, TAC, MSY like temperate nations because of the different characteristics between two regions: the temperate fishery has little species and each specie's yield is big so they can apply aquatic sounder, detector, instruments, mathematical models to estimate and account yield as well as make rather suitable capturing disisions; Vietnam in particular and tropical nations in general the application of these instruments is not suitable. One of the main reasons leading to not break in small fishery management is the fumble in

application of European modern instruments in Vietnam. We have invested much into resources investigation programs, yield assessment, TAC, MSY … however the received results have not yet contributed much into coastal small fishery management, in detail there has not been had exact data on each species's yield and MSY of each species from that making suitable management dicisions; because Vietnam can not have enough money and human resource to account fully data of about 2000 fishery species, besides the accounting method of each norm (MSY) only applied to one species that ignores the interaction among species in the ecosystem. While managers have still been puzzed, the coastal fishery resources continue decreasing as there has not been any method to limit or recover effectively the resources. Recently some persons have expected quota is applied to each boat to better management basing on scientific researches on the resources. Very few people notice the rather "open" management basing on Van Chai that did effectively in the past. Van Chai nearly is forgotten. Although Van Chai did not show us exactly how many fishes in water, it supplies nearly all most basic functions of management: significantly controlling the in-out of capturing activities through power and capturing areas, adjusting relationships among boatman, his members, captain; to define and share interests and responsibility between sides, season regulation, size, fishing gear management and behavior in production; allocation of exploiting location,… as mentioned in Part I.

To decentralize management and implement fishery co-management in Vietnam are suitable to new context, however Vietnam should not apply dogmatically the European co-management models as "cut and paste" because this approach exists some issues: 1. This approach always supposes that fishermen community (in developing nations) as one "white paper", researchers and co-management promoters come from other places; fishermen have no their own organization so they need to be helped to establish a new one (in stead of upgradation of existing organizations); 2. This approach requires authority to "share and decentralize management" to the new organization; however it is difficult to do that because not all societies are ready as differences in fishery management mechanism; and which mechanism is believed by the State to decentralize power to community organizations; no one can ensure that communities would not "abuse power", this is the big limitation to implement co-management.

As a "unfilled paper", researchers and co-management promoter often comes from "outside", they said that fishermen do not have their own organization and thus need to help them establish a new organization (rather upgrade and enhance the traditional organization already had); **2>** This approach requires the government to "share, decentralize" to the new organization of fishermen, but to do this which is not always willing by any society due to the differences of institutional for fisheries management; and what mechanisms on which the State can trust to empower community organizations; who can ensure that the community is not "abuse of power" which is the biggest barrier to make it difficult for co-management; Moreover, the legal framework to empower the community organizations often is not ready (or unclear) in developing countries (as the case of Vietnam) so agencies who support the implementation of co-

management projects face difficulties in piloting decentralization to the community; **3>** western approach for co-management often appears to be the progress of **democratic** promotion while the governments of developing countries are often very afraid of this. Because of this, pilot model of fisheries co-managementt in Vietnam, up to 15 years initiated, are still only at the **model** and **pilot** level. Even there are places where visits, meetings and training courses provided.. local leaders still found it difficult to perceive conceptual issues, and how to implement co-management. Perhaps, it is too new, too strange, not "fit" with the context of politics, culture, and traditional fisheries management in Vietnam?

According to the evaluation report of the Overview for co-management models in Vietnam (MARD 2009) of 32 co-management models have been operating in Vietnam, only two successful models (accounting 6%) and 8 models got average level (23%), of five models which were the best (the Rang Dong, Ben Tre, Ben Beo-Hai Phong- Trao Reef, Khanh Hoa, Quang Thai- Thua Thien Hue, Hoai My-Binh Dinh), then there were four models made by "Vietnam money" and without intervention of the Western side. Rang Dong Clam Cooperative model, Ben Tre is considered the most successful co-management model (including economic, social, and environmental stability) no international funding and most based on the Van Chai. So the question is whether we should learn from the West or approach should be inherited the essence of Vietnam? Whether we will continue to do this as piloting for 15 years, until now, Vietnam has not had official definition of fisheries co-management.

Based on the above information, that we need to integrate Van Chai system in fisheries management because:

Van Chai was a product of Vietnam creative. There is still some controversy as Van Chai was a product of the Cham or Vietnamese, however, the majority of scholars agreed that the custom of whale worship (in Van Chai) as belief of Cham, in the process of land opening to the South, Vietnamese people perceived, vietnamized and developed it to suit the concept and its conditions (Dinh Van Hanh, in the Development of belief systems of VIETNAMESE PEOPLE in the process of migration to the SOUTH which was from Whale worship"

Van Chai had been adaptive with Vietnam for long time: history showed that Van Chai was adaptive in Vietnam from the XIV century (fourteen) and originated from the northern provinces. The system had proved efficient in small coastal management in the central coastal provinces (Binh, 2005, Ruddle, 1998). In other Asian countries, community-based management had been based on traditional management systems and was pre-existing system which was very successful in Japan and some small island countries in the Pacific Ocean (Ruddle, 1994). In Vietnam, according to Nguyen Quang Vinh Binh 2005, in general the French colonial government as well as Vietnamese southern regime (My-nguy) before 1975 which was almost reserved way of managing lagoon in Thua Thien Hue from ancient feudal, based on Van Chai. A system of adaptive management have had a long history as such, would be potentially great

value. Does our ancestor, the French, Americans which have found Van Chai-based management is the most appropriate form in the context of a small tropical fisheries as in Vietnam?

Van Chai had been successful in supporting feudal state, the French-based government and the former Saigon administration (tax collection): the historical data showed that in terms of fisheries management, the feudal state was very prudence in the use of Van chai, taking advantage of known "Van chai" as a core to manage - even recognized as a basic administrative unit such as the establishment of the "Võng Nhi" under King Tu Duc (1848 - 1883) includes 13 villages – Van, which absolutely did not have land (Mr. Nguyen Quang Trung Tien 1995). Through Van chai, the feudal state was successful in the management of fishermen, tax collection, conflict resolution etc, with low cost and flexibility. According to Nguyen Quang Vinh Binh, under the South Vietnam regime, in the early '70s for the management of lagoon Da Da - Tam Giang-Cau Hai lagoon, provincial authority agreed the management was based on the bidding year tax. After the widely reported the bidding taxes, people who wanted to bid tax must apply application and payment to ensure the bidding. The organization of the bidding was by a representative of the provincial tax authority, District and Commune Administration Committee to coordinate. Provincial budget will collect 30% of tax value bidding, the remaining 70% left to locality. The bid winner (the contractor) will be licienced for tax collection. As the successful bidder, the contractor in Da Da organized a meeiting with 12 Van Chai leaders (including: fixed net Van, long fixed net, net, Van Trung Anh, Hook and Line Van) in order to elect and classify tax for each area. Then each Van, under the command of the Head will meet and discuss on each job or remove (van with everage, highest tax collectors, ...). Above bases will have relatively tax level for each member, family involved in fishing in the Da lagoon. Total tax allocated to 12 Van Chai was often by about 1.5 times of tax value and almost always achieved agreement between the contractor and the Head on reasonable rates for collection. Contractor deducted 1.5% of the amount of tax collected (called money for "Su le")

to worship for better fisheries and competition among Van annually in March lunar by which the solidarity among Van was tight. Budget of 70% tax in Da Da lagoon kept for local authority for social welfare, pay salaries for administrative apparatus ... because Da Da lagoon was in many commune areas, but as traditionally tax collected in order to give local level allocating for communes as following ratio:

- Vinh Hà commune (former Hà Trung village) with 250 people
- Vinh Phú commune (former Hà Bắc village) with 30 people
- Vinh Thái commune (former Hà Thượng village)with 30 people
- Lộc An commune (former Hà Vĩnh village) with 30 people

Thus, Vinh Hà commune before 1975 was one having highest income in Thua Thien Hue thanks to fishery tax source in Đả Đả lagoon.

While current management which we find it difficult to collect fishery tax. Natural Resource Tax Law was just combined which could be difficult because who will be person to monitor and collect tax from fisherfolk who is normally on sea and small scale) and cooperatio among fishery sector and taxation sector which is also a big question.

Vạn chài was very successful in the context of production management, identifying duties and rights for managing fisherfolk, reducing conflicts.

Vạn chài is not focusing on managing fish but fisherflok also: through village rules (acknowledged in communities) to revise behavior in production. For instance as regulation on "priority rights for first come first serve". As bing at a position, fishermen come to fish second is not allowed to occupy the first fisherman place, they have to find another fishing grounds but make any difficulty for first fishermen. This is nobody tell for another but they all understand and respect each other.

Governement policies on promoting the participation of communities in managing natural resources, inclduing fisheries and legal framework on management of the resources as well: Detail is Decree 123/2006/NĐ-CP by the Governement on management of fishing activities, of which it mentioned to decentralization for managing coastal resources; Programme on capture fisheries and resource protection according to Decision 131/2004/QĐ-TTg to encourage participatory communities in fisheries management; SCAFI compoment funded by DANIDA since 2006 on strengthening of applying co-management; especially MARD is preparing National Guideline on fishery co-management implementation. In forestry management, MARD also approved Circular to guide on community forest management on which it clarifies the effort of Government in decemtralization for natural resource management in general. Anyway, it has not been to confirm it as a legal base to allocate fishing rights for local communities to manage in Vietnam, it should be refered to cases as Japan, Phillipine or Combodia; now the Government is considering to revise Decree 123/2006/NĐ-CP and MARD is preparing to develop Circular on dividing sea areas; hopefully, these changes will contribute to a better support for process of co-management in Vietnam.

Governement policies and legal base on recovery of tranditional value: Directive 24/1998/CT-TTg, dated 19-6-1998 by the Governnment on developing and implementing Village Rule, Norm of villages, hamlet. Recovery of Van Chai rules to adjust better.

V. CONCLUSION AND PROPOSAL

Fisheries management does not mean to manage fish (or fishery resource) but it manage people in a unity by ecological approach. Van Chai is one of the good example of our ancester in approaching ecosystem for fishery management that focus on people, environment, resources, culture, customs..etc

Traditional Vạn chài played a very important role in small scale coastal fishery management in the past. Quintessen of Van Chai is necessary to study, re-system to take lessonb learnt for fishery management nowadays. At the same time, limitation of Van Chai is also needed to consider to revise more suitable for current situation.

It needs to have policies to recover and upgrade Van Chai and consider to change Van Chai or extract it to be a dependent unit in society which acknowledged by society and law or such a part of social-career system; ensure its activities to be linked with other organizations to help the State Management more effectively; respresenting for benefit and wish of fisherfolk.

For fishing communities which are currently concerned by the Governement and other organizations so that it is. mobilized Van Chai to be core where it existed, and inherited and developed fsherfolk organizations more highly and effectively.New fisherfolk orgnizations together with Van Chai tradition, with sharing information, customs, beliefs, help each others, it should also be more active in making decisions and consensus (such as planning of fishing areas, mobilizing for allocation of rights of resource users, etc); cooperation as well as business activities to ensure sustainability

For promoting co-management, at first, it can be doing pilot models on co-management in areas where existing Van Chai as Thủy Tú in Phan Thiết, Vạn Vinh Hà in Phú Vang, Vạn Sơn Hải in Đà Nẵng, Vạn An Vĩnh in Quảng Ngãi, Vạn Phước Tỉnh in Vũng Tàu v.v… the Government needs to have stronger policies to allocate management rights for communities based on experience of Van Chai in Vietnam and experience on fishing rights in neighbouring countries such as Japan (since 1938), Malaysia (1981), Phillipine (?), Cambodia (2001) before implementing new sites.

In preparing policies and implementing projects on fishery co-management, it needs to participate by historians, athnologists, socialists but not onle technical people and fisheries people because this is a participatory approach by many sector, not simply fisheries.

DEVELOP CO-MANAGEMENT BY FISHING RIGHT ALLOCATION IN TAM GIANG-CAU HAI LAGOON

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Abstract:

Fishery management, fishing rights and rights allocation for a pilot co-management in Tam Giang lagoon, Vietnam: *Common pool resource such as fisheries in the historically open access system is often overexploited and declined due to poor defined property rights. The resource use is increasinly intensive because of poverty. People rely heavily on natural resources for livelihoods. The management in this context requires a form of governance having key roles of local communities. The co-management arrangement is to support this governance that involves the allocation of resource rights and delegation of power from the government to resource users' organization. This paper draws from action research in Tam Giang lagoon, Vietnam, on property right analysis and fishing rights allocation to highlight the current fishery management and practice of property rights in the coastal lagoon areas. It also provides the local initiatives on fishing rights allocation to fishers' organizations (Fishery Association) to build pilot co-management. The undertaken actions facilitated formalization of collective/communal property right regime over fishery resources and enable the operation of fishery co-management between the local government and fishery association.*

Key words: property rights, fishing rights, rights allocation, fishery asociation, fishery co-management.

1. Fisheries management in Tam Giang - Cau Hai lagoon

System of Tam Giang – Cau Hai lagoon, Thừa Thiên Huế, is the biggest one in the Southeast Asia with area of 22.000 ha and its length is about 70 km along with coastal line, the lagoon play an essentially important role for local communities in the lagoon as well aseconomic development of the province. There are 33 communes/town distributed in 5 districts which located along with lagoon. Each commune has an average of 7 hamlets, about 1.600 households with 7.650 people. Each commune has 1-3 agro-fisheries hamlets and 17,6% of households of commune involved in fisheries (capture fisheries and aquaculture). Other households also

participate in fisheries. In 2006, 18,9% of lagoon households had highest income from fisheries (TT-Hue Statistics, 2007). The lagoon system diversified on natural resourses and user groups such fixed nets, mobiled nets, aquaculture and others. These people always compete to increase fishing capacity which appears overexploitation and degradation of natural resources. To solve these problems, it requires a clear and reasonable mechanism of propoerty rights in order to strengthen of moniroting fishing activities.

The management of Common Pool Resources in Central Vietnam supported by IDRC (Canada)[4] assessed and analyized mechanism of property rights for natural resources in the lagoon to base on allocating fishing rights for developing co-management.

Table 1. Summary of co-management activities with different subject roles

Resource/ Activities	**Subject as State**	**Subject as Cooperative, communities**	**Subject as individual**
Zoning for fishing and protection of fisheries resources	Zoning for master planning and territory planning	Detail planning according to small fishing areas	Identify fishing areas according gears
Fisherfolk organization and fishing right allocation for fishing and management	Regulating forms of fisherfolk organizations (household, household group sub-associations) and allocating fishing rights and management of fisheries	Organizing cooperative operation and protecting the rights of access for members	Organizing individual fishing
Planning of fixed fishing gears	Provincial People Committee makes master plan. District People Committees regulate the quantity accordin the number of communes. CPC organizes and adjusts	Develop checklist of households and number of fishing gears based on guidance of commune authority	Adjust fishign gears based on consensus

[4] *The management of Common Pool Resources in Central Vietnam supported by IDRC (Canada) and implemented by the Faculty of Extension and Rural Development, Hue University of Agriculture and Forestry. 2008-2011*

		and consensus	
Management of mobile fishing activities	Fisheries Law 2003. Apply open access management approach for small scale fisheries	Resolve conflicts among fishing households	Self organization of households, scale of fishing, sellect area and grounds
Monitoring of destructive fishing and mesh net sizes	Issue regulations. Organize network for regulation implementation, fining viloation people (Sub-decafirep)	Develop community regulations and operation for resource management	Protect "private" area and formal and informal
Management of ponds along to lagoon which are "agriculture land"	Assign for CPC to generate local income	Bidding and exploiting, producing according to contracts	Bidding and fishing, producing according to contracts
Planning and aquatic and water transport management	Planning and issuing regulations of water way management (province) and local water way (locality)		
Zoning aquaculture planning	Zoning master planning of aquaculture at provincial level and detail planning according to territories (districts, communes) and small areas	Develop detail planning of aquaculture areas	Planning of household-scale aquaculture system
Assign user rights of water areas for aquaculture	Assign land use rights for households or unit for aquaculture according to Land use Law 2003		

1.1 Zoning for lagoon resource management

Zoning for master planning of lagoon

Master plan to divide the lagoon into three fishing areas: Essentially sensitive area, sensitive area and normal area. Sensitive areas are areas with spawning and breedinh grounds of

aquatic species, sea grass areas, water bird areas and mangroves. The zoning specified by time of fishing license in the areas, while preventing the delivery of land use right "push out" to the coastal area that can obstruct the line flow in the lagoon. Source: Provincial People's Committee Decision No. 3677/QD-UB on 25/10/2004

Zoning for planning in locality (district and communes)

Zoning for planning of lagoons also has been made at all localities (5 districts and 33 communes and towns). Planning at districts is mainly promulgated standards and guidelines for commune zoning based on the lagoon area by territory, the status of water use and policy of the province. Communes rely on the guidance of the district has implemented the zoning of the communal water lagoon for the use and management. Some indicators zoning areas and sub-areas for planning on the lagoon area of the communes including:

- Area (sub area) aquaculture: push out and high tide
- Area of natural exploitation
- The water area of particular functional areas (water ways, cage culture, conservation)
- The number of fixed fishing gear: traps, bottom net,

Zoning for detail planning of sub-areas in lagoon

Detail planning in the sub-areas in lagoon will be directed by the CPC and legal assistance. Hamlets and resource users (farming group, trapping group) directly implement the plan based on the current state and consensus among group members. Planning was done in the sub-areas for aquaculture and fishing activities by using fixed fishing gear, including:

- Make a list of household access to exploit the sub-areas
- Determine the size and location of households in each sub-area
- Locate and area of areas and its own function

1.2 Develop fishermen's organizations and empowering fishing rights
(Decision no 4260/2005/QD-UB dated 19/12/2005 by Thừa Thiên Huế PPC)

PPC's Fisheries Management Regulation states that fishermen organizations at all levels in the system of Vietnam Fisheries Society (VINAFIS) is the main partner for the construction of fisheries management. The fishery is a "socio-professional organizations." In Thua Thien Hue Provincial Fisheries Association (HUEFIS) and the Fisheries Associations (FAs) organized in the village or commune level. In 2008, 32 FAs established with a membership of 1,500 who are representatives of lagoon resource users.

PPC regulation also clearly indicates that the Governement will give the right to exploit and manage fisheries in the lagoon area for the FAs. On this basis, the FAs regulate fishing activities of their members, specifically:

- FAs directly organized their fishing gears in term of the traditional approaches of households in accordance with overall planning and community interests.
- FAs take responsible for management of fisheries tax in the lagoon, management and

protection of aquatic resources and transportation in fishing grounds ...

- FAs take responsible for fisheries settlement of disputes and conflicts on fishing grounds and among resource users or household members. Only when the resolution of disputes is fail, the government to intervene (Article 8).
- FAs were empowered fishing within 10 years in normal areas and 5 years in sensitive areas. In essentially sensitive water areas, the DPC empowers fishing by annual allocation or assigns for CPC to bid for the exploitation (Article 18).
- FAs develop their fishing regulations to protect the sub-areas for conservation and rehabilitation of fisheries resources in the management areas.

1.3 Management of species, quantity and mesh net size

Regulation on types and quantities of fishing gears is not only done in the master planning, but also issued in different time by PPC and DPCs. Regulation on types and quantities of fishing gears aims to reduce the scale and fishing force, overfishing. At the time of issuance, the PPC promulgates norms to adjust (reduce) the type and quantity of fixed fishing gear for the district. District based on this criterion for the issuance of criteria to adjust the number and size of fishing gear in communes. Communes organize the adjustment of the number and size of fishing gears through the reorganization of fishing activities towards the sharing in the community. For example, in Quang Thai, Quang Loi and other communes in Chuon area, households narrow the fixed trap-net or area of fixed pond to open the waterway. In Phu An, many households use one fixed net to reduce the quantity. In the Cau Hai lagoon, rearranging fixed nets (2007) some households possessed more than a fixed net had to reduce its volume. Generally, rearangement and adjustment of fishing gears are very important role of communities and households in order to identify solutions and build consensus among households.

However, master planning also regulates small scale fishing activities (hook, nets, long net with maximum 50m, traps, hand use for fishing) and fishing entertainment (torism) are not limited in fishing rights. It can be said that, monitoring (reducing) types and scale of fishing fixed gears has not been much paid attention. Therefore, mobilizing fishing is still open access.

1.4 Monitoring destructive fishing

This activity is responsible by Sub-Decafirep. The Sub-Decafirep proposes PPC the regulations on fishery resource protection, including: banned activities, mesh net size, patrol and monitoring activities, arrest and fine violations. This regulation is at the same time referring to banned fishing areas or banned in certain time. Sub-Decafirep has its inspection force to patrol and fine violations. DPCs and CPCs organize patrol activities for protecting resources in the area. Communities and fishfolk organizations play a role as monitoring and patrol of resources in the area.

1.5 Conflict and solving conflict

Conflict is a common issue and possibly happening among fishers; fishers and others such as aquaculturists and farmers. Conflicts among fishers arising due to (i) conflict on areas or fishing grounds, and (ii) many people use the different gears (nets and traps), particularly fishers who use legal gears and who use illegal gears. Conflict is easier happening among local people and ousiders.

Solving conflicts mentioned in other different regulations. Most of conflict solving done by hamlet, groups and FAs by holding talks and negotiation. CPCs is the unit to solve the conflicts. CPC issues legal documents to solve conflicts in their area. Unsolved conflicts by negotiation will be reported to higher authorities to solve.

1.6 Management issues need to be done:

- No specific plan for the sub-areas, unidentified the functional sub-areas for different purposes (capture, other uses, conservation).
- No management units are assigned to manage specific waterbodies, fishing households who want to exploit as much as possible, leading to a number of fishing gear rapidly increased.
- There are no specific regulations on the exploitation and implementation unit of regulations.
- Conflicts often occur because of competition of water areas for exploitation.
- The rapid development of traps on both number and scale of trap/ household, small mesh net size to promote depleted fishery resources.
- The exploitation is not paralled with protection of lagoon resources which threatens the lives of fishermen in the future.

2. Rights and right regime (use) natural resources in Tam Giang Cau Hai lagoon

Understanding management rights and use of resources in the lagoon will be presented in the paper with following concepts:

Bundles of rights

Property rights for natural resources (Ostrom, 1994 and Pomeroy, 1994) and analysis frame proposed by Barry and Meizen-Dick (2008) was applied. Specific rights were considered and analized which are: access rights, fishing/withdrawal rights, management right, exclusive right, and alienation. Implementation of property rights for natural resources is not separate from each other but have a close link, for instance approach in accordance with management.

Regime of rights and right hoders for resources

Property rights regimes for natural resources can be seen as the arrangement between stakehodlers, social regimes and mechanisms to protect, maintain and use a type of natural resource. In Vietnam, the Government possesses the natural resources and assigns specific rights for different objects to set up relative rights in accordance with time of empowerment. The right empowering can be established specific regimes. This study applies for concepts of property rights, Bromley (1992) and Feder và Feeney (1993), in order to analyize property rights in Tam Giang lagoon: 1) Open access regime – is the resource on which property right regime for resource has not clearly defined (2) Common property right regime – is the right that all people possess it, (3) Community/cooperative property right regime for resource established officially or according to custom, and (4) individual property right regime – individual property right regime for resources established. The property rights regime has relatively holder. State agencies are subject to property rights for common resources. The collective organization representing for households who use resources is the subject of collective property rights to community resources. The individual household is the subject of individual property rights for individual resources.

2.1 Process of forming right regime for fisheries resources

Before 1975, local government set taxes and regulations in their area and assigned coastal hamlets to bid for management. So, fishing right in the lagoon was managed by hamlets. Hamlet opened bid for the fishermen to hold the rights. Bid winners (households, inter-households or van- a group of fishermen) had the rights to fix the gears (*trap, bottom net*) to fish and the holders had the rights to transfer the gear quota (*together with the rights to fix the gears*) for the next generation. The mobiling fishermen with small-scale did not have to pay taxes, one hand because tax collection was not feasible due to these households did not have fishing grounds. Some of the lagoon area was allocated for use for the benefit of the community, for example, waterways or transportation direction (Nguyen Quang Trung Tien, 1995; Ton That Phap, 2001). In fact, the fixed fishermen had the possession rights for fishing grounds but which is dominated by fishing communities. Usually members of the Van or households in the community agreed to rearrange fixed traps by annual rotation or random fishing. So a fisherman did not have fixed fishing ground (Ton That Phap, 1997).

During the collectivisation period (1975-1989) (after the American War ended and Viet Nam became reunited), natural resources became the people's property as promulgated by the Government. This property rights regime had been in place in the Northern Viet Nam since 1954. For the Tam Giang Lagoon, the 'co-operativisation' movement meant the reorganisation of

existing fishing practices. Local authorities organised the registration of fishing activities and established fishery teams or groups (similar to agricultural cooperatives). During this period, the lagoon was administrated by the fishery cooperatives. Principles for equal use of the water surface and lagoon resources and a resource use tax were applied. The tax levied on fixed gear was considered a legal acknowledgement of property rights. The fishers who did not register for fishing and who did not pay tax were likely to lose their property rights if conflicts arose among fishers (Tôn Thất Pháp, 1997). Tax applied for fixed gears can be seen as a legal base on natural resource user rights.

Under the instructions and supervision of local authorities, fishery cooperatives reallocated fishing locations annually by drawing lots and re-arranging fish corrals. If there was no conflict among members, and no new members were admitted, then location rearrangement was conducted every two or three years to reduce the costs. The acceptance of new members was based on the availability of water surface area. If water surface area was available, a meeting of all fish corral owners was organised (although, in practice, only key fishers were invited) to allocate the fishing area for new members and to make decisions on other related issues. The meeting outputs were reported to the commune authority by the cooperative and then approved by the district authority. The district authority would then, approve a list of new members to be taxed (Truong Van Tuyen 1998).

After 1986, when Viet Nam applied market-oriented management mechanisms, lagoon resource use rights became complicated through the privatisation of lagoon resources for aquaculture. During this period, provincial and local policies which promoted aquaculture conflicted with the traditional views on lagoon resource property rights – i.e. “land is private property and fishery ground is common property” – and allowed many households to occupy water surface in order to privatise the occupied area.

Some common types of occupation were to build ponds or set up net enclosures for aquaculture. The occupied areas were regulated by local authorities through approved aquaculture development plans or issuance of land use certificates. This process resulted in some common property becoming private.

2.2. Property rights regimes, rights practice and legitimacy for fishing

In the Tam Giang lagoon system, the right regime in fishing activities is very diverse and complex. The fact is that the regime of different property rights has been established in the specific activities (Fixed gears, bottom net, water transportation...) with common characteristics are based on customs and traditions. Along with the impact of state management, a regime for property rights has provided certain legal basis, but very different levels. If the lagoon is divided into two fields which are fishing and aquaculture, the fishing areas are much more the property rights regime. The common regimes are open access regime for mobilized fishing, cooperative

property rights in fixed fishing, and the public regime of property rights in water transportation. In the aquaculture area, including pond and fixed net areas, the regime of personal property rights is the most popular. This regime has been established through the allocation of land use rights to individual households. However, the process of allocation of land use rights is also influenced from customs so that individual property rights to aquaculture ponds have very differently high legal basis. Pond, with Land Use Book (red book) issued by the district was deemed to be fully legal. The ponds have a lower legal order are: empowering by district but without the red book, only formal agreed by commune authority (in writing), no formal agreement, build in the planning area- acknowledged by community, build out of the planning.

Table 5: Common right regime for natural resources in the lagoon

	Type of resource/ Activities	Right regime	Right forming	Legal basis*
Fishing areas: (21.620 ha including ponds in lagoon)	Mobile fishing	Open access	custom	Low/unclear
	Fixed fishing	Collective	Custom, develop self-managed group	low, without agree by commune
	waterway	Public	Planning by local governments	Authorities approve
Aqua area: (5.350 ha)	Land pond	Individual	Planning and decentralization of land use right	Verified by commune/ issued by district
	Net pond, cage culture	Individual	Custom	Agreed by commune
	State-run land pond	Public	Planning and decentralization of land use right	Issued licience by PPC

Source: DOFI, 2006:

**Full legalization is having licience or certificate issued by competen authority. Verification by commune is only showing the agreement but it is not fully legal.*

****Open access resource***

In terms of lagoon resources, an open access rights regime is created through the absence of defined property rights, leaving people free to access and use the resources. This type of rights regime fits in with traditional thoughts and customs which regard fishing grounds as common property. By this way of thinking, every household has the right to access the lagoon to fish or collect resources. However, open access to resources cannot be practiced by all fishers/households. For example, while mobile fishing households are free to choose fishing grounds, gears and fish species following the rule of "first come, first serve", fixed gear fishing households are restricted in choosing favourable fishing locations as the open access areas are occupied by other fixed gear fishers. This competition and premium on space has lead to fixed gears fishing households forming groups to claim exclusive rights to an area, which are then recognised by commune authorities. Within these groups, access to fishing grounds is discussed and agreed upon by group members who then decide the amount of fixed fishing gear to be used in that area. The establishment of specific property rights has reduced the amount of open access area which can be used by mobile fishing households. The allocation of land use right for aquaculture also narrowed down scale of regime of open access rights in Tam Giang lagoon.

Public property right regime

With regime of people's public property, any area in the lagoon which remains unallocated is also considered to be public property. Apart from common property rights established in a certain activities such as waterway and public services. This regime is also established for generating incomes for local budget on which public property rights have been given to local authorities at varying levels and government departments such as the Department of Agriculture and Rural Development, the Department of Natural Resources and the Department of Environment and Transportation. The commune government directly manages these areas and can use them to raise government funds by organising bids for resource use, or leasing the area out to individuals/groups under short-term contracts (one to three years).

communal/collective right regime

Communal/collective property rights refer to the property rights shared by the members of a community or group, mainly fixed gear fishing groups, such as professional groups, villages, cooperatives, and fisheries associations. Communal/collective property rights are established and maintained through customary practices and receive oral recognition from local authorities, which means that their legitimacy is very low. Until very recently, fishing rights were not officially granted to any partnerships such as communities organisations or fishers. In practice however, local authorities auction the rights among the communities (villages) and/ groups without official allocation.

Object makes the collective property rights include community organizations such as occupational groups, cooperatives, self-management groups, and fisheries associations. At

present the regime of collective rights has not been well established or without adequate legal basis. Property rights for lagoon resources have not been formally assigned to the collective. However, the regime of collective property rights is efficiently. For example, all groups of fixed gear households prevents it from other households to access their water area; Fisheries Associations prevent and arrest destructive fishing gears in the lagoon area; aquaculture management groups control water resources management in farming areas.

**** private property right regime***

Private property rights are the exclusive right of a household or individual to an area in or around the lagoon. In Tam Giang, private property rights have been established in the past. These rights have not been legally acknowledged but they are formed according to customs and agreed by communities. Areas close to fixed gears and in front of gears will not be allowed to fish (for mobile fishermen). In the early 1990s, fixed gear holders based on their fishing position which use net to surrounda certain water area to manage fishing area and aquaculture which create a mushrooming on aquaculture and individualization of lagoon area (Tuyen, 2004). Net ponds become "private" wate areas of their holders. Process of individualization of lagoon water area cause the lost of fishing grounds for mobile fishermen. PPC has to interfere by planning "livelihood" aquaculture area and removing net pond to maintain natural fishing. Now (2008), many net ponds were maintained by individual property rights though its legalization is low.

According to Thừa Thiên Huế DOFI (2006), area of aquaculture in Tam Giang lagoon in 2005 was 5.350 ha. Thus, area to be set for property rights was rather big. In fact, aquaculture ponds had different legal rights due to the allocation of land use rights uncomplete. Ponds issued with land use right by districts (Red book) was fully legal right. Areas unallocated by government, district will give lower use rights due to only planning areas assigned for commune. Individual property right holders for the resource are households.

3. develop fisheries co-management models through allocating for fisheries association

Based on the analysis of property right regime for fishery resources, the International Development Research Centre (IDRC - Canada), Hue University of Forestry and Agrculture supported Phú Lộc district to implement the allocation of fishing rights in 1000ha of water areas for Fisheries Association (Decision no. 942 / 2009 by Phú Lộc DPC, TT-Huế). This was the first case of fishing right allocation on fishery resource for fisherfolk organization, establishing collective property right (fully legal) for fishery resources. The allocation of fishing rights was officially implementing fishery co-management between local authority and fisherfolk organizations (Fisheries Association). Diagram 1 is to describe partners and roles of stakeholders in the process of fishing right allocation for Giang Xuan Fisheries Association, Vinh Giang commune, TT-Huế. PPC authorized and guided, through DARD. DPC guided and appraised and made decisions to issue the rights through Division of Agriculture and Rural

Development and Division of Natural Resources and Environment. CPC guided to develop planning and establish co-management regime. Provincial VINAFIS guides and supports to set up and build up capacity for grassroot fishery organizations. This process is as follows.

1) Set up and build up capacity for fishery association

This is an important content to develop collective rights for fishery resources in the area which is based on regulations for fishery management issued in accordance with Decision 4260 in 2005 by T.T Hue PPC. The support for developing and building capacity for fisheries association is the process of management subject with following concepts:

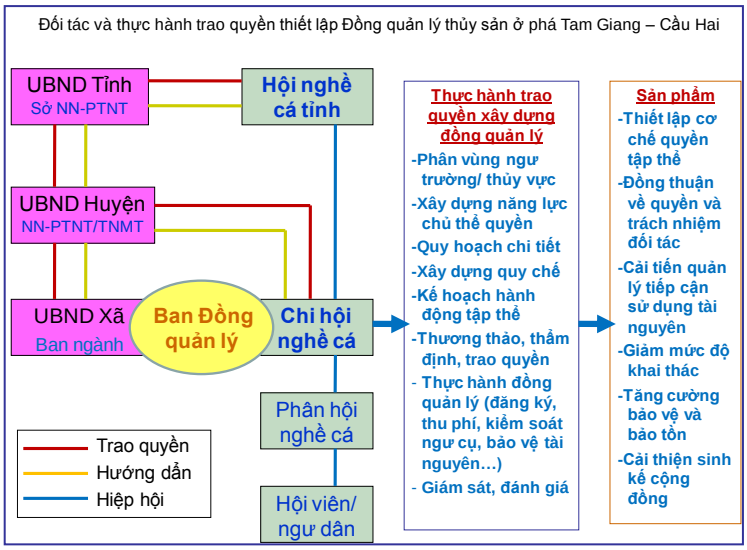

Diagram 1: Partners and roles in empowering fishing rights to Vinh Giang FA

- Legal right: VINAFIS has legal right to represent for fisherfolk and operation as social and professional organization
- with organization structure (members, sub-units, Excutive Board, Charter) to attract the participation of fishers for implementing collective operation in fishing and fishery management.
- with capacity on implementing social targets and fisheries management, for example: support commune authority to arrange fixed gears; training on capacity building for members; planning for fishing activities and management; develop regulations for management and operation of fisheries; patrol work to protect resources and destructive fishing actions…
- Mobilizing resources for association operation and fishery management, for example self financing for association operation and fishery management.

2) Allocation of detail planning for fishing practices:

Detailed planning is done to solve the shortage of planning or lack of feasible planning in fisheries management today. The objective of planning is to reduce fishing pressure but maintain community livelihoods, at the same time identify conservation methods to protect natural

resources combining with community livelihoods. Detailed planning is developed with the active role of the management entity which has been identified (Fisheries Association). This is the planning done by the method of participation (The CBRM IDRC supported in Central Vietnam, 2002-2006) built in accordance with the existing plannings, for example, master plan for management of fishing zones in lagoon, by Thua Thien Hue PPC to 2010 according to Decision No. 3677 in 2004 of Thua Thien Hue PPC and the decision to adjust number of fixed gears no. 142 / 2008 of Phu Loc district People Committee. In addition, the provision of support or technical advice is essential to good planning and increasing feasibility. Faculty of Agriculture Extension and Rural Development, Hue University of Agriculture and Forestry has provided technical assistance for fisheries management planning in Vinh Giang. Results of detailed planning in Vinh Giang (Table 6) illustrate the contents of detailed planning in the fisheries management.

Table 6. Planning and allocating fishing rights for Giang Xuan Fisheries Association

Functional sub-zone	Area (ha)	Current use status (2009)		Planning and allocation of fishing rights		
		Fish corrals	Mobile HHs	Fish corrals	Mobile HHs	Other regulations
Fish corral	543	90	47	56	47	6 rows arranged as planned by provincial master plan
Waterway	324		64	-	64	Max 80 *Lu*/HH[1]
Navigation lanes	26		5	-	-	Max load of boat/ship is 10 tons.
Buffer zone (capture and aquaculture)	50		7	-	7	
Breeding ground	40		7	-	4	Fishing is forbidden from December to March (lunar year).
Seaweed habitat area	10		4	-	-	Fishing is forbidden from December to

						June (lunar year).
Total	993	90	134	56	122	

According to Decision no. 942 / 2009 by Phú Lộc DPC, TT-Huế

Functional zoning for different forms of use which is basic to implement management solutions, for example, developing regulations and self management. Detail planning in Vinh Quang has divided lagoon into different sub-zones, as fishing with fixed gears (6 sub-zones), sub-zones of waterways with mobile fishing areas, waterways, sub-zones with functions of ecological rehabilitation and breeding grounds. The zoning is mainly based on local knowledge on lagoon resources and status of its use from communities. Based on the zoning, for example 6 sub-zones according to lines of fixed gears and mobile fishing groups for self management.

Planning for the management of capture capacity must meet the twin objectives of reducing capture capacity, while – at the same time – maintaining the livelihoods of the fisheries community. Defining fishing activities, the number of households involved in fishing, the scale of fishing gears, and fishing periods, were all critical steps because they have a significant bearing on local livelihoods. The detailed plans were made by conducting discussions and consultations with different stakeholders at varying levels (including fishing groups, and authorities at the village, commune and district level) in order to gain mutual agreement.. Some basis and considerations to build consensus in Vinh giang, including: fixed gears will be based on the number allocated by District authority in accordance with PPC plan. Number of mobile fishing households based on the existing households in the lagoon. Scale or number of fishing gears will be maintained or reduced in accordance with diversity of household's incomes, the distinguish of member households or not the members (subjects to give the rights). For instance, households involving in mobile fishing gears, the number of gears (40 lu (trap) and 20 net sets/household) equal ½ as compared with mobile fishing households (80 lu (trap) and 40 net sets/household)

Specific plans to reduce the number of fixed gears (from 90 to 56) are being built according to plan arrangement of fixed gears by Province and District People's Committees (2008-2010). A number of measures for implementation was discussed and reviewed including: reduced number of fixed gears will be implemented in 6 sub-associations and shared by the sub-associations. Members will be also together to restructure fixed gears with larger scale. Sub-associations will

implement livelihood alternatives and get support from programme of fixed gears rearrangement and from other resources

3) develop regulations on fishing and resource protection for co-management

The co-management regulations on fisheries resource exploitation and protection are a community-based system that gives a foundation for the community and local authorities to manage the allocated lagoon area effectively. The critical requirement of this system is to set up feasible, community-based regulations that do not contradict current laws. The establishment of the regulations on fisheries resource exploitation and protection in Vinh Giang has showed the complexity in harmonising and balancing benefits among resource user groups, e.g. between fish corrals owners and mobile fishing groups. Therefore mutual agreement must be considered and gained as a top priority. One effective practice to achieve this is to discuss equity and benefit-sharing principles (sharing responsibility for protection of common livelihoods) among different groups with an identified aim of achieving mutual agreement. The co-management regulations on fisheries resource exploitation and protection in Vinh Giang cover the following points:

- Conditions for fishing in allocated areas including maintenance of existing fishing households and allocation of fishing rights linked together with the responsibility to manage resources by conforming to agreed rules;
- Rules on the number and type of fishing gear, based on type of fishing or household group;
- Detailed rules on fishing activities and resources management in sub-zones;
- Rules on the fishing location, time and species;
- Rules on paying fees for protection of fisheries resources and environment;
- Rules on using inputs and funds for the protection of fisheries resources and environment;
- Rules on task assignment for carrying out patrols;
- Rules on handling conflict over fisheries exploitation and/or management; and
- Rules on dealing with regulation violators.

Defining action plans is also very important because these help specify activities and/or the course of actions in line with the rights allocation to achieve the management plans. By preparing and implementing actions plans, the management capacity of the FA was improved. In Vinh Giang the following action plans were developed:

- Organising the fishing registration and collecting fees for protection of fisheries resources and environment;
- Community awareness raising about co-management;
- Training on management for FA and other local officers and ;
- PatrollingImplementing regulations on fishing and resource protection;
- The FA annual financial plans;
- Plans for the protection of seaweed; and

Plans for developing alternative livelihoods in conjunction with the re-arrangement of fish corrals

4. Appraisal and allocation of fishing rights

- Instruction of the district administration on the issue of fishing rights allocation;

- Preparation of dossiers for empowerment: the Association and CPC implement

- Evaluation of dossiers and decision making: done by the district

5. Conclusion

Current property regimes in the lagoon were formulated from fishing and management practices with low or unclear legal right. Most property right regime formed with customary practices, it therefore does enure the hamony of rights (benefit) and responsibility among stakeholders in management and use of resources in the lagoon.

Decree of exploitation increased since households exploit natural resources through the regime of open access. Fishing has not basically been fully and effectively controlled for households involved in fishing, types and quantity of fishing gears, species and mes net size, fishing grounds, time of fishing and fishing production. This fact has led to popular over-fishing, declining fisheries resources. Effective fisheries management must focus on identifying and establishing regime of property rights in conformity

Another reason to make the inefficient fishing management is by the partners (the subject) of individual and collective rights (household and community organizations) who do not fulfill management responsibilities or implement the management right as lacks legal basis. The government issued many regulations to manage but the establishment of mechanisms to enforce management regulations is not clearly and specifically. For example, fishing rights has yet to be

concretized and given to specific partners in an official way. So, with the promulgation of the regulations, the empowerment for collective and individual partners should be specified and implemented.

Empowerment practice of fishing rights for Giang Xuan Fisheries Association shows that the authorities and partners having a great interest related to the development of fisheries co-management. Granting fishing rights to fishermen organizations, establish collective rights, has formalized practices of fisheries management.

Establish regime of collective rights as done in Tam Giang - Cau Hai lagoon can provide good experience and lessons for analysis, empowerment and establishment of appropriate right regime, especially regime of community / group rights for aquatic resources. VINAFIS is rights holders who will incorporate the ability to control the exploitation and maintain access to resources (livelihood) for households using traditional resources

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References

Elsa DaCosta and Sarah Turner. 2006. Negotiating changing livelihoods: The sampan dwellers of Tam Giang Lagoon, Vietnam. Elsevier Ltd.

Le, Van Mien and Truong Van Tuyen. 2000. The Boom in Aquaculture and its Effect on the Ecology and Socio-economy in Tam Giang Lagoon system. Paper presented at copping Workshop on Sustainable aquaculture for poverty alleviation. Ministry of Fishery, Hanoi, June 2000.

Nguyen, Xuan Hong, Tran, Van Tuan, Phap, Ton That, 2000. A historical perspective on the management of lagoon resources. In: Brzeski, V.J., Newkirk, G.F. (Eds.), Lessons from the Lagoon: Research towards Community Based Coastal Resources Management in

Tiam Giang Lagoon Viet Nam, Coastal Resources Research Network. Dalhousie University, Halifax, Canada, pp. 39–53.

Phap, Ton That, Le, Van Mien, Le, Thi Nam Thuan, 2002. Sustainable development of aquaculture in Tam Giang Lagoon. In: Brzeski, V.J., Newkirk, G.F. (Eds.), Lessons from the Lagoon: More Research towards Community Based Coastal Resources Management in Tam Giang Lagoon Viet Nam, Coastal Resources Research Network. Dalhousie University, Halifax, Canada, pp. 27–38.

The People's Committee of Thua Thien Hue province. 2001. Planning for aquaculture development in the lagoon areas of Thua Thien Hue province 2001-2010

Ton, That Phap. 2002. Co-management in the Planning for a waterway system for Aquaculture. in Lessons in Resource Management from the Tam Giang Lagoon. ed. Brzeski, Veronika J. and Newkirk, G.F. The Gioi Publisher. Hanoi. pp. 85-99

Tran, Xuan Binh. 2002. The effects of Aquaculture Development on Mobile Gear Fishing Households in Tan Duong. in Lessons in Resource Management from the Tam Giang Lagoon. ed. Brzeski, Veronika J. and Newkirk, G.F. The Gioi Publisher. Hanoi. pp. 99-114

Truong, Van Tuyen, Ton That Chat, Chau Thi Tuyet Hanh, Duong Viet Tinh, Nguyen Thi Thanh, Nguyen Thi Tuyet Suong, Le Thi Nam Thuan and Ton That Phap. 2006.. Participatory local planning for resource governance in the Tam Giang lagoon, Vietnam. in Communities, Livelihoods and Natural Resources. Action Research and Policy Change in Asia ed. Stephen R. Tyler. The International Development Research Centre. p. 57-84

Truong, Van Tuyen and the Research Team. 2002. A review of Participatory Research Methodology. in Lessons in Resource Management from the Tam Giang Lagoon. ed. Brzeski, Veronika J. and Newkirk, G.F. The Gioi Publisher. Hanoi. pp. 17-26

Truong, Van Tuyen and Veronika J. Brzeski. 1998. Property right issues in Tam Giang lagoon, Vietnam. A paper presented at 1998 workshop by International Association for Study on Common Property (IASCP), Canada

Truong, Van Tuyen, 2002. Dynamics of property rights in Tam Giang Lagoon. In: Brzeski, V.J., Newkirk, G.F. (Eds.), Lessons from the Lagoon: More Research towards Community Based Coastal Resources Management in Tiam Giang Lagoon Viet Nam, Coastal Resources Research Network. Dalhousie University, Halifax, Canada, pp. 39–52.

Truong, Van Tuyen, Brzeski, V.J., 2000. Management of biological resources in Tam Giang Lagoon. In: Brzeski, V.J., Newkirk, G.F. (Eds.), Lessons from the Lagoon: Research towards Community Based Coastal Resources Management in Tiam Giang Lagoon Viet Nam, Coastal Resources Research Network. Dalhousie University, Halifax, Canada, pp. 7–14.

Truong, Van Tuyen. 2006. The final technical report on the Community-based Coastal Resources Management in Central Vietnam (2003-2006) submited to International Development Research Centre. www.idrc.ca

Đỗ Nam, Lê Văn Tỵ, Trần Đức Thạnh, Trần Đình Lân, Nguyễn Văn Tiến, Nguyễn Hữu Cử, Hồ Vương Bính và Nguyễn Văn Huỳnh. 2006. Báo cáo tổng kết đề tài KHCN thu thập, phân tích đánh giá các kết quả nghiên cứu về địa chất, tài nguyên khoáng sản, tài nguyên đất ngập nước và biển tỉnh Thừa Thiên Huế. Ủy ban Nhân dân tỉnh Thừa Thiên Huế.

DEVELOPMENT OF FISHERIES ASSOCIATION IN THUA THIEN HUE LINK WITH FISHERIES CO-MANAGEMENT STRATEGY

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I. BACKGROUND

The thought of people-based for the management came from a long time ago. Today, the policies of the Party and Government of Vietnam also apply this thought for the cause of country development such as concepts: “Rights of cooperative control”, “people know, people discuss, people do, people check”, “develop basic democracy”, “Government and people do together”, “decentralization”...

However, application of these is not simple at all. This is an essential step in the process of bringing policies and resolutions to life. How to apply effectively people-base thoughts for fisheries sector is a difficult and complicated.

It is from studying and displaying a trandition of fishery management in Thua Thien Hue Lagoon, basically fishing villages (van chai) in the past that creates a system of fishery management. According the studies of traditional management since past centuries, though they had many limitations and knowledge than today, but fishing villages also arranged, organized and managed effectively.

More broarder, Japan applied system of Fisheries Cooperative Association for coastal fisheries management. Korea only certified "vilage fisheries" for village fishing association for management. Cambodia in recent 10 years developed system "community fisheries", up to now, there are 800 "community fisheries" organizations, together with government to implement a better management of fisheries.

In Vietnam, models of co-management, community-based management have been polited more in recent 10 years. However, researches – implementation of people-based fisheries management exposed many problems, particular lack of organizational system. "self-managed groups", "core groups"... gradually disappeared when the sponsor projects phased out, motivation of people extinguished.

Since then, the thought is based on organizations, fisheries association and fishing rights, Territorial Use Rights in Fisheries for Fisheries Association considered as long term motivation, encourage people to particpate in fisheries management, which are also as scientifc theory to implement community-based fisheries management in Thua Thien Hue.

II. PILOTING FISHERFOLK ORGANIZATION AND FISHERIES MANAGEMENT

As observation, fisheries association is suitable to development of community-based management system for small scale fisheries in Thừa Thiên Huế. Particularly, Thừa Thiên Huế lagoon with 22.000 ha, spreading all 5 coastal districts, and there are 86 villages involving in fisheries in the lagoon, and about 7.000 units of different fishing gears.

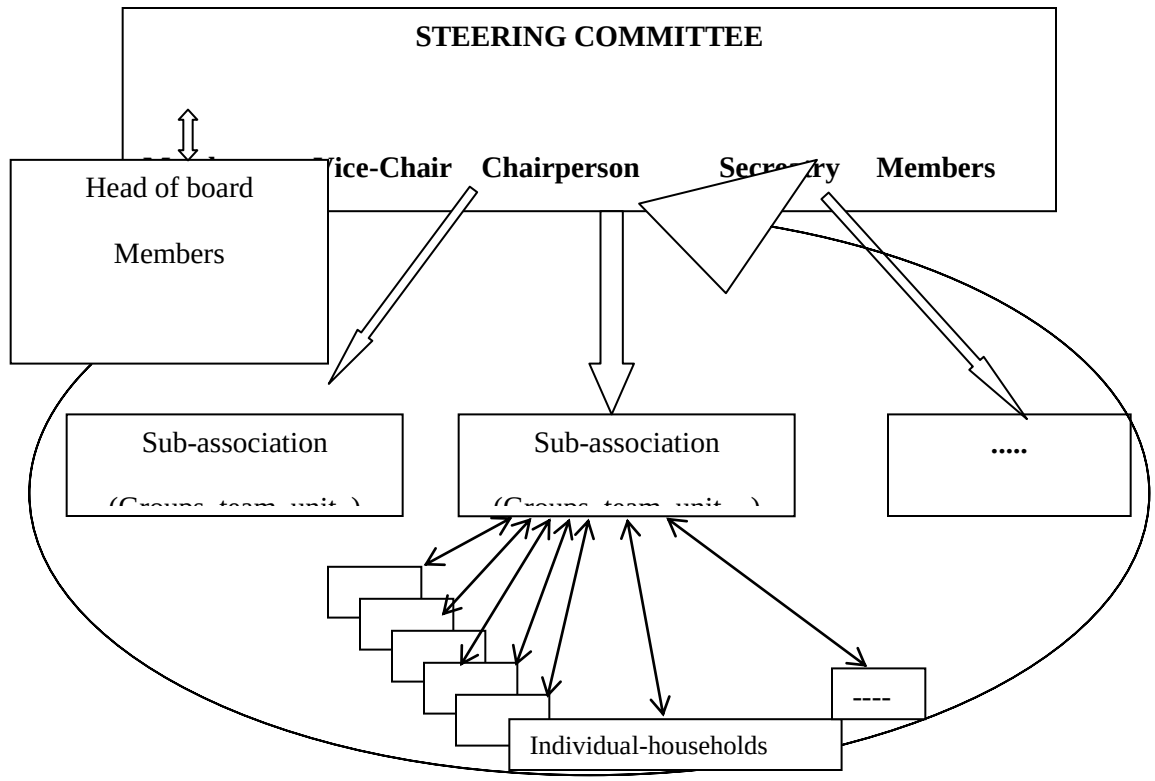
This is considered as difficult choice, because the start for study (2003), Fisheries Association did not exist in Thua Thien Hue. While some other fishierfolk organizations existed in the province at this time. Even there were two types of official fisherfolk organizations which were Fisheries Union and Fisheries Cooperative.

The first fisheries sub-association established: Quảng Thái fisheries sub-association included 108 members who had applications to apply for. The fisheries sub-association established based on agreement between Thua Thien Hue Fisheries Association and Quang Thai People Committee, in principel: the fisheries sub-association was subject to Thua Thien Hue Fisheries Association. Thua Thien Hue Fisheries Association took responsible for guiding professional issues and organizing activities. The fisheries sub-association was under leadership of the Commune Party and managed by Commune People Committee. On the other hand, the fisheries sub-association operated under patronization of district Division of Agriculture and Rural Development and Department of Fisheries Thừa Thiên Huế.

Thua Thien Hue Fisheries Association made decision to establish, Quang Thai fisheries sub-association therefore is a dependent sub-association under the system of Vietname Fisheries Association, who has legal entity, stamp for operation issued by Thua Thien Hue Police Department.

Organizational structure is as follows: a Temporary Steering Committee of the Sub-association agreed by Quang Thai Commune People Committee and provincial Fisheries Association, within 6 months, the Temporary Steering Committee managed and then a meeting organized to elect official members of the Steeing Committee. The Steeing Committee will then elect Chairperson, vice chairperson and secretary and designate inspection board, head of the board is a member of Steering Committee. Other members of the board are representatives from

different fisheries groups. The Inspection Board is responsible for monitoring the compliance of regulations and rules of organization, at ther same time coordinating the patrol and protection of fishing grounds, resources in the assigned areas of the sub-association.



* Structure of local fisheries association, there is sometimes groups of fisherfolk in some places

Diagram 1: Structure of local fisheries association in Thua Thiên Huế

The pilot model had a good result, decisions agreed at community level and good implemented:

- Planning, rearranging fishing grounds, cage culture areas, water ways...good environment and migration of aquatic species.

- Developing regulation for fishing ground management and it was approved at the Sub-association Meeting. This regulation was approved by local authority as a basic democracy regulation.

- Protecting production areas of sub-association, coordinating with governement agencies on fisheries management.

Households who get disadvantages in rearrangement of fishing grounds, will be arranged and created opportunities for production and livelihood assurance. Sub-association actively implemented the arrangement of fishing gears, cages, waterways.

III. DEVELOPMENT OF INSTITUTIONAL AND SYSTEM

A good model, but if without an institutional and system that make it very difficult to develop widely and as lack of human resources or due to a reason or condition, the model would be extinguished. That is lesson learnt from many projects when they phased out, all became as it has never come.

Fisherfolk organization here was established officially: basic fisheries sub-association who have legl entity (stamp) is the negiotiation commune local authority and Provincial Fisheries Association. Fisherfolk organization became a legal subject, was the link between loca authority and people. Legally, located in association system was essential condition for the existance of organization after project phasing out.

Some projects established: “self-managed groups”, “core groups”... just imposed to the name, because “self-managed” or “core” is attribute of nature, that can not due to “jugde appearance by the called name”. One of the conditions that “co-management” could be successful, is: identifying the members participated in community[5], official member of fisherfolk organization have to meet above condition. Core of a fisherfolk organization is management board of that organization. For local fisheries sub-association, core group is Steering Committee and Inspection Board elected democratically.

Parallel with development of official fisherfolk organizations, to make sure their wide developmet in the future, the finalization of institutional on “people-based fisheries management” should also be paid attention, including specific issues as developed in “Regulations on lagoon fisheries management in Thua Thien Hue”[6]. The Regulation indicated

[5] Robert S. Pomeroy and Meryl J. Williams. “Fisheries Co-Management and Small-Scale Fisheries: A Policy Brief”. ICLARM Contribution No. 1128. Manila, 1994. 15p. Trang 11.

[6] Thừa Thiên Huế PPC. Regulation on lagoon fisheries management issued inclosed with decision no. 4260/2005/QĐ-UB, dated 19/12/2005.

clearly: Local fisheries Sub-association is fisherfolk orgnization authorized in a certain aquatic area for organization of management, aquaculture and fishing activities in accordance with the government plans and coordinating with the governement to manage: fishing grounds, fisheries resources, aquatic environment, waterways, fishery tax ... thus, local people is ensured the rights to manage the issues related to their local communities which the government is unable to have enough human resource, facilities for the better management. Afterall, fisheries resources and environmental capacity are aslo for local livelihoods. Local communities are responsible, with the governments, for managing them because when the natural resources are not well managed that local people get directly impacts for their livelihoods and lives.

After 6 years to implement fisheries management model at the first local fisheries sub-association, up to now, there are 46 fisheries sub-associations that are different from occupations, scale, time of establishment...but all follow instittutional of Provincial Fisheries Association. This system, of course, that needs to be strengthened, becomes potential one. The plan of fisheries management in Thừa Thiên Huế is to assign water areas for fisheries sub-association for exploitation and aquaculture in their areas. Deligation of rights by issuing "fishing rights" [7] to fisheries sub-association for management. In this case, Member Card of official members in fisheries Sub-association considered as occupation card, a component in common property of local fisheries sub-association.

Thus, local authority of Thừa Thiên Huế has not stopped at general level but has forwarded in institutional of community-based fisheries management through Fisheries Association, *"Development of community-based fisheries management is to reduce management cost for the government, at the same time, develop local democracy of fisherfolk organizations in self management of fishing grounds, fisheries resources, aquatic environment, typhoon prevention, search and rescue...fisherfolk organization at all levels is under Vietnam Fisheries Association who is main partner to coordinate with local authorities to manage fishing activities in particular and fisheries management in general in Thua Thien Hue lagoon"*[8]. Thừa Thiên Huế Fisheries Association is simply an occupational association taking duties of government is: to develop stronger organizational system of fisherfolk to coordinate with the governmetn to manage fisheries more effective in the lagoon of Thua Thien Hue.

[7] Fishing Rights, is the Territorial Use Rights in Fisheries, including fixed, mobiled occupation and aquaculture in a ceratin water area.

[8] Decision no 3677/QĐ-UB, dated 25/10/2004 by Thừa Thiên Huế PPC on approving Master planning of capture fisheries management in Thua Thien Hue lagoon to 2010

Apart from 2 main components Government and fisherfolk, there is a third one that is scientists and stakeholders who support fishries sub-associations for establishment, development of plan, approach to resources..

IV. INITIAL RESULTS AND ASSESSMENT

1. Up to now, there are more than 3.000 members from 46 official fisheries sub-association[9] developed in communes of 5 coastal districts, both lagoon and coastal fisheries and fishing and aquaculture; many scales of inter-villages, within village in the same production area. Apart from official sub-association established by supports from projects and programmes, some sub-associations established based on local people action and volunteer with support from local authorities.

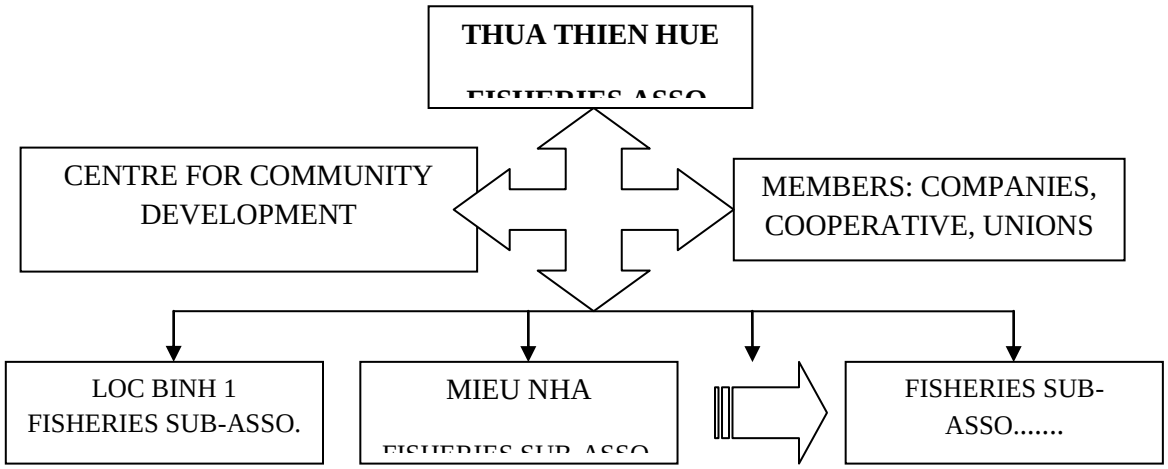


Diagram 2: System of Fisheries Association in Thừa Thiên Huế

This development recognized a system of fisherfolk organization established in Thừa Thiên Huế with scale of more increasing, democracy form, self payment, government does not allocate budget.

2. System of local fisheries association organization in Thừa Thiên Huế has a typical difference with other provinces that is officially recognized as fisherfolk-based organization which the Government uses for develping system of community-based fisheries management through legal documents. In regulation of lagoon management, local Fisheries Association would be provided

[9] Legal entity, stamp.

fishing rights in a certain water area, it can be considered as "red card – land use right" for fisheries. This is a huge motivation for development of fisheries association because fisherfolk is always expecting to have a long term use right in their fishing areas, official approved by Governement. The spending of money and efforts of local people, together with the governement for protecting fishing grounds, developing resources needs to be ensured fr long term on the resource use.

3. Practically, fishing rights have been issued for some Fisheries Associations, or authorized by commune authority. Thus, local communities, particular Fisheries Association has more responsible for management and protection of fishing grounds and resources.

To implement people-based management, it should firstly give the rights to organized fisherfolk communities; this is an essential condition for system development. If fisherfolk organization is given the rights they will be more active in cooperation, management of assigned areas: fishing areas, resource and environment protection... the reason fisherfolk did not protect fishing grounds, resources was because they did not have rights, long term benefits from fishing grounds, resourses but it was not that they did not aware of issue. Studying of traditonal management from previous centuries, though there were many limitations than today but "fishing village" was provided with rights so that they were well organized, arranged and managed.

Process of right allocation for fisherfolk in Thừa Thiên Hue is taking place though it has been slowly due to technical issues.

V. INITIAL EXPERIENCE

1. Selection of pilot site should be in government's official programmes. If it is the best to integrate both sponsor projects and government programme. The government programmes has very strong institutional so good resuls are easy to widely disseminated. On the other hand, scientific development for natural resource management is the main task of fisheries sector so that it could be helpful to develop models.

2. Well organized local community will become official association. It would not be sucessful if we have very generall viewpoint of local communities. Many projects in Thừa Thiên Huế have failed because unofficial community organization, "core groups", "self-managed groups" authomatically broken up when the projects phased out. On the other hand, official way will help to improve role of community leaders, who were elected and recognized. In a broarder system, the existing ability of these organizations after the project time is much bigger.

3. Process of model development needs to concern about management institutional in order to widely transfer in the future. Lack of human resources, fund and time to implement from place to place, so it could have a goof development if it has an appropriate institutional.

VI. EXPECTATION AND CHALLENGES

It is extremely parallel expectation and challenges for development of people-based fisheries management system in Thừa Thiên Huế at present. It was actually having the system of people-based fisheries management; it is a tranditional value of lagoon in Thua Thiên Huế. The interesting coincidence of ideals and scientific practices of management in the world with a reality of fisheries management in Tam Giang lagoon remind us that: quintessence of tranditional management of our ancesstors was really valueable which rcognized by a modern world of today[10]. However, many years have not been concerned so fisheries association became oblivion. Perhapse we take much time, money and efforts to recover and develop that tranditional value, at the same time approach the world civilization on people-based fisheries management.

The change of management method is difficult for authority, particular fisheries managers and competent authorities, people committees of all levels. Central institutional is also a difficult issue as Fisheries law has not almost mentioned to this issue. The delay in issuing legal documents and sublaw documents from central level, lack of materials and different terms of using peopl-based fisheries management[11]... is also challenges for local level.

Though there are many difficulties, people-based fisheries management is a unique road to solve a difficult math: both reducing management apparatus, saving management cost and do good fisheries management aiming at sustainable development in 3 aspects: fisheries resources; social and fisheries economics. To go on this road, it is necessary to develop local cores, fisheries sub-associations will create system of official fisheries association, becomes strategic partner of Government to implement fisheries co-management./.

[10] Kenneth Ruddle. “Traditional community-based coastal marine fisheries management in Viet Nam”. Ocean & Coastal Management. Vol. 40, pp. 1-22, 1998. Elsevier Science Limited.

[11] Chỉ tìm thấy thuật ngữ “quản lý dựa vào cộng đồng” trong tài liệu “Quy hoạch tổng thể ngành Thủy sản Việt Nam đến năm 2010” do Bộ Thủy sản và DANIDA, Đan Mạch xuất bản năm 1998.

CASE STUDY ON CO-MANAGEMENT OF SMALL SCALE FISHERIES AND AQUACULTURE IN QUANG NAM, VIETNAM

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Abstract: The lower section of Thu Bon river, a major river system in the central and southern central part of Vietnam, maintains aquatic ecosystems and associated resources of high ecological and economic values. Exploitation of natural resources from the wetland area, including fishing and aquaculture, has been major livelihood activities of local inhabitants since a long time ago. Due to the opened access to resources, the entire dependance on goverment for resource management, and the lack of capacity and effective managment tools of state management agencies, fishing and aquaculture activities have posed certain impacts and threats to the environment and associated resources as well as livelihoods of local community. In the framework of Wetland Alliance Programme funded by Sida, Quang Nam Department of Agriculture and Rural Development, with support from WWF Vietnam Programme, has acted as key facilitator for the development co-management scheme in capture fisheries and aquaculture in lower section of Thu Bon river. Co-management in capture fisheries at three villages and four aquaculture farmer groups have been established and operated. The increasing awareness and responsibilities of local community in resource management, particularly in decision-making, enforcement, and controling access to resource in capture fisheries as well as in environmental management and disease control in aquaculture are the initial results of co-management. However, more efforts in improving organizational capacity of community, conditions for livelihood development as well as policy environment, e.g. in planning and resource management, etc. are needed for the development of co-management.

1. Introduction

Thu Bon river is a major river system of the central and southern central part of Vietnam with an estuary area characterised by a number of small tributaries and dunes. In this lower section of the

river, particularly the water surrounding Hoi An city, Duy Xuyen and Duy Thanh districts, aquatic resources associated with the natural ecosystems such as nypa palm, seagrass,... are rather abundant. Fishing has long been an important livelihood for a large part of local inhabitants. Aquaculture has also been introduced in dune and tidal flat area since the end of 1980s. However, these livelihood activities have been creating certain impacts to the environment and aquatic resources and not yet generated a stable income for local people. These two activities have in the mean time mutual interactions and certain implications to other socio-economic activities in the area.

With the aim to strengthen local capacity in wetland management towards poverty reduction and sustainable development, Wetland Alliance Programme funded by Sida has supported Quang Nam Department of Agriculture and Rural Development (formerly known as Department of Fisheries) to facilitate the development of co-management scheme in capture fisheries and aquaculture in the lower Thu Bon since 2008.

With technical assistance from Worldwide Fund for Nature (WWF) Vietnam Programme, one of the four regional partners of the alliance, Quang Nam Dard has facilitated co-managment development in capture fisheries at Village 1 and 2, Cam Thanh commune, Hoi An city, and at Ha My village, Duy Vinh commune, Duy Xuyen district, and four farmer aquaculture groups in Hoi An city (Ba Chuomg village, Hoc Ro village, and Cam Chau commune) and Nhon Boi commune, Duy Xuyen district.

This paper presents the progress, initial results and lessons learnt from the development co-management scheme in Quang Nam.

2. Co-management in capture fisheries

Background information of project site

Three locations initially selected for initiation of co-management in capture fisheries are village 1 and 2, Cam Thanh commune, Hoi An city and Ha My village, Duy Vinh commune, Duy Xuyen district. These sites have high proportion of households involving in fishing as main livelihood and fishing activities occurs in a certain area of the tributary (without physical boundary)

Biological and technical characteristics

Habitat	Wetland area, typical for lower Thu Bon river section, with nypa palm and seagrass habitats and abudant of aquatic animals.
Major harvested species	Fish species: *Mugil cephalus*, *Chanos chanos*, grouper, *Taius tumifrons*, *Parambassis siamenlis*, *Leiognathus splendens*, *Leiognathus equulus*, *Gerres filamentosus Sardinella gibbosa*, *Clupanodon punctatus*, *Sillago sihama*...,. Crustance and bivalve: *Metapenaeus ensis*, *Penaeus merguiensis*, black tiger prawm, swimming crab, mussel *Corbicula* sp ....
Fishery	Multi-species fishery takes majority but there are also some single-species fisheries
Fishing gears	Diverse including destructive fishing such as electric shock, trawling
Change in fishing activities	Increasing trend in use of destructive fishing methods Reducing catch and fish size

Socio-economic characteristics

Level of dependence on fishing	90% population depend on fishing or other types of resource exploitation in wetland area. Fishing is for both subsistent and commercial purposes
Local community	Having similar socio-economic conditions and access to resources
Information and knowledge in fisheries management	Having traditional knowledge on distribution of fisheries resources and regulations on fishing activities
Incentive for co-management	Phasing out destructive fishing, protecting breeding ground and conserving fisheries for sustainable use

Issues related to fisheries management

Responsibilities for resource managment are entirely falled into Goverment agencies (without participation or involvement of local community and other related stakeholders)

Weak management capacity and ineffective management tools of state management agencies

Increasing trend in use of destructive fishing methods

Conflict between fisher groups using different fishing gears

Conflict between fishermen and other resource users in the wetland area

Limited assets (human, nature, finance, physical, network) of local community for sustainable livelihoods

Approach of WAP project

Co-managment in capture fisheries is considered as a tool for better management and protection of fisheries resources through sharing responsibilities and power between state management agencies and local community. The project has applied bottom-up approach to establish co-management scheme. Quang Nam Dard has acted as key facilitator for the process. WWF has provided technical assistance to Dard through improving knowledge in on co-management (study tour guide, advices for implementation of activities,...) and skills to work with community to promote the active participation of community in the process.

Activities undertaken

- Strengthen knowledge and enrich practical experiences on co-managment in capture fisheries for staffs of Dard through study tour on co-management in Lao and Thua Thien Hue province, Vietnam
- Conduct survey and assessment on local fisheries and related socio-economic conditions to have comprehensive information of the whole area
- Select locations to initiate co-management in capture fisheries based on understanding of fisheries resources, exploitation patterns and socio-economic conditions of local community
- Build consensus among local community and authorities on co-management of fisheries through awareness raising and dialogue with community on issues relating to management and exploitation of fisheries resources as well as other soio-economic issues.

- Support community to develop co-management scheme through facilitating and coordinating discussions on regulation for management of fishing activities in the common fishing ground, organizational structure of management board, and zoning of community management area
- Support community in consultation with other stakeholders (commune authorities, police, neighbouring villages...) to provide feedback for finalizing the draft regulation of the community management regulation,
- Organize study tour for community representatives on co-management of fisheries in Thua Thien Hue
- Support community to have the management scheme (regulating the organizational structure of management board, permitted fishing activities, purnishment of violation, etc.) approved by appropriate authority level
- Disseminate management regulation through ceremonies, sign boards, radio broadcasting, etc.
- Support basic equipment such as patrol boards for community management board to conduct patrolling
- Cooperate with research institute to conduct assessement of aquatic resources in the area in four different seasons for future advices on management activities

Results

- Co-management scheme developed at three villages with clear regulation on resource management including the prohition to use destructive fishing methods and to discharge chemical and waste to the common waters
- Increased awareness and responsibilities of community in fisheries resources management, specifically:
    - involvement as key player in the development of regulation on local fisheries management
    - participation in enforcement
    - control access to fisheries resources
- Organizational capacity of community strengthened
- Awareness of local people on fisheries resources and water environmental protection
- Destructive fishing activities declined and better compliance to regulations on fishing

Other expected results from co-management:

- Increased participation of local community in information sharing for fisheries management
- Increased community involvement in resource monitoring
- Improved livelihoods for community in a sustainable manner

Major lessons learnt

- Communication and awareness raising on fisheries resource protection should be conducted in the early stage of the process and regularly repeated in innovative ways.
- Study tour on co-management contributed significantly on the development of the scheme
- Skills to work with community of the staff involving in facilitating the process are important to get community consensus
- Local authorities should be close to the process
- Participation of technical expert has some advantages

.

The way forward

- Develop framework for monitoring and effectiveness evaluation of co-management
- Build capacity for community to conduct resource monitoring, effectiveness evaluation and adaptive management strategies
- Build organizational capacity for community in resource management and community development, particularly livelihood development
- Strengthen co-management scheme to ensure sustainable financing mechanism

3. Co-management in aquaculture

Issues related to small-scale shrimp farm in project area

- Majority of farm are small-scale, and poor farmers with low financial capacity
- Difficult to manage common water supply system, stocking and quality under individual small-scale system
- Relatively poorer infrastructure
- Relatively lower bargaining power when dealing with input suppliers and buyers
- Water quality is deteriorating
- More and more diseases have been occurring
- Cost of production has been increasing
- Quality standards have become more stringent
- Shrimp prices have been decreasing

Introduction of pilot farms under support WAP project

Years initiated co-management	July, 2007

Years initiated BMP	April, 2008
No of farm	172
Farm Area	96.5 ha (32% of total area in two districts)
Farm size	0.56 ha (per farm)
No of farmers	154 (0.627 ha/farmer)
No of farmers group	13 (in 4 communes of 2 districts)
Production (kg/year/ha)	1.127 tons/ha for mondon
Farm species	P. monodon

Source: WAP, Quang Nam project team

Shrimp aquaculture plays important role in project site in term of livelihood for the poor coastal community and having high potential for development. However, small-scale shrimp aquaculture also associated with several impacts on the sensitive estuary area and aquatic resources. WAP project aims to promote sustainable ways of shrimp aquaculture to ensure benefits are balanced between sectors and generations in those areas.

Approach of WAP project

The project adopted participatory approach (bottom-up) to support shrimp farmers in pilot project areas. BMP and co-management have been used as tools to enhance their shrimp farm governance and therefore contribute to improvement of livelihoods. Also it leads to long-term wise use and conserve of wetland resources in Thu Bon river basin. Several benefits we expected that BMP and co-management can help small-scale farmers: environmental benefits, production improvement/technical improvement, social benefits (e.g. improving community organization, recognition of the farmers on the need for better management, more commitment of farmers to participate in management - not just depend on state management, safer food, and livelihood improvements

List of activities related to BMP and co-management

- BMP materials development aligned with ShAd
- WWF experts visit

- Farmers group form and support for operation
- Production and environment management by their own rule/regulation
- Farmer field school training adopted (incl. alternative fish farm e.g. sea-bass)
- Regular group meetings & voluntary extension workers
- Regular farm visit in group to helping each-other
- Collective actions (group seed selection, group pond preparation, collective stocking, relatively harvesting)

Key finding and achievements of the project

√	Farmer more concern/higher awareness in control and management of seed quality, environment and disease (shrimp health management)
√	Consensus and collective action in production: working together in group regarding seed test and purchase, pond preparation, production organization.
√	Less epidemic disease occurrence
√	Yield of farm slightly increased, compare to previously (non BMP and co-management)
√	Willingness to investment more on machinery (paddle wheel) to intensify and increase productivity.
√	Reduce pressure on fisheries (risky job), more commitment to aquaculture
√	Minimize conversion of vanamei into monodon in project site (Hoi An town)

Technical improvements

	Pilot farm cluster	Non-pilot farm cluster
% farm infected disease	<5	10-40
% farm loss harvest by shrimp disease	<10	> 10
% farm complied stocking scheme issued by local	100	75

authority		
% farm tested seed before stocking (PCR)	80	40
Yield (kg/crop/ha)	1.127 tons/ha for monodon	< 1,0 tons/ha

Source: Rapid interview local farmers and evaluation of local project team (DARD)

Economic achievements

	Pilot farm cluster	Non-pilot farm cluster
Failure farm (%)	5	10
Profitable farms (%)	85	80
Investment on aquaculture	Increased	Decreased (account for small-scale farm only)

Source: Rapid interview local farmers and evaluation of local project team (DARD)

Social development and collective action promotion

	Pilot farm cluster	**Non-pilot farm cluster**
% farm prepared together/same time	100	50
% farm stocking in group/same time	80	40
No of. conflict/complaints/grievances among shrimp farmers and with community around	0	0
Regular farmer group meeting	Monthly meeting	None
Group farm visit by voluntary extension workers and DARD staff	Bi-weekly	Few

Committed continue farming instead of fishing	Majority	Few

Source: Rapid interview local farmers and evaluation of local project team (DARD)

Environmental achievements

	Pilot farm cluster	**Non-pilot farm cluster**	**Note**
Trash fish use (kg/ha/crop)	None use	Some farmers still used trash-fish	
Removal of muddy waste (% farms) after each crop	100 %	65%	
Remark: in project sites, no conversion of mangrove or rice in to shrimp aquaculture			

Source: Rapid interview local farmers and evaluation of local project team (DARD)

Key Lessons learn

- BMP and co-management is potential and promising tool to support stabilize shrimp farm management and address several issues related to sustainability of shrimp sector
- Overlapping between tourism planning and aquaculture planning hampered progress of BMP and co-management adoption, also challenges the sustainability of shrimp farm in project sites
- Introduction of vanamei to project site in Quang Nam due to the macro policy of Vietnamese government was out of the project control
- Working with shrimp farmer is a process, it take time to see progress
- WAP influence significantly to the success or failure of the farm operation including conversion of monodon to vanamei in Hoi An, Quang Nam.

Recommendations

- It needed to have clear planning of aquaculture and other land use planning e.g. tourism
- Promote marketing of better quality shrimp which adopted BMP

- Encourage tourist to visit sustainable farming areas due to shrimp farm located closely to Hoi An tourist site

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