

Developing guidelines for sustainable freshwater aquaculture planning in Vietnam

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To promote sustainable aquaculture development, the Government of Vietnam and the Danish International Development Agency (DANIDA) are supporting the development of freshwater, brackishwater and marine aquaculture in Vietnam through the Fisheries Sector Programme Support (FSPS). A key objective of FSPS is to strengthen the capacity of local authorities to carry out multidisciplinary planning and to implement long enduring and adjustable plans. Supporting this, the FSPS component, Support to Freshwater Aquaculture (SUFA) funded a consultancy in the fall of 2004 to pilot freshwater aquaculture planning in Can Loc district.

Can Loc district of Ha Tinh province, 330 km south of Hanoi, has an abundance of water resources including reservoirs and rivers. The total freshwater production in the district increased from 162 to 446 tonnes between 2000 and 2003. Pond and rice-fish grow-out are the most common aquaculture systems. The major culture species include mud carp (*Cirrhinus molitorella*), common carp (*Cyprinus carpio*), silver carp (*Hypophthalmichthys molitrix*) and grass carp (*Ctenopharyngodon idellus*). Higher value species, including mono-sex tilapia (*Oreochromis niloticus*), freshwater pomfret (*Colossoma* spp.), improved common carp, frog (*Rana* spp.) and soft shelled turtles (*Trionyx sinensis*) are also cultured on a limited scale.

The output from the consultancy in Can Loc is summarised here, to give readers an understanding of the challenges of sustainable aquaculture planning in Vietnam.

The requirement for external support for planning comes from the need to implement policies in a rapidly developing, but minimally controlled freshwater aquaculture sector. In the southern provinces, which provide most aquaculture production, poorly planned freshwater aquaculture development

has created extensive environmental problems, uncontrolled production and difficulties in meeting quality and food safety standards (MRC Technical paper 7, 2002; FAO, 2004). Increasing fish prices and the expectation of rapid profits are attracting various groups of people with reasonable or insufficient aquaculture production skills. Unplanned and unskilled production is imposing socio-economic vulnerability upon the sector, which is at risk from rapid market fluctuations, resource scarcity and pollution problems (FAO, 2004).

Such unsustainable development can be prevented if development is carefully planned and monitored. However, to pursue the overall objective of sustainable development, it is necessary that decision makers agree on specific and measurable strategies. To define adequate and realistic actions for the implementation of a plan, a thorough understanding is required of: 1) multidisciplinary causalities behind key constraints and opportunities within the existing local freshwater aquaculture sector and 2) a clear definition of the decision makers' objectives and their tentative plans for meeting set targets.

Development of planning guidelines

An external consultant was used to facilitate the planning process in Can Loc because specific and targeted directions for implementation of planning objectives is a new experience for many provincial and district level government staff in Vietnam. Some of the challenges typically encountered by freshwater aquaculture planners working in Vietnamese provinces and districts include:

- There is little tradition of cooperation across government institutions (ministries and departments).

- Participation of the local community and farmers in aquaculture planning is limited.
- Existing aquaculture sector data needs updating and correlation, to provide both statistical and qualitative information.
- Multidisciplinary teams need to be trained for and involved in the planning process.
- Key staff lack awareness and training in Environmental Impact Assessments (EIA's).
- Planning is frequently reactive, i.e. the need for planning is only recognized after the development of environmental or socio-economic problems.
- Sustainable and feasible aquaculture planning is constrained by a lack of funding.
- There is little experience of coordinating aquaculture planning with development in other sectors.
- There is a need for specialized training of personnel in local governmental institutions to meet the demands of multi-disciplinary, participatory and scenario based planning.

The development of the planning guidelines in Can Loc district was conducted in close corporation with the local authorities and local stakeholders. Information needed to formulate the planning guidelines was collected through a series of participatory workshops, interviews, meetings, questionnaire surveys (140 households), scenario assessments, and statistical data collection at commune, district and province level. The following key principles were used throughout when conducting the planning process:

1. Peoples' participation.
2. Cross sectoral involvement of key stakeholders.
3. The use of an external facilitator throughout the planning process.
4. Establish Aquaculture Planning Steering Committee.
5. Integration of economic, social, environmental and production/technical factors.
6. Correlation of objectives at all levels of decision making (national, provincial, district, commune and farmers).
7. Detailed action plan for implementation
8. A process of continuous monitoring and adaptation of the plan.
9. Use of scenarios as a pointer for planning rather than for prediction of development (i.e. precautionary use).
10. Simple realizable district/province planning guidelines, needing only limited outside input.

1. People's participation

The primary goal of the planning process was to ensure people's participation. The planning of freshwater aquaculture includes great uncertainty as the natural systems and socio-economic structures are extremely complex and the interactions between them are seldom fully understood. And even if they are understood locally they cannot be generalized across different regions. In addition, the social and formal interaction between resource users and stakeholders, including government authorities, market agents, seed producers, extension workers, external advisers etc. may differ considerably from one district to another. The deficiencies of simplified and generalised solutions in complex social and environmental contexts necessitate the use of planning tools that provide dynamic and detailed solutions which can be adapted to local complexities.

2. Cross sector involvement of stakeholders

A multi-disciplinary approach calls for cross sectoral involvement of stakeholders. Planning at district and/or provincial level should include decision makers in government management institutions (agriculture and fisheries, planning and environmental management), local decision making authorities (Peoples' Committees), aquaculture specialists, farmers, irrigation companies, hatcheries, private aquaculture enterprises, mass organization like the Farmers' Association, the financial sector (e.g. banks), fish traders etc. Different stakeholders have varying degrees of influence, but all contribute to the planners' understanding of local constraints and the possibilities for aquaculture development as well as to the implementation of the plan.

3. The use of external facilitator

Planning for sustainable freshwater aquaculture using a multidisciplinary approach is a relatively new experience to Vietnamese decision makers at provincial or district level. The limited number of technical staff at the local levels can not be expected to possess the capacities and skills needed for this type of planning, as this capacity is only needed at certain times. Furthermore, governmental institutions have little tradition of cooperating horizontally and involving private enterprises in decision making. Being neutral, the external facilitator has the legitimacy to promote such cooperation and encourage extensive use of local institutional and economic potentials.

4. Establishing an Aquaculture Planning Steering Committee (APSC)

The APSC, which is responsible for coordinating the planning process and facilitating the data collection, is a cornerstone in the chosen planning approach and a valuable institution for building bridge between the external facilitator and the local stakeholders affected by the planning. Without the APSC, the planners have little chance of monitoring the process, implementing new ideas and ensuring institutional memory once the external facilitator leaves the process. There is a need to ensure that the stakeholders and decision makers share a common understanding of planning and are aware of their tasks, responsibilities and

mutual commitments. The members of the committee should represent key stakeholders (including farmers) but must also be approved by the local government authorities to ensure political and financial support.

5. Integration of economic, social, environmental and production/technical factors

The multi-disciplinary approach requires that planners correlate economic, social and environmental factors and point out the importance of each of these in meeting the development objectives. The planners must balance the need for information with the human and economic capacity of responsible institutions at the local level. Collection of data should relate closely with the work of analysing and incorporating new information in decision making. This may also be a new experience to local managers.

6. Correlation of objectives at all levels of decision making

The point of origin in freshwater aquaculture planning is to investigate and identify the objectives of key decision makers at all levels of society: national, provincial, district, commune and individual levels. This includes formal documents and qualitative information gathered through workshops, questionnaire, interviews, etc.

7. Detailed action plan for implementation

There is a need for a detailed action strategy for how and when to implement a plan. This strategy should be approved by all stakeholders and contain details on activities to be carried out, stakeholder involvement, responsibility and resource/budget allocation for specific activities. This principle seems straight forward. However, lack of a realistic and feasible implementation strategy is a common reason for non-successful aquaculture planning.

8. Continuous monitoring and adaptation of the plan

The aquaculture environment is dynamic and connected with other sectors (agriculture, forestry, industry, tourism, and infrastructure). Even the planning process itself influences and changes the circumstances. This calls for close monitoring and evaluation of the plan to ensure that objectives are

met and targets are defined. New data emerging from a monitoring process must be handled and used to contribute to a continuous updating of the plan, and thus serve as the basic information for decision makers.

9. Use scenarios as a pointer and not as a prediction of development

Presentation of mathematical-economic scenarios can easily give the impression of order and predictability of aquaculture development. But scenarios rarely reflect the dynamic complexities of the real world. Scenarios should be used as a pointer to the direction of development and to help correlate key indicators. When used carefully, scenarios are a powerful tool that most stakeholders can understand and relate to during the planning process.

10. Ensure simple and realizable planning guidelines

Perhaps the most important aspect of this principle is to ensure that the planning guidelines and the tools can be used and implemented by district or provincial decision makers with limited financial and technical input from

outside. However, the need for external support may vary considerably between regions.

The future planning

Through a continuous participatory approach in Can Loc district the consultants generated high expectations and local ownership of the planning process among most stakeholders. This raised the risk of disappointment if expectations are unmet, so there is an immediate need to follow up on the plan and implementation results with workshops and adjustments of the plan for the following year.

The capacities of local authorities and key stakeholders were improved during the process through interviews and workshop exercises which focused on combining objectives, targets and constraints in scenario based discussions. The workshop participants (including farmers and extension workers) handled these exercises with ease and with extensive use of local knowledge.

To ensure replicability, the planning guidelines produced will be tested in at least two other districts with different

contextual conditions. While doing this the planners must pay particular attention to the principle of having peoples' participation throughout the process. Generally, the planning guidelines must be thought of as a dynamic tool which can be adjusted to meet the local conditions and the specific capacities of the planning team and the local aquaculture/agriculture administration.

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Aquaculture production, certification and trade: Challenges and opportunities for the small-scale farmer in Asia

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Introduction

This article is focused on small-scale farmers in Asia and the challenges and opportunities they face in participating in global market chains for products from aquaculture. The purpose of focusing on small-scale farmers is to raise attention to this large and important part of the aquaculture sector, and the influence of production and market changes on the livelihoods of the many people involved.

Statistics on the small-scale aquaculture sector are poor, but it is important for rural development, employment

and poverty reduction. The bulk of aquaculture production in many countries in Asia is from small-scale, family owned and operated operations, perhaps making up to 80% of the farming community in some countries. Small-scale farms may be diffused through a local area district, or highly concentrated around specific resource (e.g. water supply). The sector, whilst innovative and a highly important part of the regions aquaculture production, faces increasing constraints, particularly for export crops such as shrimp.

Aquaculture is under transformation. It is not only growing in response to the huge demand for global seafood products, and stagnation in capture fisheries, but especially for higher value internationally traded export species such as shrimp there is a trend towards a more integrated production-distribution chain with more focus on coordination between the aquaculture farmers, the processors, and the retailers and to some extent to consumers and restaurants. It is no longer enough for the farmer and organizations helping farmers to focus only on increased production, but it is now also important