Summary of Expert Meeting on Development of Toolkit

for Aquaculture Planning and Management in Asia and the Pacific

Bangkok, 20-21 August 2013

The expert meeting on development of Toolkit for Aquaculture Planning and Management in Asia and the Pacific was convened during 20-21 August 2013 at FAO Regional Office for Asia and the Pacific, Bangkok, Thailand.

The meeting was participated by 6 invited international consultants and FAORAP technical officer coordinating the regional activity. The list of experts in provided in annex 1.

1 Objective of the meeting

Considering the background and rationale provided in the background discussion paper (annex 2), an expert meeting was convened from 20 to 21 August 2013 at FAO Regional Office for Asia and the Pacific with the following objectives.

- To deliberate on the scope and framework for a regional aquaculture planning and management toolkit
- to decide on the key planning and management tools that should be included in the regional tool kit
- To develop a model template for individual tools
- To elaborate on individual tools and develop a detailed structure for each of the identified tools to be included in the toolkit
- To agree on work plan, timelines and arrangement for completion of the regional toolkit

2 Meeting proceedings

2.1 Opening of the meeting

The meeting was formally opened by the FAO Coordinating Officer by welcoming the experts and providing brief introduction to the background of the FAO initiative, particularly the past work and activities related to the development of the aquaculture planning and management

Coordinating Officer from the partner organization NACA explained the the objectives and expected outputs of the meeting and elaborated on the modus operandi of the meeting.

2.2 Introduction of participants and presentation of their perception of aquaculture planning and management toolkit

Each of the experts provided self introductions and presented their views and understanding of the tasks involved in developing the regional toolkit. They also raised several questions related to the work, which were duly clarified by the FAO coordinating officer and fellow experts.

2.3 Discussion on the scope and framework of the toolkit

Facilitated by coordinating officers from FAO and NACA, the consultants had extensive discussion on the overall frame work of the aquaculture planning and management toolkit. The experts also mapped the various tools available and agreed on the tools to be developed under each of the thematic areas (site selection and zoning, biosecurity and health management, food safety and traceability, environment, social issues).

2.4 Discussion on generic template

The meeting participants had detailed discussion on the generic template to be followed for individual tools and reached agreement on the structure and process for individual tool development.

2.5 Preparation and presentation of draft tool structure

Following the discussion on the toolkit framework and tool template, each of the experts worked individually in drafting the structure of the tools to be covered in the thematic areas assigned. The draft structure was presented back to the team. The meeting participants provided comments and suggestion towards other's draft structure. Issues and confusions, especially with respect to scope, sub tools, overlapping of areas, etc were further clarified through the discussion.

2.6 Discussion on the work plan

Participants discussed and agreed on the work plan and timelines to be followed

3 Outputs of the meeting

The expert meeting produced the following outputs:

- Commonly agreed scope and framework for the regional toolkit;
- List of key tools to be included in the regional toolkit
- Template for individual tools;
- Draft structure for individual tools;
- work plan, time lines and arrangement for producing the draft toolkit

4 DRAFT FRAMEWORK of the Toolkit (toolbox)

Section 1 Introduction

- Background
- Preamble??
- Objectives
- Function/use of aquaculture P & M Toolkit & Why toolkit is needed
- Definition of toolbox and tool?
- Comprehensive Aqua P & M Toolkit structure
    - Issue identification—supply/value chain (diagram) approach;
    - Structure Mapping of comprehensive toolkit and tools--sustainability pillars (diagram) approach; (mention all tools including life cycle A,-----)
    - Also consider including certification, BMPs, GAPs, HACCP, marketing margin, ESD, EAA, in the mapping
- Structure of the developed toolkit and the its justification (areas and tools included in the toolkit, as a solution to priority planning and management issues in the region)

  Principles, CCRF, ESD/EAA
- Target audience

Section 2: Aquaculture planning and management tools for Specific area (e.g. Biosecurity and animal health)

- Introductory section
- Decision making Tree / tick box leading to the tools
- Specific tool (follow the generic template provided below)
    - Title of the tool (e.g. import risk analysis)
    - What is the issue?
    - For what purpose the tool can be applied
    - Sub-tools??? Tools for regulators?? Tools for industry??
    - who will use it
    - where will it be used?
    - applied under what environment/systems?

- what are the parameters/Elements to be included for decision
- methodologies/approaches to measure the parameter/elements (the methodologies/approaches should be direct, applicable, avoid referring to other tools/approaches except for common used standard methodologies)
- how to use results in guiding the planning and management decision.
- resource implication (data requirement, ease of use, cost, human capacity/resources)
- External links, resources, websites
- Resources for running the tool

5 List of tools agreed for the purpose elaboration (highlighted in yellow)

Site selection and zoning

- SS and Z for Marine cages (physical)
- SS and Zoning marine cages (visual)
- Freshwater cages
- Land based systems (rain fed ponds)
- Land based systems (ponds??)

Biosecurity and health management

- Farm level biosecurity plans
- IRA
- Emergency response/contingency plans
- Surveillance, monitoring and disease reporting
- Compartmentalization/zoning programs
- Diagnostics

Aquaculture food safety

- Hygiene
- Chemicals
- Post-harvest
- Product control

Aquaculture traceability

- Product tracking
- Traceability system
- Record keeping

Aquaculture environment (including ecological) impact assessment and monitoring

- Environmental impact assessment
    - SEA
    - EIA
    - RA
- Environmental impact management and monitoring
    - Environmental management plan
    - Environmental monitoring survey
- Environmental carrying capacity estimation

- Fed aquaculture
- Unfed aquaculture

Aquaculture Socio-Economic impact assessment

- Socio-economic benefit –cost analysis
- Project feasibility study
- Monitoring and evaluation
- Social responsibility?? Or social risk analysis?? Social aspects of certification??

6 Work Plan and Time lines

- Each expert will complete and submit the detailed outline for tools to be developed within the thematic area(s) assigned to him within 2 weeks after the meeting;
- The FAO coordinating officer and Dr. C. V. Mohan will provide feedback on the outline to the individual expert within 2 weeks after receiving the it;
- Each individual expert will develop and submit the complete draft tools by 31 October 2013;
- The expert team member to comment and modify the draft tools and prepare power point presentation of the tools for the regional consultation between 1-20 November 2013;
- Expert workshop to share and revise draft tools developed by the individual experts and prepare for the regional consultation (25-26 November 2013);
- Regional technical consultation for reviewing the draft toolkit and development regional strategy to promote its adoption (27-29 November 2013);
- Finalization of the toolkit and tools by the individual experts (before 10 December 2013)

Annex 1. List of workshop participants

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Annex 2: Meeting Discussion Paper

Expert workshop on developing an Aquaculture Planning & Management Toolkit,
Bangkok, 20-21 August 2013

The purpose of this discussion paper is to provide the participants of the expert workshop a basis for:

1. Identifying and describing the common framework for the development and application of a toolkit designed for planning and management of the aquaculture sector of countries
2. Identifying the basic purpose of the toolkit, the strategic objectives of the toolkit, and the practical purposes and applications of the toolkit
3. Identifying the tools in the kit that will accomplish meet the purposes and applications.
4. Identifying users of the kit
5. Outlining a guideline for the development of the toolkit, consisting of the guiding principles, the format, the presentation, etc of the tools.

1. Background:

The Governments of Asia Pacific in recent forums[1] have expressed the need for, essentially, a user-friendly and efficient methodology to facilitate the formulation and guide the implementation of management plans for the sustainable development of their aquaculture sector.

Aligned with this regional need is FAO's regional organizational outcome, embodied in this statement: "Stakeholders make evidence-based decisions in the planning and management of agriculture and natural resources to support the transition to sustainable agriculture through monitoring, statistics, assessment and analysis." This outcome is to support the pursuit of FAO's regional priority of enhancing equitable, productive and sustainable natural resource management and utilization.

It was subsequently recommended in the regional forums that the expressed national needs, FAO's organizational outcome, and regional priority could be effectively and economically met by an easy to use and accessible set of tools, that users find handy (as it were) to apply for their purposes. The primary users would be government agencies, technical assistance agencies, development agencies, and farmer and farmer advisers.
In short, a toolkit.

2. Strategic issues relating to the toolkit concept

[1] Names and dates of relevant meetings

There are three issues on the concept of the toolkit: (1) the broad and strategic purposes of the toolkit, and (2) the specific and practical applications of the toolkit, and (3) the composition of the toolkit, in other words, the tools in the box.

The first issue can be reflected by this hierarchy of purposes and outcomes:

Goal: Sustainable aquaculture development
Purpose: To achieve sustainable use and management natural Resources/environment in aquaculture, improved food safety and greater socioeconomic benefits

Elements of the resources
- Natural/environment
- Biological

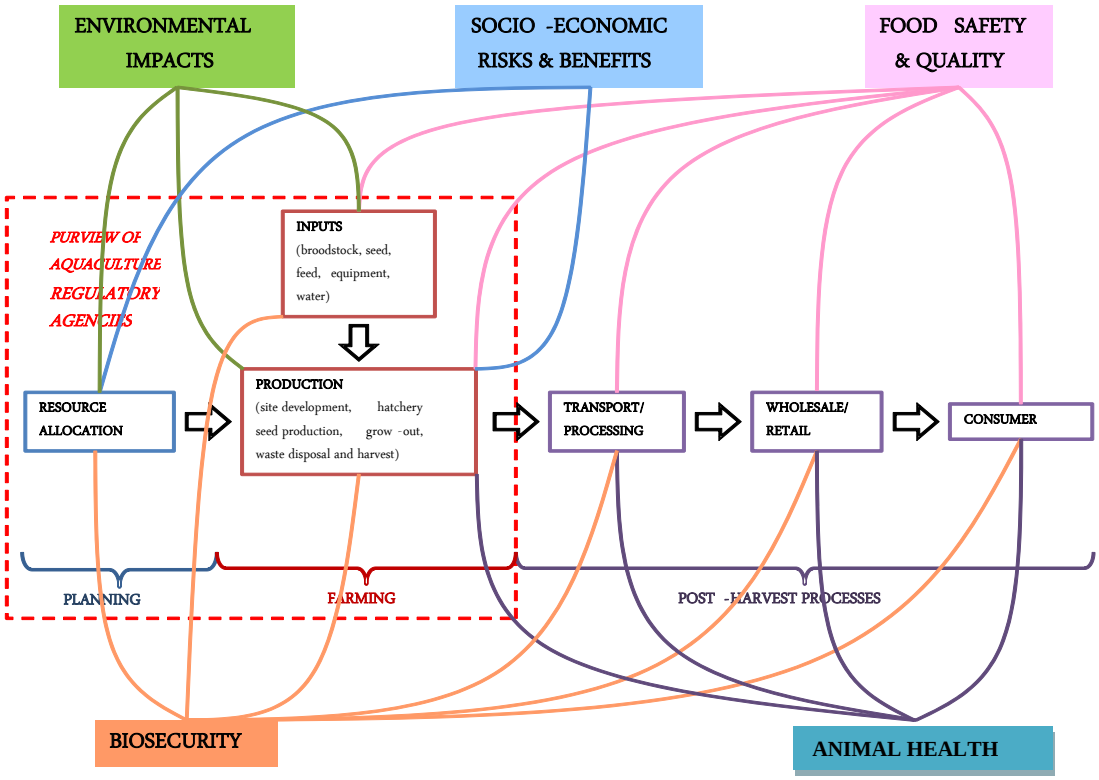
Indicators of sustainable management and use:
- state of the resources
- access to the resources
- utilization of the resources
- outcome of the utilization

Expressions (indicative) of the outcome of the utilization of the resources
- Ecological – equilibrium
- Economic – benefits more than costs
- Social – Equitable benefits distribution, conflict with other resource users physical, mental welfare
- Cultural - cultural advancement and spiritual well-being
- Political – stability

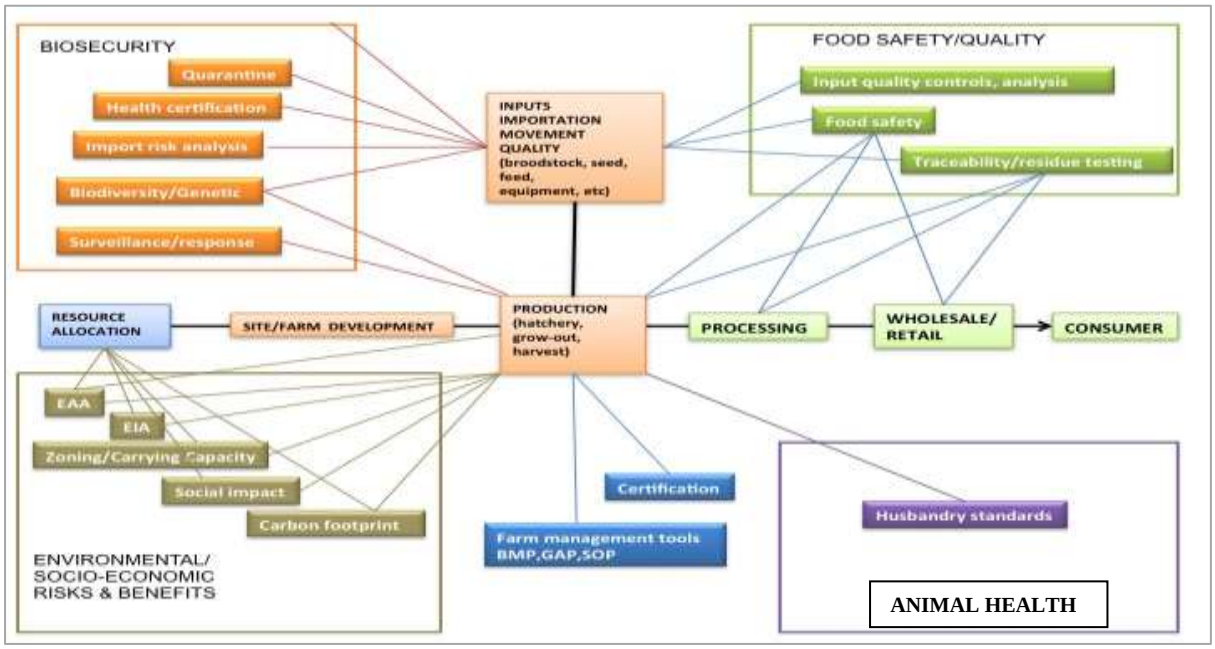
What, How do these sets of tools contribute to the desired outcomes?
- Site Selection and Zoning (planning and resource allocation)
- Environmental Impact Assessment
- Traceability & Food Safety
- Biosecurity
- Health and Certification
- Socio-Economics

The second and third issues are reflected by unifying value chain framework in designing the toolkit

1) Aquaculture Value Chain approach



2) Toolkit Framework representing linkage between the tentatively identified tools the key issues at the value chain links (tentative and to be modified)



3) Project Life cycle – Planning/management Life cycle

- Development Planning/resource allocation
- Operation and Management
- Monitoring and governance/regulation mitigation
- Decommissioning

Whichever is the unifying framework, there might be merit in listing a set of common purposes for the six areas, categorized into the:

Tools	Strategic	Technical
1 Selection and Zoning 2 Environmental Impact Assessment 3. Traceability & Food Safety 4. Biosecurity/biodiversity 5. Health and Certification 6. Socio-Economics	For instance, "provide an integrative and holistic methodology for sector planning and management"; offer a set of tools and methodologies for developing a strategic plan that encompasses the aquaculture value chain; etc	For example, tools and procedures to diagnose (inefficiencies in the value chain; basis for prescribing measures to address the causes of inefficiencies; serve as a basis for developing a management strategy with a value-chain perspective)

A medical care analogy could be adopted to describe the diagnostic application of the toolkit, thus:

- **Preventative:** to identify what can go wrong in the system i.e the value chain, where, how and why e.g. Risk Analysis, EIA, Environmental Management plan)
- **Diagnostic** : to check if anything is wrong – e.g Environmental Monitoring Survey, Economic assessment,)
- **Remedial:** to correct what has been diagnosed as "wrong"

7. Technical issues relating to the users and uses of the toolkit

7.1. Uses and Users

There is a definite need for the toolkit by those responsible for planning and management of aquaculture (be they government or private sector) to assist those with hands-on responsibility for managing aquaculture in the region. The toolkit should be a resource that would guide the reader to set up and run the P&M tool.

Countries are looking for "how to" manuals, for example: (a) Farm owner - if the farmer wanted to set up a biosecurity plan for her farm, the tool kit should provide a "how to" (and point her in the direction of more information; (b) Government regulator who wished to set up a system of resource allocation (for instance, sea bed leases) for in-sea abalone farms, then the toolkit should provide a "how to".

7.2. Principles (provisional):

On the above considerations:

- The objective of promoting the use of a toolkit should encourage government and private sector by showing how some basic things could be done relatively simply and quickly.
- The nature and use of the toolkit is not seen as complex or daunting, perceived to be very complex and taking years to implement (in an industry that would push ahead with or without a plan, because they see benefits waiting to be plucked).
- The recommendations and toolkit should not be seen only as imposing controls
- The added benefit is to attract private sector investment (small scale or commercial) as it provides long term industry confidence in having access to the resource and knowing that competition is not going to drive the resource into the ground

7.3. The provisional list of aquaculture Planning & Management tools:

1. Aquaculture site selection and zoning (including spatially modeling if applicable)
    - should include site 'allocation' - this would cover licensing/leasing/water rights allocation etc.
    - aquaculture zoning
    - follow a multi-sectoral approach/other resource users.

2. Environmental (include ecological) impact assessment of aquaculture
    - Environmental Impact Assessment (Also EIS, PEIA, etc)
    - Environmental management plan

- Environmental monitoring surveys
- Environmental impact modelling-planning
- Strategic Environmental Assessment
- Life Cycle Assessment

Indicators and thresholds?

- Water quality standards/criteria
- Sensitive habitats
- Sensitive species

3. Aquaculture traceability and food safety
    - Traceability system
    - Quality and safety (residue) monitoring of input and products
    - Critical control along the supply chain (HACCP)

4. Aquaculture biosecurity and biodiversity
    - IRA
    - emergency response systems
    - farm level biosecurity systems
    - disease surveillance and reporting systems, etc).
    - biodiversity (escapee, use and exchange of genetic materials, alien species)

5. production management tool
    - BMP/GAP/COC/HACCP
    - Certification? To be discussed

6. Socioeconomic impact assessments
    - Contribution to food security
    - Contribution to employment
    - Sustainability of livelihoods
    - Equity – marginal share of the product cost of each major player along value chain
    - Benefit–cost analysis
    - Risk analysis –social risk, economic/financial risk

7.4. Elements of a tool

To be able to support good planning and management at appropriate levels, each tool should at least include these elements:

- Why-for what purpose
- who will use it
- how will it be used?
- Where to be used?
- What areas to be covered) and
- criteria/indicators
- methodologies/approaches to assess the criteria/indicators
- how to use results in guiding the planning and management decision.
- Resource implication

To be clarified
Risk assessment of introductions of exotic species and escape of genetically selected strains under Environment or Biosecurity?—**under biosecurity & biodiversity**
Carrying capacity estimation under Site selection or Environment?—**to be discussed during the meeitng**
Do we cover everything or focus on—the tools should not be system or species focused, they should be general applicable to different species/system

- Cultured species - Fish, crustacea, mollusk and seaweed
- Culture systems - Intensive, semi intensive, extensive culture systems

8. Expected Outputs of the expert workshop (20-21 August 2013)

1) Commonly agreed scope and framework of the aquaculture P & M toolkit;
2) List of agreed tools to be included in the toolkit
3) Common template for developing individual tools;
4) Draft structure of individual tools;
5) Commonly agreed work plan and arrangement

9. Post workshop work (until 31 October 2013)

1) Detailed structure for each tool
2) Development of the full tools

10. Final expert meeting & regional consultation

25-29 November 2013