



Collaborative project “Group/cluster certification of aqua societies” completed

This two-year project by MPEDA, NaCSA and NACA developed guidelines and methodologies for group certification and pilot tested it in three selected aqua societies in Andhra Pradesh, India, from January 2009 to December 2010. Implementation of the project contributed to significant capacity and awareness building of small scale farmers on concepts of aquaculture certification, group/cluster certification, functioning of Internal Control Systems, compliance to mandatory and voluntary standards, traceability, and market access. Pilot testing of the group certification methodology enabled the project partners to understand the issues and limitations of small scale farmer aqua societies to comply with standards and functioning of Internal Control system. The project produced the following key documents:

- Guidelines cum methodology for group/cluster certification of aqua societies.
- Reference standards and road map for pilot testing of group certification methodology.
- Pond data register to facilitate record keeping and traceability.
- Cluster certification brochure.
- Group/cluster certification training manual.
- Pilot test findings on functioning of internal control system (ICS) and compliance to reference standards.

The project outputs will serve as useful resource material to extend the concept of group certification in the aqua societies established under NaCSA and help prepare aqua societies in India to participate in future certification programs. The project has helped to open avenues for linking small scale farmers to modern markets using the concept and principle of group certification and compliance with mandatory and voluntary standards. The project outputs will also have regional relevance for promoting the concept of better management practices (BMP) adoption through a group/cluster management approach and group/cluster certification in order to link small scale farmers to modern markets and support responsible aquaculture in the region.

Background

Aquaculture contributes significantly for food production leading to food security and poverty alleviation, supports livelihood for millions, creates employment opportunities and generates national income; thus it forms an important

economic activity. With 70% of the Aquaculture production coming from the small scale farmers, of which 90% have < 2ha of land, aquaculture in India is basically an enterprise of small scale farmers. Therefore, the well being of the small scale farmers is an index of well being of the aquaculture industry. Aquaculture is highly diverse activity consisting of many species, systems, practices, people, and environments. With the limited financial resources and inadequate technical knowledge the small scale farmers are subjected to variety of challenges (animal health and welfare, risk on investment, impact on environment and society, inconsistent demand and fluctuations in market price and so on) both in production and in marketing their produce.

Better Management Practices for improving the aquaculture production

MPEDA - NACA collaboration since 2002 has demonstrated that bringing the individual small farmers of a locality into a compatible and cohesive entity (group/cluster) towards sharing the common resources coupled with adoption of Better Management Practices (BMPs) is the key towards sustainable aquaculture. Motivated by the concept and encouraged by the results, many small scale farmers have come forward and a good number of aqua societies have been formed in maritime states. Complimenting the interest shown by the small scale farmers, MPEDA in 2007 has established a new institution, the National Centre for Sustainable aquaculture (NaCSA) to service the needs of the aqua societies. There are presently 712 aqua societies in operation comprising of 15,753 farmers, covering an area of 16,126 ha with an annual production of about 16,000 tonnes.

Aquaculture certification to enhance opportunities in marketing of aquaculture produce

Production and marketing are the two sides of an enterprise which needs synchronisation in meeting consumer demand. Aquaculture products are perishable with a short shelf life; therefore distribution skills and production planning have to be honed to meet market demands. Sharing the food production guidelines with growers, food producers and retailers - specifying how food is grown and what has been used to produce it - is an important contribution to the harmonisation of trade enabling clear and transparent processes. This certification is seen as a tool of communication between the primary producer and the end consumer enabling primary producer economic freedom with social responsibility. “Certification is a procedure by which a certification body gives written or equivalent assurance that a product, process or service conforms to specified requirements and is carried out by competent and accredited body” (Adopted from

IFOAM). Keeping in view of the fact that nearly 90% of the aqua farmers are small scale operators and the certification for individual farmers is not only prohibitively expensive but also impractical, grouping small farmers with common natural resources becomes imperative to extend coverage to all the small scale farmers cost effectively.

Group certification

The certification of groups of small scale farmers at a given locality, who share common resources and employing common technology is a practical approach for promoting sustainable aquaculture. It can be achieved by using an entity (Aqua Society) that manages and documents a clear and transparent Internal Quality Assurance System. The society provides a legal mechanism for granting recognition to a group of farmers and to manage certification, with certificates issued in the name of the society. Compliance to the set standards both by i) every individual member and ii) collectively (the society) is mandatory for group certification. Responsibility (both individual and collective), unity and compatibility of members are the essence of group certification which calls for an efficient co-ordination among the farmers.

MPEDA /NaCSA NACA collaborative project on “Certification of Aqua societies”

With the objective to assist the small scale farmers to improve the marketing of their produce (in terms of wider accessibility and better remunerative price) through group certification, MPEDA and NaCSA have signed a memorandum with NACA towards development of group certification methodologies for the aqua societies that would enable them to prepare for and seek group certification from independent third party certifiers or for proposing voluntary certification by the societies themselves.

Methodology

The methodology of study is outlined in the following steps:

Pilot testing analysis on group certification of aqua societies

The pilot testing performed analysis on the compliance to mandatory and voluntary standards (legal aspects, adoption of BMPs, food safety, traceability, documentation, social and environmental issues) in each of the aqua societies and also assessed compliance to efficient functioning of the Internal Control System (ICS). The pilot testing has clearly shown that it is possible to build capacity of small scale farmer groups/clusters and prepare them to participate in group certification programs. The study clearly identified that small scale farmers should be motivated and adequately trained in ICS operation so that small scale farmer groups/clusters can set up and operationalise efficient ICS and comply with standards of the chosen certification program. ICS provides the quality assurance and proof of compliance on behalf of the farmer group/cluster to the external certification body and hence efficient functioning of ICS is vital for seeking group certification.

Final workshop

The workshop finalised the guidelines/methodology, road map, and other related documents on group certification of aqua societies. A detailed analysis on the pilot testing of group certification guidelines/methodology was made, limitations were identified and solutions explored. The workshop acknowledged that the MPEDA / NaCSA/ NACA collaborative project had made important progress on developing and pilot testing the group certification concept, methodology and emphasised the need to continue the journey to attain better marketing by addressing the limitations identified. The workshop realised that the economic success of aquaculture depends on the ability of small scale operators not only in sustainable production but also in marketing the same for commensurate prices in global markets through appropriate value chain linkages (e.g. using the market intelligence of the processor combined with group certification for small scale producers). The workshop agreed that it would be very valuable now to proceed to the next stage of developing linkages of selected small scale farmer clusters/groups to the global market through interested processors in the efforts towards empowerment of small scale aqua farmers.

Project outputs

The project has:

- Contributed to significant strengthening of capacity and awareness among the various stakeholders on the concept of group certification.
- Contributed to the development of following resource material.
- Guidelines cum methodology for group/cluster certification of aqua societies.
- Reference standards and road map for pilot testing of group certification methodology.
- Pond data register to facilitate record keeping and traceability.
- Cluster certification brochure.
- Group/cluster certification training manual.
- Pilot tested findings on functioning of internal control system (ICS) and compliance to reference standards.

Project recommendations

Considering the global developments with certification programs and the need to comply with mandatory and voluntary standards, it is strongly recommended that MPEDA/ NaCSA and NACA should continue the present work on group/cluster certification and provide technical support to small scale farmer clusters/societies in order to build their capacity and prepare them for participation in group certification programs in future.

Considering the importance of ICS in any group certification program, it is recommended that the project partners develop a strong training program on ICS and implement the training in a structured manner so that the capacity of ICS committees is significantly strengthened.

Recognising the importance of BMP adoption through cluster management approach and the efficient functioning of ICS to comply with standards (mandatory and voluntary), it is recommended that the project partners implement a systematic compliance analysis program in place so that more clusters under NaCSA can be monitored and evaluated for compliance to standards and compliance to ICS functioning.

Considering the globalisation of trade coupled with consumers' awareness on the product quality (food safety, traceability), need for responsible aquaculture (adoption of BMPs, reducing social and environmental impacts) and strategy on linking producers and processors towards efficient marketing of produce (win-win business relationship) it is strongly recommended that small scale farmers must be linked to modern markets so as to remain competitive and sustainable.

Recognising the value of supply chain integration, role of processors, niche markets, ecosystem marketing concepts, etc, it is strongly recommended that NACA develop a long term project on linking small scale farmers to modern markets through group certification for funding consideration by MPEDA/NaCSA.

Considering the need to motivate small scale farmers to prepare for group certification, it is suggested that as a promotional gesture in the initial stages, Government may consider incentives in the form of equipment, capital, and infrastructure for groups willing to participate in the project.

Recognising the value of documents (e.g. group certification guidelines, road map for group certification, brochure, training manual on group certification, etc) produced under the project, it is recommended that the documents be made available widely within India and in the region.

All documents produced under the project are available for free download from NACA website.

Report of the Advisory Group on Aquatic Animal Health available

The report of the 9th Asia Regional Advisory Group on Aquatic Animal Health is now available for download. The report provides the latest information on disease trends and emerging threats for fish, crustaceans, molluscs and amphibians; outcomes of the OIE General Session and the Aquatic Animal Health Standards Commission; and the status of disease reporting in the region. Download the report from:

<http://www.enaca.org/modules/wfdownloads/singlefile.php?cid=132&lid=1025>

Guidelines on Aquaculture Society Certification released

These guidelines are the key output of the MPEDA/NaCSA/ NACA collaborative project on the certification of aquaculture societies.

Draft guidelines developed by the project partners were discussed at the inception meeting on aquaculture society certification held at Kakinada during 1-2 September 2009. The meeting was attended by leaders of the aquaculture societies, representatives of certifying bodies and institutions.

As per the recommendations of the inception meeting, pilot testing of group certification was carried out during January to September 2010 in three societies and the draft guidelines were revised in October 2010, considering the lessons learnt from the pilot testing.

The guidelines developed are independent of commodity and certification standards. The guidelines prepare and enable aquaculture societies to seek group certification from independent third party certification programmes.

Download the guidelines from:

<http://www.enaca.org/modules/wfdownloads/singlefile.php?cid=162&lid=1026>

Listen to us online

NACA has begun making audio recordings of technical presentations given at aquaculture workshops, meetings and projects in which we are involved. We are doing this to allow people throughout NACA member states to access these materials. Only a handful of people can ever physically attend a workshop, but not anyone can listen to the proceedings, wherever they may be.

Recordings are made available in the podcasting section of the NACA website (link below). The recordings may be freely downloaded or you can listen to them online (stream) them from our server:

<http://www.enaca.org/modules/podcast>

The recordings are also available as podcasts. If you have a podcasting client software installed on your computer, or use an online service such as Google Reader, we encourage you to sign up for our recent podcasts feed. This will ensure that you receive new recordings as they are released. The feed URL is:

<http://www.enaca.org/modules/podcast/rss.php>

Lastly, the software we use to distribute podcasts has been developed in-house and is available as an open source module for the ImpressCMS content management system. Download it from:

<http://addons.impresscms.org/modules/wfdownloads/singlefile.php?cid=37&lid=1376>

Workshop on ecosystem approach to inland fisheries: data needs and implementation strategies

NACA coordinated an international workshop Ecosystem approach to inland fisheries: data needs and implementation strategies, in Vientiane, Lao PDR, 7-11 December 2010 as part of its continued engagement on inland fisheries issues. The workshop was supported by the FAO and the US Geological Survey, and brought together 28 experts in inland fisheries from 12 countries and representatives from regional and international organisations.

The contribution inland fisheries makes to improve the human well-being, and the status of inland fishery resources and the ecosystems that support them, are in general relatively poorly known and often undervalued. As recognised by FAO and others, this is because of (a) the importance of fisheries is not reflected in the formal economy, because much production is consumed locally or traded for other goods (b) the varied and diffuse nature of many inland fisheries operating in remote areas, associated with lack of formal landing areas; (c) lack of awareness and policies on inland fisheries in national agendas, (d) poorly defined market chains or infrastructure dealing with catch from inland waters, and (e) the high cost of collecting dispersed information. Moreover, in many developing countries inland fisheries are considered a traditional, non-economic activity that for the betterment of the nations should be replaced by more obvious industrial or agricultural activities that contribute directly to formal economies. Also where information is lacking, either improvement must be made to acquire it, or alternative strategies must be developed to manage inland fisheries responsibly. Additionally, inland fisheries are greatly impacted by other sectors that use freshwater resources, such as hydro-electric development, irrigation and agriculture, catchment and upstream land development and navigation.

In order to address these broad issues FAO, the scientific community and others are adopting an Ecosystem Approach to Fisheries (EAF) and Aquaculture (EAA). The ecosystem approaches are consistent with and will help implement to FAO Code of Conduct for Responsible Fisheries (CCRF) [1]. The purpose of an EAF is to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardizing the options for future generations to benefit from the full range of goods and services provided by aquatic ecosystems. The EAF encourages the participation of all relevant stakeholders in a participatory process in order to:

- Identify the fishery, area and all relevant stakeholders.
- Identify broad social, economic and ecological (including the fisheries resource) issues for the fishery, based on the broad international and national policy goals and aspirations.
- Identify external drivers affecting inland fisheries.
- set broad objectives for these issues.
- Break down broad issues into issues sufficiently specific to be addressed by an identified management measure(s).

- Rank the issues based on the risks they pose to a fishery.
- Set agreed operational objectives for the high-priority social, economic and ecological issues identified in step V and develop linked indicators and performance measures.
- Formulate management decision rules.
- Monitor the fishery using the selected indicators, and regularly evaluate the performance of management in meeting operational objectives – by inference, because of the linkages developed between policy goals and operational objectives, this will provide an assessment on how well management is achieving the broader policy goals.
- Goals and objectives of the workshop

The goals of the workshop were to examine strategies to incorporate inland fisheries sectoral policy objectives into ecosystem approaches for management of inland waters through:

- Considering ways of enhancing the profile of inland fisheries as a significant contributor to human well being/
- Determining elements of guidelines and strategies for application of an ecosystem approach to fisheries that is relevant to the multitude of inland water types.
- Defining ecosystem services provided by inland fisheries.
- Examining tradeoffs in management of freshwater ecosystem services.

Determining strategies to improve acquisition and quality of inland fisheries data as a solid basis for policy-making in relation to the above-mentioned considerations and in line with the FAO Strategy for Improving Information on Status and Trends of Capture Fisheries.

The workshop reached consensus on the following:

- To prepare a suitable “policy framework” manuscript and to seek publication of it in the journal Science. In this regard the group discussions were held on the possible contents of the manuscript and confirmed in plenary. The main aim of the said manuscript would be to increase the profile of the inland fisheries sector among public and especially among policy makers.
- The workshop agreed to have manuscripts, based on the presentations, prepared for publication in a peer reviewed journal for wider dissemination.
- The workshop also agreed to prepare a manuscript on the importance of inland fisheries in a more popular journal dealing primarily on policy developments in order to attract attention of policy/ decision makers on the importance of inland fisheries to development, food security and

livelihoods. In this regard, the meeting report has been accepted for publication in *Biology Letters* and will be available online in March 2011.[2]

The workshop also decided that avenues be explored to have a special session in relation to inland fisheries at the forthcoming Fisheries Congress, in 2012, Edinburgh, Scotland. In this regard Dr. Doug Beard will take the initiative and keep the participants informed of the progress.

[1] FAO (1995). Code of Conduct for Responsible Fisheries, pp. 41. FAO, Rome, Italy.

[2] Beard, T.D., Arlinghaus, R., Cooke, S.J., McIntyre, P., De Silva, S. Bartley, D. and Cowx, I.G. (2011). Ecosystem approach to inland fisheries: research needs and implementation strategies. *Biology Letters*. (doi.org/10.1098/rsbl.2011.0046).

Disease advisory: Infectious myonecrosis (IMN) status and threat

Infectious myonecrosis (IMN) is a viral disease caused by infectious myonecrosis virus (IMNV). It affects Pacific white shrimp *Penaeus vannamei*, tiger shrimp *P. monodon* and blue shrimp *P. stylirostris*. IMN is associated with heavy losses in farmed shrimp of 40-70%.

Originally reported from Brazil, outbreaks were reported in East Java, Situbondo District in Indonesia in May 2006. In 2009 several other provinces were affected.

With the current spread of the disease there is a high threat of the disease spreading to neighbouring *P. vannamei*-producing countries. Suspected outbreaks should immediately be reported to the authorities.

NACA has published an infectious myonecrosis (IMN): Status and Threat Information Sheet. For more information, please download the sheet from the NACA website at:

<http://www.enaca.org/modules/news/article.php?storyid=1891>

7th Regional Grouper Hatchery Production Training Course, 25 September - 15 October, Situbondo, Indonesia

Applications are invited for participation in the 7th Regional Grouper Hatchery Production Training Course, which will be held at the Brackishwater Aquaculture Development Center in Situbondo, Indonesia from 25 September to 15 October.

Grouper culture has led to a significant contribution to fish production and rural economy in coastal communities in Asia and also played an important role in conservation of the fragile coral reef fishes which are increasingly being threatened with overfishing and habitat destruction. However, one of the major constraints to furthering grouper culture is seed supply. Realising the need to produce commercial quantities of grouper seed, the Network of Aquaculture Centres in Asia-Pacific (NACA), in collaboration with its collaborating centres in the region, has offered a training course on grouper hatchery production six times. Drawing expertise throughout the region and supported by experienced field experts in our collaborating centres, this highly hands-on training course aims to provide participants with a favorable learning environment to update their knowledge and enhance their skills in grouper seed production and hatchery management.

How to apply

Download the application form from NACA website, fill in and send it to NACA through post, fax or email. You will be acknowledged of acceptance after your application is approved by NACA Director General and Director of BADC.:

http://www.enaca.org/uploads/temporary/grouper_hatchery_application_2011.doc

We would also appreciate it if you would fill in an information sheet about your farm.

http://www.enaca.org/uploads/temporary/training_data_collection_form.xlsx

Course contents

This course is designed to provide hands-on training on all aspects of grouper seed production. Participants will learn to select, maintain and handle broodstock, induce fish to spawn, incubate eggs, prepare live feed and develop feeding regimes for newly hatched larvae, and practice nursing prior to seed harvesting, packaging and transportation. Participants will also be presented with a theoretical background on biology, reproductive physiology, nutrition and health management. Field visits will showcase production technology and status of small and medium-scale grouper hatcheries, nurseries, grow-out farms, live food suppliers, traders and live seafood exporters in Indonesia. Some government research and extension institutes will also be visited. Topics covered in the training course are:

- Biology of grouper.
- Site selection, hatchery design, equipment and setup.
- Broodstock selection and management.
- Eggs handling and development stages.
- Culture environment and water quality management.

- Larviculture and nursery.
- Live food production – phytoplankton and zooplankton.
- Nutrition and feed for grouper larvae (including artificial feeds).
- Disease and fish health management in the hatchery.
- Harvesting, packaging and transportation.

Training venue

The Brackishwater Aquaculture Development Center - Situbondo (BADC-Situbondo) was established in 1994 as a sub-center for brackishwater aquaculture development by the Ministry of Agriculture to support the program to increase fish production in Indonesia. Since 1 May 2001 it has been upgraded and become a center with 3 divisions: Finfish, Shrimp and Aquaculture. BADC-Situbondo is the Technical Implementation Unit (TIU) of the Directorate General of Aquaculture.

BADC-Situbondo has been involved with applied research on grouper aquaculture particularly for hatchery technology since 1994. In 1996 it produced its first batch of grouper fingerlings. With continuous applied research and also technology exchange with other research institutes such as Research Institute for Mariculture in Gondol, the technology for grouper hatchery has improved and taken up by private sector, including large-, medium-, but mainly small-scale hatcheries.

The marine species that on which BADC Situbondo focuses its research and development work include *Cromileptes altivelis*, *Epinephelus fuscoguttatus*, *Epinephelus lanceolatus*, *Cheilinus undulatus*, Pompano, hybrid grouper, and milkfish *Chanos chanos*. The hatchery technology for *C. altivelis* and *E. fuscoguttatus* have been developed and taken up by many private sector operations. Consequently, numerous grouper hatcheries have been established and are now doing good business.

Training facilities

BADC-Situbondo has good infrastructure and facilities, including:

Finfish division: broodstock tanks, pond, larval rearing tanks, quarantine tanks, live food culture tanks, seawater reservoir, floating cages, and laboratories.

Shrimp division: spawning tanks, larval rearing tanks, live food culture tanks, seawater reservoir, and laboratories.

Aquaculture division: brackishwater ponds, nursery ponds, reservoir pond, and laboratories.

A section of the centre incorporating 12 microalgae production units, 4 rotifer production units and 10 indoor larviculture units are devoted to grouper hatchery training course. All the participants will get hands-on intensive training from egg handling through to harvest of fingerlings.

Resource speakers and trainers

Most of the topics will be delivered by the grouper breeding and larviculture resource persons from BADC-Situbondo, supplemented by specialists inputs from other centers and institutions in Indonesia.

Who should attend

Hatchery managers, technicians, researchers, extension officers, and other aquaculture professionals who are seeking to expand knowledge and obtain hands-on experiences in grouper seed production.

Requirements

Knowledge in fisheries science, aquaculture, and other relevant subject areas, plus adequate language proficiency in listening, speaking and reading in English.

Course fees

The training fee covers costs for tuition, shared-room accommodation during stay in BADC (from 25th September to 9th October 2010), most lunches and some dinners, airport pickup, local transportation and materials and supplies for training related activities.

The fee does not cover international and domestic flights to and from the nearest airport, accommodation during field trips to Bali (from 10th – 15th October 2011), allowance and personal expenses. The room rate for hotel in Bali will be around US\$ 40 –50 per night.



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NACA is a network composed of 18 member governments in the Asia-Pacific region.



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Contact point

For more information including course fees and travel arrangements, please download the flyer from:

http://www.enaca.org/uploads/temporary/grouper_hatchery_flyer_2011.doc

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