# EVALUATION REPORT

"Promoting environmental friendly livelihood alternatives to support marine conservation efforts in the Trao Reef Marine Reserve, Khanh Hoa province, Vietnam.

JANUARY 2004 - DECEMBER 2004

## Submitted to

## **Rufford Small Grant/Whitley Laing Foundation**

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### A. Project summary and objectives

IMA Vietnam received a grant award from the Rufford Small Grant/Whitley Liang Foundation in an amount of GBP 5000 for the project "Promoting environmental friendly livelihood alternatives to support marine conservation efforts in the Trao Reef Marine Reserve, Khanh Hoa province, Vietnam." The grant period is for one year starting from January 2004 until December 2004.

The project aims to ensure the sustainability of the protection and restoration efforts in the locally managed marine reserve Trao Reef. This objective is expected to be achieved through addressing the livelihoods of the key community groups who have been affected by the marine reserve such as the poor, the women, the aquaculturist etc. Environmentally friendly livelihoods, gender balance, local capacity building shall be promoted to ensure the success and local ownership of the Trao Reef marine reserve in particular and expected to contribute to the community-based participatory approach in marine conservation efforts in Vietnam. This report is to summarize the results and progresses that have been made over the one year project implementation and provide lessons learned and recommendations for a better coastal resources management in Vietnam.

### B. Progress and results achieved

# Activity 1: Education community events for target groups (marine conservation dialogues and coastal clean up)

Numbers of education awareness events have been organized targeting various groups of the community including coastal clean-up and facilitation of community education through study tours to Trao Reef Marine Reserve. Educational materials have been developed and presented such as the Trao Reef Marine Reserve Regulations, ICC brochures etc.

**ICC** (international coastal clean up) days were held attracting more than thousands of people. Collecting and organizing trash has become a good habit of the local villagers. Several clean up oriented activities have been organized. These have promoted more awareness raising about environmental issues such as trash. One of the main ones has been the ICC - International Coastal Clean up. Others, occurring during the project life cycle have included "Dive into Earth Day". The participants are local divers. The ICC has been conducted in Xuan Tu and Xuan Ha villages. Over 600 community members have participated in these activities. The Veterans Association, Women's and Youth Union, and Advocates have led these clean up of the shoreline and community. Children in primary school and women are the majority participants. The emphasis has been on cleaning up the beachfront. Participants collected plastics, tins and other non-biodegradable as well as

accumulated dead vegetation. Some larger trash items were deposited in the Commune's landfill. Other trash was burned on site. Participants were made aware of their own trash creation and accumulation during these activities. They also received caps and the CREST (Coastal Resource Education for Students and Teachers) text to encourage their awareness and understanding of marine environmental issues.

### Facilitation of study tours to Trao Reef Marine Reserve

During the year of 2004, more than 750 people of various groups have been to Trao Reef Marine Reserve and visited the aquaculture model. Local Project Management Board and Core Group conducted dialogues on marine biodiversity and resources conservation in relation to lobster aquaculture conducted with targeted groups. Many of visitors are students and researchers from the universities and other MPA relevant projects. This is an active learning activity that takes place at the Marine Reserve where visitors had also a chance to visit the coral farm project, which has been implemented earlier with support from Rufford Small Grant. The corals were growing well for resources rehabilitation and created a safe home for many fishes and other species. This was a great significant result gained from the marine conservation efforts of local community with support of the local government within the MPA Area.

### Activity 2: Gender awareness training workshop

As a cross-cutting issue, gender training was also provided to various group of the community to raise awareness on gender issues and understanding of gender roles in the coastal resource management. Gender training was a significant event to introduce gender awareness of local staff and community members (both men and women) who are involved in the marine reserve. Many of the participants revealed that they did not know what gender was before the training nor realized the importance of women's "invisible" contributions to household and community life.

Four gender-training courses were provided for a total of 115 local participants, including two courses for 56 commune and district officers (48.2% male) and two courses for 59 selected community women and poor fishers (46.43% male). All participants gained knowledge on basic gender concepts (e.g. the distinction between gender and sex, gender roles and gender analysis).

One of the important things was that both male and female participants now understand not only the women's role/contribution but also the deep-rooted cultural and social rationale of gender stereotypes that had limited women's access, control, and benefit from community resources. During the workshop, a gender-training expert led a series of activities where women and men participants brainstormed, dialogued, and negotiated what gender meant to them in their daily life; A particular emphasis was put on their roles in the household and in their community.

During the training, in contrast with the common thinking that fishermen are conservative and set in their ways (as is traditionally emphasized by the men's role in coastal management and other community development activities), men shared points of view (including older generations) that indicated some acceptance of problems due to gender inequality. When the training ended, a number of men reported that they had started to help their wives with some housework and 60% of the men reported to have positively changed their views on women's roles. Many suggested that they would support women in household economic and community development activities.

It is evident that through the gender-awareness workshop that men and women gained a better understanding of gender imbalances in the control, access and benefit of household and community resources. Women expressed that they felt more aware of their role and felt more confident by raising their concerns and ideas.

# Activity 3: Organize a forum on environment and livelihood with participation of scientists and the community.

An one-day forum on environment and livelihood options was conducted followed by a demonstration model of environmentally friendly aquaculture with participation of over 30 villagers from Van Hung commune. The training workshop and the field demonstration were carried out with the lead facilitators from IMA, scientists from Nha Trang Institute of Oceanography (NIO), the project Core Group and the selected local government staff. During the forum, subject of sustainable culture of the selected species (seaweed, green mussel and oyster) was facilitated by the scientists. Participants took part in the lecture and participated in-group discussions to have a better understanding about the possible options of aquaculture that are environmentally friendly. Special attention was given to issues related to combination of aquaculture, water quality and sustaining livelihood. Specific set up of field demonstration was chosen after thorough discussion among participants, reflecting high ownership of community. As a result of the forum, participants developed a plan of implementing the pilot project in alternative and environmentally friendly livelihoods with seaweed and green mussels at their locally managed marine reserve and selected the demonstration site, target species, and monitoring and management practices.

#### Activity 4: Implementation of pilot integrated environmental friendly models

With technical support of the scientists and based on the forum results, the Core Group, in addition to 45 community members, (mostly fisher families) implemented the pilot

demonstration. Many groups of women participated in the preparation of floating cages and nets, while core group members and interested fishers took part in installing the demonstration sites.

The local advocacy group further publicized this environmentally friendly livelihood program so that other community members might become involved and learn. Through the implementation activities, participants learned about the seaweed farming technology, and hand-on skills and experiences. The demonstration project has progressed well with participants reporting most significant improvement in water clarity since the seaweed, green mussels and oysters have been seeded and cultivated. In addition, as community members learned how the pilot project had benefited the water quality. Community members learned how seaweed may be cultivated and brought to market.

Two integrated aquaculture models were conducted by the local fishermen as described as following:

Mr. Nguyen Van Chim, a head of the Core group, who has been involved in the aquaculture research from the early stage, implemented the first model. His model included lobster-green mussel-sea cucumber and recently seaweed was also integrated. The site is located in the lobster cage, around 500m far from the Trao Reef Marine Reserve. In early April, Mr. Chim has cultivated 50 kg green mussels with average size of 2.5g. It is reported that until end of August 2004, it has increased weight by 15g and the growth rate was as high as 90%. A month later in May, 1000 juveniles of sea-cucumber was reared in the same cage and the weight was also raised from 5g to 20g per each after several months. Green mussels were sometime used for lobster food instead of small fishes and it is also has a new market with a price ranging from VND15.000-20.000 (around US\$1) per kilo. So far the lobster is growing well and there has been increasing improvement in the water and environment that helped contribute to protection and restoration of the coral reef and sea grass ecosystems.

The model was also participated by the scientists from Nha Trang Institute of Oceanography (NIO) and Research Institute of Aquaculture No.3 (RIA3) and it created a learning ground for both scientists and local fishermen. The scientists have carried out successful studies in the laboratory and now they put into a real trial. Over the last couple of months, many groups of local fishermen and aquaculturists visited the model for learning and around 20 several households in Xuan Tu village started to apply this model. The model was disseminated through local television and newspaper, and the final workshop. Mr. Nguyen Van Chim is also invited by NIO to their scientific workshop on aquaculture development to promote and share his learning experience through this research.

Mr. Bay Hanh conducted the second model, a fishermen of Xuan Tu village with support of IMA-Vietnam, at the nearby site of Trao Reef border (800m far from Trao Reef). This is a newly developed model with integration of lobster and seaweed and started up with the set up of the demonstration. A construction of raft was made with participation of several core group members and women. During the preparation, women engaged in net sewing and preparation of other materials while men helped in installing it in the sea.

Mr. Bay Hanh has been long engaging in the lobster rearing and participated in the first demonstration of the green mussel and seaweed facilitated by IMA a couple of months ago. During the first demonstration of seaweed and green mussel aquaculture, he has learned several skills and experience. On 10th May 2004, 200 kg of seaweed was cultured and 250 juveniles of lobsters were put in the raft a week later. The seaweed species purchased in the nearby area, unfortunately, was in Ice-Ice disease that was found later on and seaweed was died. By end of August 2004, the lobster's weight reach up to 120g (increased by 80g) and growth rate is 95%.

It is reported that local community have learned the model and several households started to replicate it into their current lobster cages. It is expected that fishermen will promote the integrated aquaculture model and make decision on their sustainable livelihoods development in a more sustainable and environment friendly manner.

### Activity 5: Monitoring and Participatory Field Evaluation Workshop

The project was monitored and reported throguht regular monthly update on the progress of the aquaculture model by the local core group members and the IMA researcher, Dao Viet Long, and other collaborators, scientists of NIO and RIA 3.

The field evaluation workshop was held on 10<sup>th</sup> August 2004 with participation of 35 representatives of community, local government and scientific research institutions. Core group members, scientific researchers with facilitation of IMA-Vietnam and Local Project Management Board, presented research results and lessons learned. The workshop is followed by the field visit to Trao Reef and model sites where they have witnessed and learned about how to make an integrated marineculture, with lobster and green mussel and seacucumber. This model was learned as effective in terms of the economic and environmental value and could be replicable as suggestion by the local fishermen and scientists. The Khanh Hoa local television and Vietnam television produced a film on the Trao Reef to introduce an integrated environment friendly aquaculture development approach, to disseminate the results to reach wider public.

In mid November 2004, Rufford Grant Coordinator, Mr. Josh Cole with facilitation of IMA researcher, Dao Viet Long, visited the project. During the visit, he had a meeting with the Project Management Board and interview with core group members, visited the marine reserve guardhouse, coral farm and aquaculture models. The visit proved a successful monitoring and evaluation that helped reflect progresses and interaction between donors and researchers where they were able to share ideas, experience and mentoring approach.

## C. Lessons learnt and recommendations

- The project itself follows a participatory approach that encourages participation of local community and brings benefits for themselves. This process has empowered members of the local community. Community members took direct action in the planning, implementation and monitoring of their livelihoods. Community organistions (such as core group) play an important role in the participatory learning process and balancing individual benefits vis-à-vis community interests.
- The actual process of developing environmentally friendly aquaculture is a big shift from the informational awareness programs into action. Awareness-raising activities need to be promoted in the beginning of the research and regularly undertaken along with other research activities throughout the duration of the project.
- Development of sustainable livelihoods is a learning process. All relevant activities and information should be shared and discussed by the local people. Actions/solutions thereafter should be the community's choice. These activities should also be reported regularly to the local government for their guidance and timely direction, as well as reaching their policy support.
- Documentation of Lessons Learnt and Practical Manual for environment friendly aquaculture model development could be shared for a sound and responsible coastal resources management in other coastal areas of Vietnam.
- Gender would be integrated in the project to promote participation of both men and women, especially women, who play important role in aquaculture and marine conservation efforts. Poor people (particularly women and other vulnerable groups) should be considered primary target groups so that they are able to access and benefit from the aquaculture to improve their income. Local indigenous knowledge (both men and women's) in coastal resources and livelihoods was shared, extended, and strengthened.

 It is recommended that this model could be replicated into other Central South areas of Vietnam through a small-scale community based coastal resources research project facilitated by IMA-Vietnam and participated by local community members.