

# Community-based conservation and sustainable harvesting of land crab of Cu Lao Cham, Quang Nam

VN/SGP/UNEP-SCS/09/01



# COMMUNITY-BASED CONSERVATION AND SUSTAINABLE HARVESTING OF LAND CRAB OF CU LAO CHAM, QUANG NAM

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|-------------------------------|---|
| PROJECT IMPLEMENTATION YEARS: | 2009 - 2012   |
| PROJECT SITE:                 | Tan Hiep Commune, Hoi An City, Quang Nam Province   |
| IMPLEMENTING ORGANIZATION:    | Tan Hiep Communal Association of Farmers, Hoi An City, Quang Nam province   |
| BENEFICIARIES:                | Local crab catchers, local people involved in tourism operation in the Cham Island, local communities and tourist operators |
| BIODIVERSITY AREA:            | the Cham Island's <i>Gecarcoidea lalandii</i> Ecosystem   |



- ▶ **The Cham Islands** belong administratively to Hoi An city, Quang Nam province, and is a marine protected area (MPA) with great environmental and marine diversity. The island's rich biodiversity includes a species of large crab locally named "Cua Da" (*Gecarcoidea lalandii*) of the Cham Island. While *G.lalandii* is a species associated with marine fauna, individuals mainly occur in terrestrial forests and when carrying eggs, females migrate to the coast where they release the eggs in coastal hollows during their breeding season. The Cham Island's *G.lalandii* is considered a "bridge" connecting terrestrial forests with the marine environment and is a biological indicator of the health of terrestrial and marine ecosystems. This is one of the important resources closely associated with local people's lives as it significantly contributes to their livelihoods. Unfortunately, the Cham Island's *G.lalandii* is prone to be severely depleted due to overharvests and a substantial increase in tourists to the island.
- ▶ From 2010 to 2013, an initiative of "**Community Participation in the Cham Island Nature Rehabilitation and Sustainable *Gecarcoidea. lalandii* Crab Harvest**" was launched by the Cham Island authority and communities with support given by the GEF SGP Viet Nam and the Hoi An City People's Committee (PC) in order to conserve, manage and use the Cham Island's *G. lalandii* in a sustainable manner. A model of the Cham Island's *G.lalandii* co-management was effectively demonstrated and received high support from local communities.

## PROJECT BACKGROUND AND OBJECTIVES

The Cham Islands are in the East Sea, 18 km east of Hoi An City and is administratively managed by Tan Hiep Commune, Hoi An city, Quang Nam province. The Cham Islands MPA has an area of 5.175 ha of marine surface and includes about 311 ha of coral reefs, approx. 277 species of coral from 40 genus and 17 families; 500 ha of sea grass grounds; 270 species of marine fish from 105 genus, 40 families; five (5) species of lobsters; 97 species of mollusk and many other species with ecological, economic and seascape values.

The Cham Islands' *G. lalandii* is one of important resources of the MPA. Although *G. lalandii* is classified as a species of marine fauna, individuals mainly live in caves in terrestrial forests, and during their breeding season females migrate to the coast and lay the eggs in seawater in rocky hollows. The Cham Islands' *G. Lalandii* has been closely associated with the local peoples' lives for generations. Unfortunately this species is increasingly threatened with extinction by daily increases of tourists to the Cham Islands.

The Cham Islands *G. Lalandii* management takes place in accordance with the Hoi An City Peoples Committee's Direction No.04 issued in 2009 related to the suspension of the harvest of and trade in the Cham Islands *G. Lalandii* with the goal to rehabilitate this species in the Tan Hiep commune. However, illegal harvest and trade activities continue on the island and this trend appears to be uncontrolled in particular during the tourist season from March to September. This makes it difficult to make accurate predictions about the rehabilitation of the Cham Islands' *G. Lalandii*.

In 2010, in cooperation with the GEF SGP and Hoi An City PC, Farmers' Association of Tan Hiep commune launched the project "**Community-based conservation and sustainable harvesting of land crab of Cu Lao Cham, Quang Nam**" with the aim to rehabilitate Cham Island's *G. Lalandii* and to help local communities to participate directly in the conservation and harvest of this fauna species.

### SPECIFIC OBJECTIVES OF THE PROJECT INCLUDED

1. Rehabilitate the Cham Island's *Gecarcoidea. lalandii* ecosystem;
2. Harvest, manage and protect the Cham Island's *Gecarcoidea. lalandii* sustainably;
3. Conduct further study and collect information to clarify biological and ecological characteristics of the Cham Island's *Gecarcoidea. lalandii* species;
4. Build up a co-management model in order to protect and harvest sustainably local natural resources.

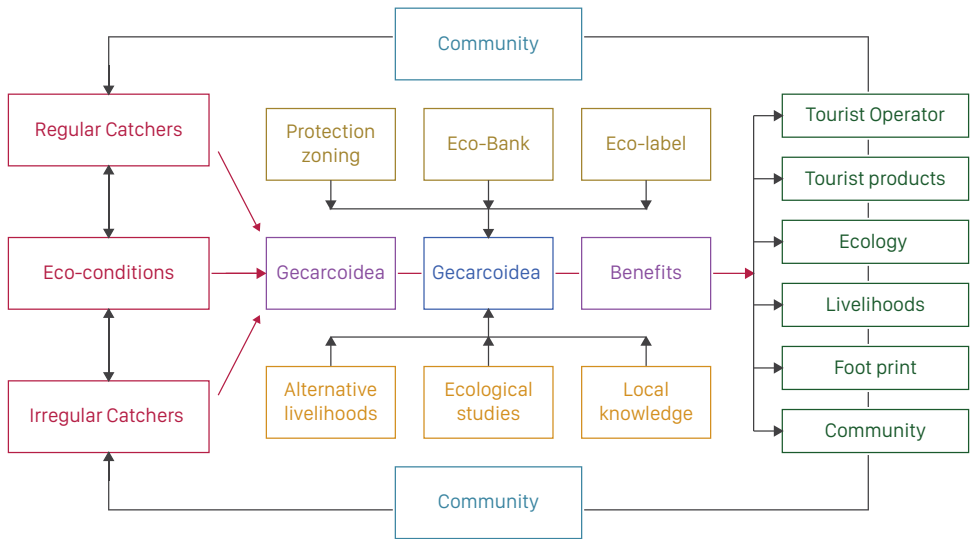
## MAIN ACTIVITIES AND INITIATIVES

1. To establish a working group and provide training measures to work together with local communities to improve the conservation of the Cham Islands' *G.lalandii*; and develop the planning and regulations of rational natural resource management, protection and utilization.
2. To organize workshops involving local communities and stakeholders in the discussion of the planning and regulations of sustainable management, protection and use of the Cham Islands' *G.lalandii*.
3. To establish a group of the Cham Islands' *G.lalandii* guards and catchers and develop its operational rules and a community based monitoring programme to monitor sustainable harvest of the Cham Islands' *G.lalandii*, develop a programme for labeling its products; and develop a programme for the Cham Island's *G.lalandii* ecosystem rehabilitation.
4. To design and produce communication materials; and provide training for, and disseminate information among local communities and stakeholders.
5. To establish monitoring teams including members from the Cham Islands' *G.lalandii* group and work together with the marine conservation patrol team.
6. To collaborate with students and volunteers in carrying out the Cham Island's *G.lalandii* research projects; develop the Cham Islands' *G.lalandii* research programmes through fellowship and traineeship. Design a model for the Cham Islands' *G. lalandii* protection and harvest to be adapted to the Cham Islands.
7. To help local communities to develop a small rough model to pilot the culture of the Cham Islands' *G.lalandii* crabs; monitor their growth in the model, collect and analyze data and make reports.
8. To discuss alternative livelihoods with local communities and reach agreement with them; Design relevant activities and estimate costs of models; credits, result monitoring & evaluation; and consolidation of lessons learnt.

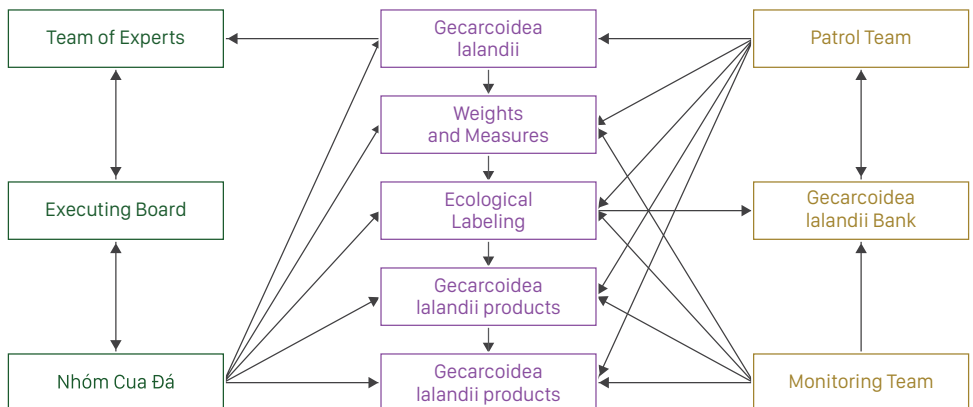


## OUTSTANDING INITIATIVES

A theoretical model of the Cham Island's *G. lalandii* Co-management was developed with the message that: **"Species *Gecarcoidea lalandii* must be protected for the benefit of the whole community and the conservation of *Gecarcoidea lalandii* is the responsibility of the entire community"**



**Fig 1: Model of Sharing of Benefits from *Gecarcoidea lalandii* Resources in the Cham Island**



**Fig. 2: The Cham Island *Gecarcoidea lalandii* Harvestin Process**

## RESULTS AND IMPACTS

### 01.

#### Impact of Biodiversity

#### CONSERVATION OF NATURAL ECOSYSTEMS

- The Cham Island's *G. lalandii* is a species that prefers to live in a wet habitat with rich insect and other diverse flora. The sound conservation and harvest of the Cham Islands' *G. lalandii* has contributed to mitigating and adapting to climate change. The Cham Islands' *G. lalandii* conservation activities have enabled local communities to reduce the pressure of marine resource exploitation activities affecting local coral reefs and sea grass grounds – these ecosystems that contribute to reduction in greenhouse gas emissions (through carbon sequestration).
- The community group's activities have strengthened the protection of the Cham Islands' natural forests through their pilot culture of *G. lalandii* crabs at the community level and as the result of the pilot, local people are more aware of the necessity of natural forest protection. Every year, the community group naturally conserves about 75% of the total number of *G. lalandii* individuals through limiting the catching of *G. lalandii* crabs by their size, quantity, season and region.
- The Cham Islands' community group for sustainable *G. lalandii* crab conservation and harvest has managed the harvest by employing an ecological labeling tool. If a crab is harvested in accordance with rules, it will be ecologically labeled and legally sold on the market. Those crabs without ecological labels will be confiscated and returned to forest. The group's members meet in the end of every month to discuss and review their activities and define the





quantity of crabs that are allowed to be harvested and the prices for sale for the next month. The *G. lalandii* crabs not carrying eggs are allowed to be harvested according to a fixed quantity, season, size (the width of its shell is not less than 7cm). In three years from 2013 to 2015, there have been 14,486 *G. lalandii* crabs including 9,890 males and 4,596 females harvested and ecologically labeled by the group.

## 02.

### Socio-economic Impacts

#### SOCIAL IMPACTS

- The sound *G. lalandii* crab conservation and harvest in the Cham Islands have contributed to raising awareness of actions among local communities to protect the environment and wildlife at local and national levels.
- The initiative of sustainable *G. lalandii* crab conservation and harvest in the Cham Island represents a proactive approach to protecting the community's right to access to natural resources. The *G. lalandii* crabs is a common asset, and with the model this value is realised and supported. The Cham Island's *G. lalandii* crab has been well protected and conserved through cooperative conservation and harvest involving various key stakeholders including authorities, businesses, conservationists / scientists and local people.
- For duration of three years, the project involved the participation of local communities and authorities to develop a theoretical framework for mobilizing local people in the protection and sustainable harvest of the Cham Islands' *G. lalandii* crab. Also the project developed a community based model for the Cham Island *G. lalandii* crab protection and harvest through various activities including surveys, communications, workshops and a contest for designing the logo of the *G. lalandii* crab eco-label and a test on its usage, establishment of the community group, development of its convention and provision of equipment and tools for the group.

#### ECONOMIC IMPACTS

- The Cham Islands' *G. lalandii* crab model considers the *G. lalandii* crab group to be its focus. Benefits gained by the group from the harvest of *G. lalandii* crabs are shared with those gained from tourist services. The *G. lalandii* crab is a tourist product that brings in benefits not only for the *G. lalandii* crab group but also for other community groups in the Cham Island.

- The community based model for sustainable the *G. lalandii* crab conservation and harvest has significantly contributed to the conservation of the species in the Cham Island. This is clearly indicated by the fact that 75% of *G. lalandii* crab populations well protected in the island and the income of the group members (43 members) has increased as the price per kilogram of the crab. The price per kilogram has risen from 200,000 VND prior to the establishment of the group to VND 500,000 in 2013, VND 700,000 in 2014 and 850,000 VND in 2015.
- The *G. lalandii* crabs are harvested from the first of March to the end of July annually with the maximum allowable quantity of 10,000 crabs per year, and the average weight of four to five crabs per kilogram. A fee for eco-labeling charges 40,000 VND for each kilogram of crabs. This revenue will be used by the community group to cover costs of eco-label printing, its management, payment of natural resource tax and other activities.



## ECO-TOURISM DEVELOPMENT

- The initiative of “**community group for sustainable *G. lalandii* crab conservation and harvest in the Cham Island**” has contributed to local eco-tourism development. The eco-labeling of *G. lalandii* crabs demonstrates the great effort that local community has put into biodiversity conservation and environmental protection. The *G. lalandii* crabs with eco-labels are a tourist product in the Cham Island. Tourists visiting the Cham Island not only enjoy the local natural land/seascapes, culture and so on, but are also being made aware of the local people’s sustainable management of the *G. lalandii* crabs. Developed eco-tourism has created opportunities for improving local people’s livelihoods and the quality of their lives. In 2013 there were more than 485 people from 169 households among a total number of 560 households, directly involved in eco-tourism activities.



- This model has been and is being learnt and replicated by various marine protected areas in other islands such as Con Co, Ly Son and Phu Quoc.
- Due to local eco-tourism development, the Cham Islands' *G. lalandii* species has been well protected and its commercial value has been increased to better reflect the value of this precious resource and the local community's efforts in undertaking the eco-labeling initiative.

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## 03.

### Policy Impacts

Upon the completion of the project (Dec.31, 2012), Tan Hiep Communal PC of Hoi An City issued a decision on the establishment of a community group for sustainable *G. lalandii* crab protection and harvest in the Cham Islands on February 2013, and approved its *G. lalandii* crab management regulations and other relevant legal documents in order to ensure all the legalities of the group's operation in the locality as requested by the project. Since then, the group has assumed the responsibility to work together with the local authority and stakeholders to effectively protect the Cham Islands' *G. lalandii* crabs.

The group has now managed the harvest of *G. lalandii* crabs on the island by employing the eco-labeling tool. *G. lalandii* crabs that are harvested according to the regulations should be eco-labeled and legally traded on the local market while those crabs without eco-labels are confiscated and returned to forest.

Changes in social resources provided for eco-tourism sector in the Cham Islands are demonstrated by the development, approval and maintenance of community' institutions from October 2003 to October 2013. These institutions have been as the result of common consent to eco-tourism and tourism services among community partners in the island. And the state sector has the responsibility for developing and approving community's commitments to serve as a legal basis to support conservation and eco-tourism development activities in the island.

The Cham Islands' community model for sustainable *G. lalandii* crab conservation and harvest is now being maintained through coordination between four local partners including authorities, businesses, conservationists/scientists and local people.

The model has enabled improved effectiveness in the implementation of local environmental and natural resources policies.

## 04.

### The Sustainability of the Project

Within three years of its operation after the end of the project (from 2013 to 2015), the initiative assisted local community in conserving more than 75% of the total crab population in the Cham Island while the crab catchers' income continued increasing. The local crab catchers contributed to the local economy by paying harvest fees and tourist numbers have remained high.

In 2014, the Cham Island's community group for sustainable *G. lalandii* crab conservation and harvest under the supervision and advice of the Tan Hiep Communal Association of Farmers, received financial assistance from the program on Mangroves For Future (MFF) of IUCN to further consolidate the linkage of the four local partners (Authorities, Businesses, Conservationists/Scientist and Local People) based on responsibilities and benefits in order to further enhance the group's capacity to protect and sustainably harvest *G. lalandii* crabs.

Much research of the *G. lalandii* crabs and models for the Cham Islands' *G.lalandii* crab conservation and harvest has been conducted and developed, and plenty of these studies have been successfully completed by students from various universities (two in Hanoi, two in Hue, and two in Da Nang). These studies have contributed real results to the local model, including: results gained from ecological research, co-management, benefit conflicts and community awareness.

Nowadays, the project's outputs including the model for sustainable *G. Lalandii* crab conservation and harvest and the *G. Lalandii* crab with eco-label are of great pride of the locality. Interesting exhibits on the island's conservation and environmental protection are frequently displayed at tourism and environment protection fairs and/or exhibitions organized at local, regional and central levels. Together with other models such as "solid waste sorting at source" and "says no to nylon bags", the model for the Cham Islands' *G. Lalandii* crab eco-labeling is highly regarded by local people, and has earned a positive reputation nationwide.



## Lessons learn

1. Common consent reached by all the stakeholders on sustainable *G. lalandii* crab conservation and harvest in the Cham Islands is crucial and a major determinant of the success of the development and employment of the model.
2. Conflicts often arise within the community over local *G.lalandii* crab management. These conflict are on one hand, is a driving force to promote better management processes and is on the other hand, a factor to putting pressure on natural resource conservation and sustainable development. Thus, these conflicts in *G. lalandii* crab resource management need further study to find out appropriate solutions that favor community benefits and sustainable development.
3. The *G. lalandii* crab management needs to take the approach of integrated natural resource management, and sharing of benefits among stakeholders in the Cham Island and Hoi An City.
4. The Cham Island's *G. Lalandii* species needs further study of its genetic diversity conservation as a flagship species of the island and Hoi An City.

## KEY ACTORS

- Farmers' Association of Tan Hiep Commune, Hoi An City, Quang Nam Province
- Tan Hiep Communal PC, Hoi An City, Quang Nam Province
- Cham Island MPA
- Local Truism Businesses and Services

## SOURCES OF DATA & INFORMATION

- Technical papers, seminar/workshop reports and photos of field activities provided by Tan Hiep Communal Association of Farmers and the Cham Island's Community Group for Sustainable *G. Lalandii* crab Conservation and Harvest.
- Website of the Cham Island MPA and the Cham Island – Hoi An Biosphere Reserve [www.culaochamppa.com.vn](http://www.culaochamppa.com.vn)
- Project's reports.



## THE GLOBAL ENVIRONMENT FACILITY SMALL GRANTS PROGRAMME (GEF SGP)

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