SMALL-SCALE FISHERIES
MULTIFUNCTIONALITY
BEST PRACTICES

I part
FISHINMED
Mediterranean Network of sustainable small-scale fishing communities

European Union
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Project funded under the first call for proposals

Priority 1. Promotion of socio-economic development and enhancement of territories

Measure 1.2. Strengthening economic clusters creating synergies among potentials of the Mediterranean Sea Basin countries
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## SMALL SCALE FISHERIES MULTI-FUNCTIONALITY
### BEST-PRACTICES

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**GUIDELINES DEFINITION - DRIVING FACTORS:**

**SELECTION OF THE BEST PRACTICES TAILORED ON THE MEDITERRANEAN COUNTRIES**

**CONCLUSIONS**

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**SMALL SCALE FISHERIES MULTI-FUNCTIONALITY**

**BEST-PRACTICES**
PREFACE

Fishinmed is an ENPI co-financed project aiming at establishing a Mediterranean network (euro-Mediterranean observatory) joining public and private institutions with a view to define common strategies for the social and economic development of small fishing communities and set up a local technical support system aimed at favoring the multi-activity and increasing the income of the operators involved.

In a geographical area like the Mediterranean region, where the countries share the same sea and are progressively strengthening the commercial and socio-cultural relationships, it is essential to set up common systems of sustainable resource management.

In such a context, a common development strategy shall be devised and supported by the definition and transfer of knowledge and of the best practices.

The multi-functionality can be a winning approach to face the current Mediterranean situation which demands flexible and innovative ways to adapt to the global market challenges and the growing attention to the marine environment.

This document collects an international review of multi-functionality best practices concerning the small-scale fisheries sector. Moreover taking into account the specificity of the Mediterranean basin, a further selection of best practices which takes also into account the regulatory framework, is provided. This could be an useful tool for those stakeholders who will be interested to replicate the successful experiences undertaken in other countries and context.
INTRODUCTION TO SMALL-SCALE FISHERIES MULTIFUNCTIONALITY

SMALL SCALE FISHERIES - GENERAL OVERVIEW

The term ‘small-scale fisheries’ were adopted from the definition of FAO(2004), ‘small-scale fisheries can be broadly characterized as a dynamic and evolving sector employing labour intensive harvesting, processing and distribution technologies to exploit marine and inland water fisheries resources. The activities of this sub-sector, conducted full-time or part-time or just seasonally, are often targeted on supplying fish and fisheries products to local and domestic markets, and for subsistence consumption. Export-oriented production, however, list of Terminology definition has increased in many small-scale fisheries during the last one to two decades because of greater market integration and globalization. While typically men are engaged in fishing and women in fish processing and marketing, women are also known to engage in near shore harvesting activities and men are known to engage in fish marketing and distribution. Other ancillary activities such as net-making, boat-building, engine repair and maintenance, etc, can provide additional fishery-related employment and income opportunities in marine and inland fishing communities. Small-scale fisheries operate at widely differing organizational levels ranging from self-employed single operators through informal micro-enterprises to formal sector business. This sub-sector, therefore, is not homogenous within and across countries and regions and attention to this fact is warranted when formulating strategies and policies for enhancing its contribution to food security and poverty alleviation’.

SMALL-SCALE FISHERY MULTIFUNCTIONALITY

Multi-functionality in the context of the small scale fisheries sector can respond to the declining profitability and falling employment in the fishery sector and the possibility of diversification is relevant for many types of areas, offering fishermen, their families and other members of the fisheries community a possibility to create
additional sources of employment and income, while also providing services that help fisheries areas remain viable places to live, fish and do business.

Multi-functionality is therefore to be considered an integrative activity and in no way a substitution of the main fishery activity.

Multi-functionality can be interpreted in many different ways.

1. Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector;

2. Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc);

3. Pluri-activity, whereby fishermen and their families continue to obtain income from traditional fishing, whilst also carry out integrative activities, such as fishing tourism or restaurants and catering;

4. Broader diversification of the fisheries area into sectors not directly related to fishing, such as environmental, research, social services, renewable energies or other emerging sectors.

ROLE AND DIRECTION OF THE FISHERY MULTIFUNCTIONALITY

In the context of fisheries, diversification is promoted as a means for reducing dependence on the resource, making restrictive management easier and less controversial for those affected by such measures.

This often interprets diversification as job-integration rather than stopping the fishing activities to an income-portfolio. With the tendency for increasing pressure on fishery resources, it becomes ever more necessary to address in a coherent way diversification and its links with both poverty reduction and responsible fisheries.
General approach for the fisheries management schemes have been found to not be tailored to the necessary differentiation requirements and to fail to cater for the specific needs of fishing communities.

The lack of attention – or misplaced attention through maladapted policies – that the sector and the communities it supports have received so far can be traced to a number of misconceptions stemming from “the old paradigm on poverty in small-scale fisheries”

These assumptions include that:

- Fishing is an ingrained activity in fishing communities and fishermen will not leave fishing for cultural reasons.
- Fishermen are specialized and carry out fishing on a professional basis only.
- Fishing is a last resort activity and fishermen are unable to diversify into other income generating activities.
- Fisheries development and development of fishing communities is not possible without increasing fishing effort.
- Livelihood diversification in fishing communities cannot go hand in hand with a sustainable natural resources management that encompasses both sustainable fisheries management and poverty alleviation.

Because of its linkages with resource management, looking at diversification in fishing communities involves re-exploring the issue from a different perspective than its current interpretation and most widely encountered application to agricultural (land-based)-livelihoods. By doing so, this overview shall also provide a compilation and review of available information related to diversification in fishing communities and point out the complexity of the issue of diversification in these communities but also the opportunities.

The geographical scope of the paper is global, guided by the availability of best practices, though reference to the International experiences of the Sustainable Fisheries diversification activities.
METHODOLOGY

The purpose of this overview is to collect a wide range of diversification best practices at international level to provide success stories to be replied in the Southern Mediterranean Countries. The first step of the analysis was a wide review of the global bibliography which produced a first selection of the activities related to the diversification offering fishermen, their families and other members of the fisheries community a possibility to create additional sources of employment and income in the small scale fisheries sector.

The overview includes 44 best practices that have been divided into geographical macro area (Europe, Asia, Oceania, America, Africa).

The specific activities which are reported in the surveys are grouped in 4 macro multi-functionality domains following the exact definition provided in the paragraph 2 “SMALL-SCALE FISHERY MULTIFUNCTIONALITY DEFINITION”.

The best practices must be considered as models for the direct involvement of the small-scale fishery stakeholders and the possible impacts that the diversification activities implementation generate.

A deep analysis of the best practices has been carried out with the aim to point out the most relevant ones relating to the Southern Mediterranean contexts. A selection has been provided in this report which will be the basis for the legislative framework analysis.
INTERNATIONAL EXPERIENCES – MAIN FEATURES

The main common elements which are shared by all the selected success stories are:

- The direct involvement of the small scale fishermen and the community (women, stakeholders, cooperatives, associations, etc.) regardless the typology of the diversification activities carried out. In most cases the diversification processes drives the livelihoods to a real improvement of their income and conditions.

- Financial and technical support seems to be essential to start any diversification process. It is important to underline that rarely the diversification paths has been set up without any financial and or technical contributions.

- Generally the nature of fishermen communities is unwilling to changes towards new activities as their cultural heritage is conservative and traditionally oriented. Not surprisingly the major changes have been observed in well developed countries (Northern Europe) were the mentality is open and willing to challenge the new income opportunities.

- The diversification processes worldwide are carried out throughout the entire value chain including capture, processing, trade, etc., both for marine and inland water fisheries resources.

According to a first analysis each geographical macro area seems to be more oriented towards a specific kind of diversifications. In Asia and Africa the multi-functionality activities are more related to the food security and poverty alleviation often with the involvement of the entire communities including and valorizing the women contributions especially regarding the processing and the trade strategies (added by value products).

In America, particularly in Central-South America multi-functionality strategies are demanded to fishery cooperative and organizations that are more able to support
fishermen in new marketing strategies, added value for their products and involvement in the fishery management plans.

In **Europe** diversification is well developed particularly in Northern Regions regarding cooperation with scientific research, awareness programs, tourism, and environmental services.

Finally in **Oceania** the small scale fisheries diversification is mainly focused on the fisheries management, in conserving marine resources, biodiversity protection according to the indication of local institution. This approach is positive in two ways, as generate economic benefit through management strategies (fees for access to the protected sites) and increasing significantly the abundance of marine and coastal resources.
BEST PRACTICES DATABASE
AFRICA 1 – GAMBIA

OYSTER WOMEN ASSOCIATION

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc) and fisheries management
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

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<th>Country</th>
<th>Gambia</th>
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<td>Location/Region</td>
<td>Greater Banjul area</td>
</tr>
<tr>
<td>Year</td>
<td>2007</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP) and other financial and institutional partners</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen and women</td>
</tr>
<tr>
<td>Still running?</td>
<td>Yes ☑ No</td>
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BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

TRY Oyster Women’s Association brings together 500 female oyster harvesters from 15 villages in the Greater Banjul area. Harvesters are grouped into cooperatives where they exchange sustainable oyster harvesting techniques and receive training in small-scale enterprise development. These cooperatives have ensured access to appropriate equipment and technologies, set higher standards for working and sanitary conditions, and helped to coordinate the processing, packaging and marketing of oysters.

A primary activity of the association has been working with its growing membership of oyster and cockle harvesters to improve the quality of collected products, harvesting methods, processing and storage, and market supply-chains. The objective is to diversify the market for locally harvested oyster and cockle products to ensure consistent demand and a higher premium for local
women. Ensuring that women receive higher prices for their catch is intended not only as an income-generation exercise, but also to incentivize harvesting methods that do not degrade mangrove beds or overexploit a fragile ecosystem.

One challenge previously facing women harvesters was the short shelf life of their products and the effect the prospect of unsold, spoiled oysters and cockles had on their bargaining power and asking prices. To address this issue, the association is working with harvesters on value-added secondary processing techniques that will improve the shelf life of their products, including storing oysters and cockles in oil, freezing them, and smoking them. All of these techniques allow the women to sell their products for a higher premium, and, in some cases, up to three months after the end of the oyster season.

The cooperatives have also mobilized to reforest local mangroves and educate the local population on the benefits of environmentally responsible resource management. One of TRY Association’s biggest accomplishments to date has been its leadership in the development and implementation of the Oyster and Cockle Co-Management Plan for the Tanbi Special Management Area, synonymous with the Tanbi Wetlands National Park.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

By organizing the women oyster harvesters into a group, and thereby giving them a collective identity and platform for representation, TRY has enabled its members to become involved in community law making. In January 2012, the Minister of Fisheries of The Gambia signed into law the Co-Management Plan for the Cockle and Oyster Fishery, declaring the Tanbi Wetlands National Park a “Special Management Area” for the purpose of community-based management in the interest of conservation, management and sustainable utilization of fisheries resources. The law gave TRY Oyster Women's Association exclusive rights to the cockles and oyster resources of certain areas within the wetlands complex.

Is it a success story?  X Yes ☐No
MAIN KEY FACTORS

The BP for the implementation of this project carried out in 15 villages in the Greater Banjul area, mainly focus on the following issues:

- Oyster harvesters are grouped into cooperatives;
- These cooperatives have ensured access to appropriate equipment and technologies;
- They set higher standards for working and sanitary conditions creating a high product quality;
- The women cooperatives diversified the oyster market with two benefits: 1. income-generation 2. Environmental conservation (the cooperatives incentivize harvesting methods that do not degrade mangrove beds or overexploit a fragile ecosystem).
AFRICA 2 – COMORS

MOHELI MARINE PARK

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc) and fisheries management
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

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<th>Comors, Africa</th>
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<td>Comoros island of Mohéli</td>
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<td>Year</td>
<td>1998-2005</td>
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<td>Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations)</td>
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<td>Actors involved in the implementation</td>
<td>Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP) and other financial and institutional partners</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen and women</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
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BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Comoros is an archipelago island nation in the Indian Ocean, located off the eastern coast of Africa, between Madagascar and northeastern Mozambique. The country consists of the four islands in the volcanic Comoros archipelago: Grande Comore, Mohéli, Anjouan, and Mayotte. Between 1998 and 2005, the Comoros island of Mohéli was the setting for an initiative that brought together international organizations and local communities in creating a co-managed marine protected area. The idea was to conserve 404 square kilometres of ocean, home to key marine species such as the coelacanth, humpback whales, dugong and dolphin, while benefiting local livelihoods through ecotourism.

The result, the Mohéli Marine Park, is an ongoing experiment in setting the right conditions for co-managed marine management. Benefit-sharing arrangements and enforcement of harvesting
regulations are key issues that have affected the success of the initiative in recent years; early results in increasing live coral cover on the park’s reefs and increases in tourism numbers, however, indicate that the park may yet be able to deliver on its promise.

Sustainable harvesting regulations on fishing allowed local fishermen to increase catch sizes. Between 1998 and 2002, catch size nearly doubled from 160kg per month to over 300kg, benefitting 250 fishermen working in the park. With increased revenues from higher fish catches, villagers were able to buy motor boats for use in fishing, reserve surveillance, and tourism activities.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Despite the initial successes of the Mohéli Marine Park, it is currently operating at a vastly reduced capacity. The study identified six main contributing factors to the park’s diminished effectiveness. These were: the inequitable distribution of benefits; the lack of sustainable livelihoods options; the failure to involve women in awareness-raising and leadership roles; the challenges to effective monitoring and enforcement; the number of environmental threats to biodiversity that remained; and the lack of sustainability that undermined the management of the project.

Would you consider it a success story? X Yes (partially) □ No
Turtle in Comoros, Mohéli Marine Park, Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP)

MAIN KEY FACTORS

The BP for the implementation of this project carried out in Comoros (an archipelago island nation), mainly focus on the following issues:

- Local community involvement;
- Creating a co-managed marine protected area;
- Diversification in eco-tourism activities;
- Sustainable harvesting regulations on fishing;
- The fishermen benefit the fisheries management as fish catch size increase rapidly
AFRICA 3 – SENEGAL

THE FISHERS’ ASSOCIATION OF THE RURAL COMMUNITY OF MANGAGOULOOK MANAGES A COMMUNITY CONSERVED AREA

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc) and fisheries management
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

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<td>Actors involved in the implementation</td>
<td>The Fishers’ Association of the Rural Community of Mangagoulack, Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP) and other financial and institutional partners</td>
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<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen and women</td>
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<tr>
<td>Still running?</td>
<td>Yes ☑ No ☐</td>
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BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The Fishers’ Association of the Rural Community of Mangagoulack – established by fishers from eight villages in central Casamance – manages a community conserved area with the aim of improving local incomes, strengthening food security and sovereignty, and protecting biodiversity. The association was started in response to declining fish catches and in recognition of the need for a community-driven resource management plan. The tropical estuary ecosystem is now managed through a zoning system based on the traditional zoning practice.

Once a month, fishers work on behalf of the association, dedicating the sale of their catch towards conservation and surveillance needs. Monitoring shows a 100 per cent increase in fish abundance and significant improvements in marine biodiversity since the initiative began. Women in the
community have formed an association of shellfish collectors, creating a similar set of rules for management and extraction. The larger association was the first of its kind in Senegal, unique in engaging local and regional governments to legally recognize community fishing rights.

**MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES**

The primary impetus behind the APCRM initiative was to restore the food security of Mangagoulack and neighboring communities, after it was threatened by declining fish stocks and the incursion of seawater into rice fields. This motive is reflected in Kawawana’s management plan, which is designed to ensure that the needs of local communities are met. Each village has exclusive access to a village bolong which may be fished only for local consumption and local markets. All fish caught within these village bolongs must be consumed locally. Local diets and incomes are improving as a result, and the regulations to allow fish stocks to regenerate have resulted in a doubling of fish catches. The quality of fish caught is also getting better, translating into important dietary improvements in communities where fish is the primary source of protein. The reaction of local people is that ‘the good life is back’, a claim backed up by monitoring results.

Would you consider it a success story?  X Yes  ☐ No
MAIN KEY FACTORS

Fishermen belonging to eight villages in central Casamance manage a community conserved area with the aim to improve local income, strengthening food security and protecting biodiversity.

Best practices emerging from the establishment of the Association:

- The Fishers’ Association of the Rural Community of Mangagoulack faced the declining fish catches establishing a community-driven resource management plan
- The association is directly involved in conservation and surveillance activities
- The association based the fish stocks management in a “zoning system”
- The larger association was the first of its kind in Senegal, unique in engaging local and regional governments to legally recognize community fishing rights
- Monitoring demonstrated a Fish stock regeneration
- The example has been followed by the local women that associate to manage shellfish collection
AMERICA 1 – MEXICO

ARTISANAL FISHERMEN AND THE MANAGEMENT OF THE TAMIAHUA LAGOON

Fishery Management (involvement/promotion of management plan)
The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

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<td>Actors involved in the implementation</td>
<td>STUDY AUTHOR: FAO AND ROLAND WIEFELS (INFOPESCA)</td>
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<td>Direct Beneficiaries</td>
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<td>X Yes  □ No</td>
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</table>

**BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY**

The case of Tamiahua fishermen cooperative is illustrative of how artisanal fishermen can organize their community. The town of Tamiahua is located at the southern mouth of the Tamiahua lagoon which has an extension of 88.000 hectares (around 100 Km long and 25 Km large). This lagoon has a double use: tourism and fisheries. Catches in the lagoon are allowed through concessions given to local fishermen organizations, having in mind the protection of habitats and the conservation of the resources. These fishermen organizations have agreed to Tamiahua use only selective fishing gears which can secure the sustainability of the fishing activity and restrain the ecological impact of human activities. Main species caught in the lagoon are oysters, shrimps, and some white fishes. There are 2.562 registered fishermen, 343 of which form the Cooperative “Fishermen of Tamiahua”. This cooperative is legally established as a S.C. de R.L. de C.V., which means Cooperative Society, with Limited Responsibility and Variable Capital. It is a Social Organization, one of the biggest of the State of Vera Cruz. It was established in 1972 with 343 members and this
number remains the same today, 33 years later, with however 20 aspirants to become members of the cooperative. The cooperative counts with 20 years renewable concessions for the extraction or catch and the processing of oysters and shrimps, as well as authorizations for the catches of blue crabs and fin fishes (seabreams, snooks, mullets, sea trouts…) inside as well as outside the lagoon. Fishermen bring their production to the cooperative facilities in order to be sold locally, or to be sent to other towns of the region and to Mexico City. The catches of Tamiahua have evolved differently according to the species during the last 10 years, including 3 years when crab catches were banned The cooperative regroups the productions of its members and sells them, after having selected them and lightly processed some species. The preparation of the final product including the packaging and eventually the peeling of shrimp is done by women of the community. Actually, women do much more than simply processing fish: they are perceived by the entire community as the real managers of the earnings made by their fishermen husbands furthermore to keeping home and family. Oysters are sold in Mexico City and Guadalajara and shrimps mainly in Mexico City and Tampico. Crabs and fin fish are sold locally. The Cooperative uses to sell most of its products to local wholesalers because it still lacks the means to sell it all by itself to retailers and consumers outside the town. The local wholesalers have better possibilities than the Cooperative to store and transport big quantities of products to the markets. Actually, the Cooperative has one truck to transport, but it is far not sufficient to transport the whole production. Similarly, the cooperative does not have enough space to display products for local retail. It works therefore with the 20 independent local fish stores of Tamiahua which take charge of selling the products locally. There is no supermarket in town and the closest one is in Tuxpan, 40 Km from Tamiahua.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

During its 33 years of life, the Cooperative has managed to survive, to benefit directly its members and indirectly the whole community of Tamiahua. This is of course due to the traditional support given by the Mexican government to social organizations, and it is also due to the seriousness of the cooperative management during all those years. The monitoring of the present situation, the identification of problems and opportunities and the development of strategic plans make the cooperative look like any professionally managed medium sized enterprise in the fishery sector. The main difference with private companies, however, is the fact that the cooperative is owned by its members who effectively work and produce a common wealth from a common resource.

Would you consider it a success story?  X Yes  □ No
MAIN KEY FACTORS

The BP for the implementation of this project carried out in Tamiahua lagoon, mainly focus on the following issues:

- Local community involvement;
- Sustainability of the fishing activity utilizing selective fishing gears;
- Fishermen are organized in a Cooperative “Fishermen of Tamiahua”;
- Sustainable harvesting regulations on fishing, the cooperative counts renewable concessions for the extraction or catch and the processing of oysters and shrimps, as well as authorizations for the catches of blue crabs and fin fishes inside as well as outside the lagoon;
- Women involvement in the fisheries activities (processing and administration)
AMERICA 2 – PERU

NATIONAL PARK OF PARACAS AND THE MANAGEMENT OF THE ARTISANAL FISHERIES ACTIVITIES

Fishery Management (involvement/promotion of management plan) and tourism
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Peru</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>El Chaco</td>
</tr>
<tr>
<td>Year</td>
<td>2005</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Tourism (fishing-tourism, recreational/educational areas or activities) Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations)</td>
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<tr>
<td>Actors involved in the implementation</td>
<td>STUDY AUTHOR: FAO AND ROLAND WIEFELS (INFOPESCA)</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
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BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Artisanal fishermen in Peru are encouraged by the National Direction of Artisanal Fisheries (from the Vice-Ministry of Fisheries), to join into associations, unions or companies, generally called social organizations. There are currently 108 of them working in Peru. The fishermen community of El Chaco, located in the district of Paracas, 18 Km south of the city of Pisco and 260 Km south of Lima, illustrates well the variety of Peruvian artisanal fisheries. In this desert area crossed by the Southern Pan American highway, the first settlers appeared in the 1960’s, and developed fishing activities as a mean of subsistence. The fishermen community of El Chaco is close neighbour to the town of Paracas, in an important tourism zone based on the National Park of Paracas, which was created in 1975 as a reserve for biodiversity and ecosystem as well as for archaeology (pre-Incan relics). It is the only marine protected zone in Peru, and a field of research for many national and
international NGOs like Pronaturaleza, ACOREMA, The Nature Conservancy or WWF. These NGOs have also implemented training for the fishermen as for resource management. This coast receives the Humboldt current which develops a rich primary marine life.

It also hosts one of the biggest Peruvian natural scallops’ banks, known as “La Pampa”. According to the Vice ministry of Fisheries, the community of El Chaco counts 190 fishermen, 165 of which embarked on 46 boats. The other 25 fishermen would in fact be stevedores working on the wharf. The embarked fishermen operate with traditional gears as gillnets, purse seine nets and longlines. Many of them are also divers who operate on the scallops banks.

Scallops (together with some abalone, mussels and top shell) are harvested from their natural banks by divers, most of them working in apnoea. These banks are highly benefited by the El Niño phenomena which favours the boom of scallops’ production. When the phenomenon does not appear, natural banks grow deeper, outside the reach of divers. This encourages them to develop aquaculture. Based on natural seed extraction, this aquaculture activity suspends the scallops on lines hanging from floating frames. For being natural and harmless to environment, this activity is allowed even inside the natural park. The third activity of the community is the harvesting of algae, mainly edible Rhodophytes.

The pelagic species (mostly anchovies) are sold to processing plants from the Pisco region where they are salted and marinated. The boat owner has two possibilities for this sale: he can sell his anchovy catches to the plant, and other species to general wholesalers or, more seldom, he can lease the boat and its crew to the plant for a trip. In this case the plant assumes all operating costs, rewards the crew and keeps the whole production.

The other species are bought by wholesalers on the wharf and transported to Pisco and to Lima where they are sold to other wholesalers or directly to retailers. Prices can climb hard during this meantime. Some supermarket chains, equipped with refrigerated trucks sometimes come from Lima and buy directly on the wharf.

**MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES**

The community of El Chaco is constituted by fishermen families but still lacks a formal association or cooperative. In fact, they are simply individual fishermen living in the same area. Only the divers are somewhat organized, having joined the Shellfish Harvesters Association from Pisco which counts 65 members from both communities. They live in a marine protected area, in which they have received some training regarding environment protection given by NGOs. This highly natural
and also cultural area receives many tourists, mainly in summer. Paracas is promoted in all tours sets offered to tourists visiting Peru. The small community of less than 200 active fishermen has shown a decreasing tendency, possibly due to the development of tourism which offers other working possibilities. It is not sure that the artisanal fishermen community will be able to survive as such for long, without organizing itself and without a stronger governmental support, be it from the municipality, from the province or from the Direction of Artisanal Fisheries of the Vice ministry of Fisheries.

El Chaco illustrates the course of a great number of artisanal fishermen communities which have still been unable to take advantage from tourism to enlarge their fisheries activities with seafood shops and restaurants, for instance. The main chance of El Chaco is the fact that the area is classified as natural park. The environment-friendly activities of the fishermen, including scallop aquaculture, associated to a better control of the quality of their catches (especially by using ice on board) and also better sales could result in a revitalization of the community.

Would you consider it a success story? □ Yes  X No

El Chaco, Peru
MAIN KEY FACTORS

The BP for the implementation of this project carried out in fishermen community of El Chaco, mainly focus on the following issues:

- Fishermen live in a marine protected area;
-Fishermen received “ecosystem environment protection” training;
- The fishermen community of El Chaco is close neighbor to the town of Paracas, an important tourism zone based on the National Park of Paracas, (a reserve for biodiversity and ecosystem as well as for archaeology);
- Environment-friendly activities of the fishermen
AMERICA 3 – BRAZIL

WOMEN PROCESSING TILAPIA

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Brazil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Betume village, North-eastern State of Sergipe</td>
</tr>
<tr>
<td>Year</td>
<td>2005</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>STUDY AUTHOR: FAO AND ROLAND WIEFELS (INFOPESCA)</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen and women</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Organized by the Brazilian Navy at the end of 1st World War, the Fishermen Colonies in Brazil are currently 750, structured in 23 federations, almost 1 for each of the 24 federal States of the country, and count 326,696 fishermen. As regards to production, artisanal fishermen are currently responsible for two thirds (66%) of the total country catches of 712,143 MT in 2003. Most of the fishermen colonies are in fact associations, not cooperatives.

The case of the Women Association of Betume, in the North-eastern State of Sergipe is illustrative of the development of new associative organizations besides production, be it from fishermen or fish farmers. This association is located in the village of Betume with 900 inhabitants, in the municipality of Neópolis. Villagers normally live from rice culture and cattle. Betume is at the border of the low São Francisco river and the region was chosen at the beginning of the 90’s by the Federal government to implement aquaculture of tilapia and other fresh water fish (mainly
Colassomas). Many rice growers of the low São Francisco region have reconverted themselves into small fish farmers, producing each around 20 MT to 30 MT per year. These fish farmers are grouped in associations or cooperatives. The main problem of these cooperatives was that they had no way to process the fish neither to sell it further than locally.

In 1997, a group of 14 women, wives and daughters of local Betume’s farmers, joined efforts and established the Women Association of Betume having in mind to add value to the farmed fish, mainly by filleting it. With the help of the Federal organization CODEVASF, they managed to build a small processing workshop, equipped with stainless steel working tables, working tools as well as water and electricity supply. With the help of an international cooperation project, funded by the Common Fund for Commodities and implemented by INFOPESCA, they installed a small ice plant (3MT/day) in order to keep the raw material as well as the processed product in the best possible conservation conditions. The surplus of the ice production is sold to local fishermen and fish farmers, as well as to restaurants. These ice sales allow the association to increase its working capital for the purchase of fish to be processed, as the Betume’s Women Association, for the time being, does not produce its own fish. The farm gate price of tilapia in the region ranges between R$ 2,00 to R$ 2,40 per kilo, around US$ 1,00/Kg ( R$ 2,20 = US$ 1,00 in November 2005). The Association sells tilapia fillets at R$ 11,00, mainly and directly to restaurants in the region as well as in Aracaju, the capital city of the state of Sergipe. Having in mind that one needs 3 Kg of whole fish to process 1 Kg of fillets, the gross margin obtained per kilo fillet (R$ 4,40, or US$ 2,00), indicates a healthy business with a break-even point at only 1 MT fillet per month, able to pay a national minimum salary of R$ 300 for each of the 14 members of the association, if one considers that the sale of surplus ice covers the low operating costs (mainly fish transport). Actually, the selling price is relatively high due to the special high quality of the product. This quality is assured from the moment the fish is taken out of water, when it is immediately put into ice. The processing workshop is small, but it is equipped as any processing plant. The white working clothes of the women, as well as the usual cleanliness of the working room show the attention given to hygiene and to the quality of the product. The final product itself: fresh fillet, wrapped in plastic and kept in ice, is without any doubt one of the highest quality seafood available in the region. Associated to the quality of the product comes the logistics of supplying rapidly and regularly clients willing to pay for the quality. In this sense, the choice of supplying restaurants rather than supermarkets or municipal markets was particularly very adequate.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The case of Betume shows that artisanal fisheries or fish farming can begin by the establishment of an artisanal processing workshop. This initiative, led by women, has of course received the support of the federal government as well as from an international cooperation project. Without this support, it would have been very difficult for them to launch the workshop, having to pay for all the investments needed to begin a minimum viable production. One of the reasons for which the federal government and the international project supported the initiative was certainly due to the visibility of the association. The community of Betume has built its personality and has become known through the hard work of its women association, a first gender enterprise in the Low São Francisco region aquaculture sector.

Would you consider it a success story? □Yes □No
MAIN KEY FACTORS

A group of 14 women, wives and daughters of local Betume’s farmers (North-eastern State of Sergipe), joined efforts and established the Women Association of Betume having in mind to add value to the farmed fish (tilapia).

Best practices rising from the Association works:

- Installation of a small ice plant that guaranteed better conservation standards for tilapia fillet and high quality fish;
- Highest quality seafood available in the region (sold with better prices);
- Ice surplus sold;
- Direct sales to restaurants (short circuits).
AMERICA 4 – BRAZIL

PROCESSING SHRIMPS AND BLUE CRABS

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Brazil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Patos Lagoon - Southern Brazilian coastal zone (State of Rio Grande do Sul)</td>
</tr>
<tr>
<td>Year</td>
<td>2012</td>
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<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Study author: FAO</td>
</tr>
<tr>
<td></td>
<td>Daniela C. Kalikoski, Institute of Humanities and Information; Federal University of Rio Grande</td>
</tr>
<tr>
<td></td>
<td>Marcelo Vasconcellos, Institute of Oceanography, Federal University of Rio Grande</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen and women</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The estuarine region of the Patos Lagoon is located in the southern Brazilian coastal zone (State of Rio Grande do Sul), an area of the Biosphere Reserve (United Nations Educational, Scientific and Cultural Organization – UNESCO). Diverse and abundant flora and fauna abound in the estuary. The abundant food resources and protection against predation provided by estuarine shoals make this region an ideal nursery ground for several commercially important fish species. A common characteristic of artisanal fishing vessels is that they are all constructed in plank wood without any
permanent cabin. Tents and removable decks are used as shelter. The motorized boats are known as botes and chalupas; the latter has a flat stern and a “v” shaped hull. These are propelled by inboard diesel motors. The artisanal fishery has diverse technological characteristics, expressed in terms of differences in boat sizes, engines, equipment and fishing gear, affecting distinct levels of fishing capacity, territories and both fishing and non-fishing livelihood strategies. Artisanal fisheries make a significant contribution to local economies, as inferred from the first sale value of production. It is estimated that between R$23 million and R$46 million worth of fisheries resources enter the local economies in good seasons. Fisheries can account for up to 25 percent of the agriculture GDP of municipalities in the estuary of Patos Lagoon. The bulk of fisheries production is marketed fresh. Fishers sell their catches to a different array of buyers, including intermediaries, local processors, associations and/or cooperatives and directly to consumers. Selling to local buyers and/or intermediaries is the dominant way of commercialization in the main fishing localities. The highest prices are fetched when selling directly to consumers, while little variation in prices was found among the other identified buyers. In recent years, efforts have been made to stimulate the organization of fishers’ associations and cooperatives as a way of promoting better and fairer options for fish commercialization. Although the majority of fishers do not process catches before commercialization, some process part of their catch to add value to fish products and increase household income. Shrimp and blue crab are the species most commonly processed by fishers of Rio Grande, São José do Norte and Tavares. The type of processing is very basic, involving peeling shrimp and shelling blue crab. The processed flesh can be sold in packages. The processing is conducted in the household by the wife and other family members or by women from the community. Blue crab has the lowest price when sold fresh but becomes the second most valuable resource when processed before commercialization and the gains increase when the costs of processing are internalized in the family. Other species that are processed before commercialization are flatfish, silverside, trahira and freshwater catfish.

**MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES**

Artisanal fisheries are characterized by minimal infrastructure for fish landing and conservation. Although this situation is well suited to the dominant type of commercialization, it is an important impediment to the development of alternative market strategies, which would increase economic returns for fishers and allow them to break away from the economic dependence on intermediaries and processors. Improving the role of fishers associations and cooperatives in the region will require strengthening community领导ships, building technical capacity, improving and strengthening formal credit policies for local community-based organizations, strengthening alternative markets for artisanal fisheries production (e.g. institutional markets and fish fairs), and finding ways to regulate the dominant mode of commercialization in the region centred on the intermediaries.
Would you consider it a success story? 

Would you consider it a success story?  X Yes □ No

Woman in a fishing village shelling blue crab before commercialization (photo by Daniela Kalikoski and Marcelo Vasconcellos)

MAIN KEY FACTORS

The BP for the implementation of this project carried out in the estuarine region of the Patos Lagoon, mainly focus on the following issues:

- Artisanal fisheries make a significant contribution to local economies;
- Fishermen are organized in fishers’ associations and cooperatives;
- Women involvement in processing adding value to the products
AMERICA. 5 – MEXICO

COOPERATIVES ENHANCE FISHERIES DIVERSIFICATIONS

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc) and fisheries management
## SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Mexico</th>
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<tbody>
<tr>
<td>Location/Region</td>
<td>Located on the tropical island of Cozumel, an international tourist destination and in the Sian Ka’an Biosphere Reserve, a national park and UNESCO World Heritage Site</td>
</tr>
<tr>
<td>Year</td>
<td>2012</td>
</tr>
</tbody>
</table>
| Sector/s involved in the Fisheries Multi-Functionality related activities | Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)  
Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations) |
| Actors involved in the implementation | Fish Production Cooperative Societies of Cozumel and Vigía Chico, Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP) |
| Direct Beneficiaries | Fishermen                                                                                         |
| Still running?  | X Yes ☐ No                                                                                       |

## BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The Fish Production Cooperative Societies of Cozumel and Vigía Chico are two cooperatives working in the Mexican State of Qintana Roo to advance a model of sustainable fishing. The first cooperative is located on the tropical island of Cozumel, known best internationally as a tourist destination for snorkeling and scuba-diving. The second is located in the Sian Ka’an Biosphere...
Reserve, a national park and UNESCO World Heritage Site in the Yucatan peninsula. Both cooperatives focus on the sustainable harvesting of marine resources, with an emphasis on the Caribbean spiny lobster (Palinurus argus).

The Two cooperative societies coordinate their fishing activities off the coast of the island of Cozumel, with a particular focus on lobster and scaled fish such as grouper, cod, and snapper. The Cozumel cooperative has 48 members, while the Vigía Chico cooperative has 80 members. Together, the cooperatives support their 128 members to acquire fishing permits, collectively manage marine resources, and engage in group decision-making, using grants from the UNDP/GEF Small Grants Programme to improve market supply chains and increase the abundance and diversity of endemic marine species.

The general operating objectives are to develop sustainable fishing practices in the state of Quintana Roo, improve market supply chains in a manner that benefits local fishermen, strengthen the fishing sector by bringing local fishermen together, increase the abundance and diversity of endemic marine species, and raise awareness of internal and external fishing regulations. Each cooperative is governed by an executive board, which includes a president, secretary, treasurer and supervisor.

Members of each cooperative society have access to capacity building and training on marine resource management, financial planning and running a profitable fishery. Workshops emphasize the biological and economic importance of respecting closed seasons and sanctuaries, and educate community members on the legal size lobsters must be when they are caught. Outreach, environmental education and training are also provided to local youth on the functioning and governance of the cooperative and the principles of responsible environmental stewardship. This focus on youth serves two functions: first, to instill a conservation ethic in future generations, thereby ensuring the long-term sustainability of marine resources; and second, to train new members and young leaders in management positions, thereby ensuring institutional sustainability for the cooperatives. The cooperatives are in the process of creating an ‘education department’ that will enable members to share their experiences peer-to-peer with fishermen from other regions of Caribbean.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Local livelihoods and incomes have improved for local fishermen due to a combination of cooperative interventions, notably including the harmonization of fishing regulations, collective marketing activities, and the adoption of locally appropriate technology. Prior to formation of the
cooperatives, no clear rules were in place to regulate marine resource access and use. Fishing was conducted in a free-for-all manner, often leading to overharvesting, inefficiencies and resource conflicts. There was competition between lobster fishermen for the most productive ‘shadows’, but no method in place for subdividing fishing areas in an equitable manner. This led to conflict and disharmony in the fishermen community. Through the creation of designated lobster fields, fishermen now have exclusive rights to fish in specified areas, which in turn have increased efficiency and reduced conflicts.

The two cooperatives have showed a great deal of economic, political and environmental resilience since their founding in 1960s. Their longevity can be attributed to their collective ability to react and respond to system shocks. The cooperatives have also worked to improve their financial management capacity with a view to ensuring long-term sustainability. Consolidation of lobster marketing through Integradora de Pescadores de Quinana Roo has provided an additional mechanism for ensuring the long-term sustainability of the initiative. The cooperatives now have a direct market supply-chain link to the ecotourism and hospitality industries, providing a predictable and consistent demand for lobster products.

Would you consider it a success story? X Yes □No

Fishermen and lobster, Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP)
MAIN KEY FACTORS

The BP for the implementation of this project carried out in the tropical island of Cozumel, mainly focus on the following issues:

- Fishermen are organized in cooperatives;
- Fishermen adopt appropriate technology;
- Fishermen are involved in resources management and in group decision-making;
- Members of each cooperative society have access to capacity building and training on marine resource management, financial planning and running a profitable fishery;
- Environmental education and training are also provided to local youth on the functioning and governance of the cooperative and the principles of responsible environmental stewardship.
MANAGING OYSTERS PRODUCTION

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc) and fisheries management
### SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Brazil</th>
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</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Mandira on the southern coast of São Paulo</td>
</tr>
<tr>
<td>Year</td>
<td>2012</td>
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<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses) Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations)</td>
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<tr>
<td>Actors involved in the implementation</td>
<td>Cananéia Oyster Producers’ Cooperative (COOPEROSTRA), Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP)</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>☑ Yes ☐ No</td>
</tr>
</tbody>
</table>

**BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY**

The Cananéia Oyster Producers’ Cooperative (COOPEROSTRA) in Mandira on the southern coast of São Paulo, Brazil was created during the 1990s. It supported the community in establishing new rules and practices to reconcile oyster harvesting with the conservation of local mangrove forests and their high biodiversity. Cooperative members are allowed three harvests a year and receive twice as much for their oysters as they received from market intermediaries. Before the cooperative was established, intermediaries dominated the oyster market chain and paid little...
attention to local regulations, sanitation and health standards for shellfish processing. Mandira’s oysters have enhanced appreciation of artisanal production, and the availability of high-quality local seafood has encouraged tourism.

Prior to the project, oysters were removed from the mangrove swamp and immediately sold. The daily output was then sold to middlemen, who often set unreasonably low prices. With the introduction of fattening nurseries, the oysters remain in the mangrove swamp until the time of sale, which contributes to their reproduction in their natural habitat. The small oysters that become stuck onto larger ones (called ‘head’) had no use prior to the project. Through proper management, these small oysters are now detached from the larger oysters and remain in the nursery until they reach the correct size for sale. In addition to the fattening nurseries, the initiative has also encouraged the practice of bottom-diving, in which oysters are harvested from the estuary floor rather than from its mangrove forests.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Cooperstra has adopted an innovative governance model, whereby community members participate in all stages of decision making, from needs assessment to planning, implementation and accountability. Community leadership is supplemented by partners that provide expert help where needed. This represents a change from the status quo, to a project of the community, designed by the community, on the basis of its needs and expectations, with the support of experts. The organization has also been particularly adept at fundraising to carry out specific actions and phases of the project. In all cases, the community identified what was needed and put in bids for funding with a range of stakeholders. There has been a clear increase in the incomes of cooperative members. These innovative techniques of managing oysters in their natural habitat, together with well-informed marketing strategies have served to improve local livelihoods. The initiative has achieved an improvement in the quality of life of the region’s traditional extractors as a result of the payment of fair prices for their product. Extractors have gained a price increase, on average, of about 100 per cent. They have also successfully diversified their incomes as a result of training in a range of activities. Women and youth have been heavily engaged in the project. There is now greater community access to goods and services, particularly to health services.

Would you consider it a success story?  X Yes  □ No
MAIN KEY FACTORS

The BP for the implementation of this project carried out in Mandira on the southern coast of São Paulo, mainly focus on the following issues:

- Fishermen are organized in cooperatives;
- Oyster harvesting is carried out in line with the conservation of local mangrove forests and the preservation of their high biodiversity;
- Availability of high-quality local seafood attracted tourism;
- Innovative governance model with the introduction of fattening oyster nurseries;
- Active involvement of the community in all decision processes.
ASIA 1 – INDIA

SEASHELL CRAFTWORK

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Puri district of Orissa</td>
</tr>
<tr>
<td>Year</td>
<td>2008</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>1. LOK SAHAYAK SAMITI. Lok Sahayak Samiti (LSS), is an NGO was formed in the year 1992 by social activists for the purpose of helping the rural poor people for their overall developments. The office is located at village Nikhira Gobindpur, P.O:Kandagoda via Brahmagiri in Puri district</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>fisherwomen</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The crucial role of fisheries and aquaculture to the livelihoods of communities associated with coastal areas and inland water bodies is well documented (Whittingham et al 2003, Bene et al 2007, World Bank 2004, World Bank 2008) and in terms of poverty reduction priorities, households in Asia linked to the fisheries sector comprise some of the poorest groups (FAO 2007a). Of the 38 million officially recorded fishers globally, 90 percent are thought to be small-scale and a further 100 million people are thought to be involved in the post-harvest process (Bene et al 2007). The sector plays a vital role in the provision of food security, income and
employment to these groups in addition to supplying global demand for fisheries products. Asia dominates world fisheries statistics and currently holds 87 percent of all people involved globally in fisheries and aquaculture (FAO 2008).

There are about 0.5 million fisher households located all along the Indian coast and a total of three million fisherfolk inhabiting the coastal villages. The average number of seagoing fishermen is 282 in a coastal village. Of the 1.2 million fisherfolk in the post-harvest sector, women account for more than 0.5 million. They play a significant role in the pre and post-harvest operations in capture fisheries and their presence is conspicuous in all the stages of culture fisheries. Their role in household management is far higher than that of women in other sectors. The majority of the workers in the shrimp pre-processing and processing plants are women. Women also contribute a major proportion of the workforce to export oriented processing of cuttlefish, lobsters and finfish varieties.

Lok Sahayak Samiti (LSS), an NGO from Puri district of Orissa, has helped, with financial assistance from NABARD, CAPART etc, the coastal women’s SHG (Self Help Group) to take up seashell craftwork as an alternative source of income for the members. More than 100 SHGs have been formed in Puri district. Trained ladies have been started their business by availing loans from SHG. The trained ladies became training mistress and they are busy to educate other women. The organization also helps the entrepreneurs in supply of raw materials and provides opportunity for marketing /demonstration in different cities and public places while the NGO helped in marketing of these products. The seashell crafts of SHGs have been displayed and sold by the organization in different places like Palli Srimela at Puri in Orissa, Delhi Haat, in NABARD Utasva. The nearby town/business place is Puri Town and it is a pilgrimage place. Thousands of pilgrims come from different places of India and abroad to worship Lord Jaganath and to see seashore. Most of them purchase the seashells crafts items for presentation and for interior decoration of drawing rooms.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Constraints on women in post-harvest fisheries

- Raw materials (limited seasonal availability, uncertainty of catch/scarc supply of shells).
- Traditional processing (labour intensive), informal trading – large number of intermediaries, low profit margins, risks and uncertainties.
- General (low income, lack of transport facilities, long distances, inadequate facilities for women at markets and landing centers.
Would you consider it a success story?  X Yes  □ No

MAIN KEY FACTORS

The BP for the implementation of this project carried out in Puri district of Orissa, mainly focus on the following issues:

- Women play a significant role in the pre and post-harvest operations in capture fisheries and their presence is conspicuous in all the stages of culture fisheries;
- Women benefit of a diversification training opportunity;
- Women established a seashell craftwork as an alternative source of income (diversification);
- Women had diversification financial opportunities.
ASIA 2 – WEST BENGAL

CRABS FARMING

Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>WEST BENGAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Dhamakhali, Ghustakhali, Toshkhakhali villages of Sandeshkhali, Paraganas district</td>
</tr>
<tr>
<td>Year</td>
<td>2009</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Fish farming (capture of wild juveniles/adults for farming purposes)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Two cooperative societies are engaged in this activity viz: Baba Loknath Kankada Macch Samyavaya Samiti Ltd in which out of 52 members, 14 are women members. The 2nd society is Vidyadhari Kankada Macch Chas Samyavaya Samiti, Dhamakhali village with 50 members. Out of the 50 members, 12 are women members.</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>fisherwomen</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes ☐ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The need assessment carried out through informal group discussion with the community members in west Bengal revealed their needs and livelihood intention to restart fishing activities and also showed interest to take up to other fish allied enterprise activities. Crab fattening activity born as an alternative livelihood option to the women of the coastal communities who were involved in fish and dry fish vending. Women are fully involved right from feeding to segregation of sexes and grading for marketing. The activity have gained popularity in Dhamakhali, Ghustakhali, Toshkhakhali villages of Sandeshkhali block II of North 24 Paraganas district. There are 35 women
SHGs with 358 members formed for crab fattening. Canning, Harora, Hingalganj, Sandeshkhali, Meenakha, Gosaba etc. in the North & South 24 Paraganas are the potential areas for crab fattening. Besides, a good number of fishermen & women are undertaking the activity individually. The water/soft crabs are raised in specially designed ponds fortified with bamboo screen and net walling to prevent escape of crabs. During the culture period of 20 - 25 days, the crabs are being fed with low priced fish like tengada, small tilapia etc to attain the required hardening for marketing. Crabs from this region are exported to Europe, USA and South East Asia. Trading cooperative society like Baba Loknath Kankada Matcch Samanvaya Samiti Ltd, have regular contacts with the exporters based at Kolkata like M/s. Golden Aqua Sea Foods, Aqua Exports, Usha Sea Foods and Ocean Marine etc,. Selective harvesting is the removal of harvestable size and fat mud crabs several times during the culture period in the range of 500 to 750 g and above by hand picking method. The average increase in the weight after fattening is around 40-50 g. Crabs may be harvested totally at the end of 20 to 30 days culture by hand picking method. Harvested crabs are immediately placed in a moist and shady, cool place. Cool water is poured frequently on the crabs. In the case of algal fouling on the crab carapace, it was removed by brushing. Sometimes the barnacles also foul the carapace and these are also removed. Mud crabs are transported in a bamboo basket or in straw bags from dealer to site for stocking. Seawater is frequently poured into the transport container to keep the crab moist. Crabs could withstand out of water even 7 days provided they are kept cool and moist seawater. The peak season when the crabs are available for fattening is between July to November every year. The availability of the water crab in this region has been posing a problem especially during the lean season. The cost of the soft crabs escalates almost three fourth of its original cost, and the women find it too costly. So during the lean season, the women suspend the crab fattening activity for around three – six months between January to June and the women take up to fish and dry fish vending as stop gap enterprise. Fattened crabs are being marketed in the following grades. There are two main grades viz: Male and Female in which Female always fetches better price. Under Female there are again two sub grades viz: with eggs and without eggs, prices of which also vary, details of which are as follows (Table 1):

Table 1 – Prices of Male & Female Crabs of Various Grades

<table>
<thead>
<tr>
<th>FEMALE CRABS</th>
<th>MALE CRABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>With eggs</td>
<td>Without eggs</td>
</tr>
<tr>
<td>Grade</td>
<td>Weight (g)</td>
</tr>
<tr>
<td>F1</td>
<td>200 up</td>
</tr>
<tr>
<td>F2</td>
<td>180 up</td>
</tr>
<tr>
<td>F3</td>
<td>160 up</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The main activity constraints have been:

- Crabs dying due to overheat of water
- Lack of sufficient space for one kilogram crabs'
- Settlement of Oyster and planktons on carapace
- Breakage and damage of legs due to insufficient space in the cage
- Problem in locking the cage
- Shortage of mud crabs

While various technical parameters are to be considered for the crab fattening activity, other factors are to be taken into account are:

- There must be a sufficient supply of stocking materials in the locality
- The site should be away from domestic and industrial effluents
- Storage facilities required for unprocessed feed
- The farming site should be protected from poachers

Would you consider it a success story?  X Yes  □ No
MAIN KEY FACTORS

The BP for the implementation of this project carried out in Dhamakhali, Ghustakhali, Toshkhakhali villages of Sandeshkhali, Paraganas district, mainly focus on the following issues:

- Women play a significant role in the pre and post-harvest operations in capture fisheries and their presence is conspicuous in all the stages of culture fisheries;
- Women established a Crab fattening activity born as an alternative livelihood option;
- Women are fully involved right from feeding to segregation of sexes and grading for crab marketing.
ASIA 3 – CAMBODIA

CRABS MANAGEMENT

Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector
The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Cambodia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Kep, Kampot and Preah Sihanouk Provinces.</td>
</tr>
<tr>
<td>Year</td>
<td>2006-2009</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Learning Institute, the WorldFish Center with financial support from the Ministry of Foreign Affairs (Government of Japan).</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Small scale fishermen/fisherwomen</td>
</tr>
<tr>
<td>Still running?</td>
<td>☑ Yes ☐ No</td>
</tr>
</tbody>
</table>

**BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY**

The crab (swimming crab; Portunus pelagicus) fishery in coastal Cambodia appears to have declined in recent years due to over-fishing and a growth in the number of fishermen, but remains an important source of income for households along the coast. Acknowledged that crab is one of the important marine resources, there was an introduction on crab bank approach as a part of community fisheries activities to Cambodia. Several initiatives have started since 2007, with support from NGOs, international organizations and the Fisheries Administration (FiA), to test stock enhancement techniques through the release of crab larvae. The so-called “crab bank” initiative involves keeping harvested gravid crabs alive in cages for a few days until they spawn, instead of immediately selling them for consumption or processing. In Cambodia, this initiative has developed within the framework of Community Fisheries (CFis) and thus implies a community based approach. Detailed case studies were conducted for four crab bank initiatives in Kep (one), Kampot (one) and Preah Sihanouk provinces (two). At each survey site, focus group discussion
(FGD) was used to investigate livelihood options and the range in wealth status among the community members. Participants in these discussions included crab fishers, non-crab fishers, and Crab Bank Committees. The nature of the crab fishery itself was diverse across the four survey sites. Practices ranged from those associated with small-scale inshore fisheries to medium scale offshore fisheries, with a wide difference in fishing intensity and access to the resource. In Kampong Samaki, CFi fishers used hand push-nets and crab traps (average of 100 traps per fisher) for fishing near the shore, while in Phum Thmey, CFi fishers used on average more than 1,000 crab traps and fished offshore. The average volume of crab catch varied from 4.5 kg/day/fisher in Kampong Samaki to more than 39 kg/day/fisher in Phum Thmey. Crab fishers were highly specialized in targeting crabs, with more than 50% of their income generated from the crab fishery.

Crab fishing is highly seasonal activity, and fishers at various sites use different gears and have different target fishing grounds. Tomnop Rolok and Phum Thmey have a peak season during the rainy season (June-August), while the two other sites experience the peak time of year mainly during the dry season (November-March). Direct marketing channels for fishers are limited as most crab fishers sign contracts with middlemen living in the same village. These middlemen then provide informal loans to allow fishers to purchase fishing gear and in return the middlemen gain exclusive rights to the fishermen’s harvest. Fishermen have to sell their catch at a fixed price to the middlemen. Results show that crab bank models used in Cambodia are diverse, ranging from systems based on the purchase of gravid crabs (Kampong Samaki, Tomnop Rolok), to donation of the crabs (Prey Nop II) and donation with access to loans (Phum Thmey).

We conclude that crab banks can be successfully developed along the Cambodian coastline. However, they are unlikely to be viable in all geographic areas and careful consideration needs to be given to the design, location and natural environment. The case studies suggest that villages with a medium-scale crab fishery can more easily develop such activities in part due to a more stable supply of gravid female crabs. The location of the crab bank should allow easy access and be suitable for keeping crabs alive in the cage while they spawn, especially considering biological conditions and water salinity. In addition, institutions should identify whether the peak catch season and the peak spawning season coincide before developing crab banks.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

An awareness campaign, clear roles and a transparent organizational structure can help to assure greater participation from fishers. In the absence of direct and visible short-term benefits to fishers, participation in crab bank activities is low. Additional financial incentives, such as access to loans or gifts from the project, would help increase the initial participation of local fishers, even if
financial incentives can later limit their voluntary effort to participate in the crab bank when these incentives cease or are no longer attractive. Active participation of middlemen in crab bank development has shown to be beneficial to the overall approach. Technical factors impeding the crab banks were the accessibility of the cages from the village. Easy access to the cages is necessary to encourage greater participation and donation of gravid females. Technical support is needed to organize the crab banks and to develop transparent management mechanisms, such as clear recording of financial transactions and the crab “flow”. This is particularly important for building trust within the group and encouraging more fishers to join projects using models based on crab donations or loans. The lack of involvement of crab fishers in planning and the poor awareness of crab bank activities restricted the adoption of the model.

Would you consider it a success story?  X Yes  □ No

Portunus pelagicus crab

MAIN KEY FACTORS

The BP for the implementation of this project carried out in Kep, Kampot and Preah Sihanouk Provinces mainly focus on the following issues:

- Community based approach;
- The Community promotes “crab bank” initiative that involves keeping harvested gravid crabs alive in cages for a few days until they spawn, instead of immediately selling them for consumption or processing;
- Local fishers are stimulated by additional financial incentives to participate actively in the project.
ASIA 4 – INDONESIA

ADDING VALUE TO FISHERY PRODUCTS

Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Pantar Island</td>
</tr>
<tr>
<td>Year</td>
<td>2012</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Research Institute for the Environment and Livelihoods, Charles Darwin University, Darwin, NT 0909. Australia.</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Small scale fisherwomen</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes ☐ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

In the developing world, women living in coastal areas participate in many different ways in the small scale fisheries sector – as gleaners, fishers, traders, fish farmers and processors. In Pantar Island, situated between Alor and Lembata Islands in Nusa Tenggara Timur Province of Indonesia, coastal fishing households include a large but unknown number of women who are engaged in fisheries activities using small capital commitments and simple technology (such as hand lines and canoes) to harvest and catch marine resources. They also play an important role in processing or selling fish catches.

Four locations were selected as case-study sites: Labuhan Bajo, Blangmerang, Kayang and Marisa villages (the last three are desa’s – rural villages - under the Indonesian government administrative system and Labuhan Bajo is a hamlet of Kabir desa). Labuhan Bajo is located in Pantar sub-district.
SMALL SCALE FISHERIES MULTI-FUNCTIONALITY DATABASE

(Kecamatan), Blangmerang is part of Pantar West sub-district, Kayang and Marisa Villages are in Pantar Northwest sub-district. The four locations were selected because their populations represented communities highly dependent on marine resources and were the main users of the surrounding waters where a marine conservation area was established in 2009.

At the pre-production stage, women from all four villages were involved in preparing fishing equipment such as lines, bait, hooks and nets for their own fishing activities in the intertidal areas. For example, older women (grandmothers) in Labuhan Bajo collected sea worms in mangroves to use as bait for hand-line fishing along the coast for 1 hr day-1 during low tide. Women in Labuhan Bajo also helped their husbands, unmarried brothers or fathers in repairing cast nets. Women in Marisa prepared their own lines and hooks and paddled dugout canoes to fish in the waters close to their village. Women in Kayang and Marisa maintained their own fishing gear.

The fishing activities of women were conducted in mangrove areas, intertidal areas and inshore coastal waters out to approximately 2.5 km. In the production stage, women from all four villages caught fish and collected invertebrates in the intertidal areas using several methods. Women gleaned shells and trepang (Holothuria), while some men from each village were also involved in this activity. The shells commonly collected by women were turban shells, mud creepers, oysters, clams, cockles, and bivalves as well as juvenile fish (such as groupers (Epinephelus spp), soldierfish (family Holocentridae), fusilier fish (family Caesionidae), and surgeonfish (family Acanthuridae). Spider conch (Lambis spp) was mostly collected by men. The women in Marisa and Blangmerang villages collected shells in the mangrove areas using sticks or by hand. Only women from Labuhan Bajo collected edible sea urchins (Trineustes gratilla) for domestic consumption from the intertidal areas in front of their villages. Almost all women in the four villages used fish traps (ker) which were not used by men. All villages also farmed seaweed. The women’s activities included preparing materials and the area for seaweed farming, tying the seedlings to ropes, daily maintenance, collecting seaweed dislodged onto the seabed and harvesting and drying the seaweed. Those activities were conducted together with other members of the family, such as husbands or children. However, the men were normally responsible for transporting the sacks of sundried seaweed to local buyers. Women’s post harvest activities were centered on the processing and sale of pelagic and reef fish and the meat of mussels. They served and used the small weekly markets of their own villages, as well as a weekly market in Bakalang market in the north of Pantar Island, and markets on neighbouring islands in Nusa Tenggara Timur.

During the market day, women traders in Blangmerang village spent up to 10 hr buying the catch (e.g. round scad and bigeye scad) from boats, processing, and transporting fish to the nearest markets, such as in Weiriang (4 hr away by wooden boat) or in Wolu village (3 hr away by motorbike), to sell it. In Kayang and Marisa villages, the fish caught by hand line were commonly sun dried by the wives of the fishermen, taking about 4 hr day-1 of labour. Once dried, the fish
were sold to local village kiosks that also sold daily items such as spices, eggs, snacks, salt, cigarettes, fishing lines and hooks. In return, the women and their families obtained cash or goods on credit. The local kiosk owner then sold the sun dried fish at the nearest market such as Weiriang, Wolu and Kalabahi, taking up to 6 hr in travelling time.

In the four villages, marine products were collected and caught by women for household food consumption and cash income. The fish caught by trap, hand line and gleaning were mostly consumed within the household and extended family. Excess catch were sold for cash or bartered with inland or “mountain people” for other foodstuffs. For example, in Kayang village, sun-dried fish was bartered for locally grown corn, cassava, vegetables and fruits. These foods were consumed daily by household members and sometimes stored for later use to supplement the household diet when fish was scarce.

The cash income from fish trade was used to support the family’s daily expenses and for savings. One woman trader in Labuhan Bajo hamlet explained how employment in fish trading over nine years had brought prosperity to her family. She had repaired the family house, paid for her children to go to high school, saved cash, and bought a number of items of jewellery as a form of savings. Her income had generally been higher than that of her husband.

They can be considered the entrepreneurs of the village and are able to respond to consumer demand. To sell fish, they managed to overcome challenges such as poor roads, long distances, and lack of regular ice and salt supplies, and infrastructure and service shortcomings.

**MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES**

Recognizing the key stakeholder groups and facilitating their participation in decision making processes are critical to effective fisheries resource management.

Applying a gender lens in the fisheries sector – that is with a “deliberate focus on gender, and age differentiation of roles, responsibilities, access and opportunities” provides a more complete view of the entire fishery and fishery industry, and can lead to appropriate management action. Women should be included in resource management planning because they have knowledge to contribute.

*Would you consider it a success story? X Yes □ No*
MAIN KEY FACTORS

The BP for the implementation of this project carried out in Pantar Island mainly focus on the following issues:

- Communities highly dependent on marine resources;
- A marine conservation area was established in 2009;
- Women from all four villages were involved in fisheries activities and they can be considered the entrepreneurs of the village and are able to respond to consumer demand. To sell fish, they managed to overcome challenges such as poor roads, long distances, and lack of regular ice and salt supplies, and infrastructure and service shortcomings;
- Women represent the key stakeholder groups and facilitating their participation in decision making processes is critical to effective fisheries resource management.
ASIA 5 – VIETNAM

GEAR DIVERSIFICATIONS

Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Vietnam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Ca Mau Province, Mekong Delta, Viet Nam</td>
</tr>
<tr>
<td>Year</td>
<td>2012</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Fish farming (capture of wild juveniles/adults for farming purposes)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Department of Sociology, School of Social Sciences and Humanities, Cantho University, Cantho, VietNam; Rural Development Sociology Group, Wageningen University, TheNetherlands</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Fishery in Ca Mau, Viet Nam’s most southern province in the Mekong Delta, plays locally an important role for human nutrition and has great potentials for export earnings. The overexploitation of inshore fishing resources is a major problem in Viet Nam’s coastal areas along the Mekong Delta. As a result, the Catch per Unit of Effort of small-scale fishing enterprises has decreased, undermining the sustainability of livelihoods of fishing families. The livelihoods’ strategies and diversification in the context of overexploitation and exhaustion of near-shore resources are reported.

To deal with variations in catch, weather, fish species, tides and currents, and characteristics of fishing grounds, fishers invested in different sizes and types of gears and boats. Choosing the correct equipment required a high level of skills and financial capabilities. There were two diversification strategies: the first was to have one boat fit for various types of gears to suit
different seasons, and the second was to have different boats with different gears to exploit different fishing grounds. Fishers diversify to adapt to the weather; that is the most important external factor, and influences the decision to go fishing or stay ashore. In seasons with favourable weather, they try to fish offshore or more intensively to compensate for the smaller catch in the harsh seasons; therefore, they preferred powered vessels with several gears to exploit as many species and fishing zones as possible. Because the fishers have to adapt to weather conditions they have to diversify; they cannot rely on a single season, gear or species to sustain their livelihoods.

In Rach Goc we report the case of a successful story demonstrating the fishermen adaptive capacity to sustain their livelihoods in diversification opportunities.

The successful case of gear diversification of Luu Minh Duong, 38 years old: I inherited a boat, scoop and dredge net and started fishing independently in 1995. At that time, there was a boom of shrimp hatcheries supplying shrimp seeds for aquaculture, and Rach Goc was famous for providing the best brood stock. From 1998 on, there was a chain of buying brood stock caught by other boats, then transferring and selling them to hatcheries, and this type of business yielded huge profits. With the support of my parents, I bought a well-equipped vessel and was one of the first people here buying brood stock. I made one trip per week and bought about 20–200 mother shrimps depending on the season. How-ever, by 2003, the net income per trip steadily declined from 10 to 5 million VND because of competition from many other vessels. Now this type of business is only profitable for people who have their own hatcheries or who sell brood stock directly to the hatcheries instead of through middlemen. Recognizing that this activity had no potential anymore, I decided to change to gillnet fishing in 2008. Some others changed to long-line offshore fishing because they had more crew members. I fish alone, and my son is still very young (and I do not want him to go fishing with me when he grows up). I invested 140 million VND to buy the gillnet and had high revenues; today, I have repaid all of the loans. In 2009, I started investing 40 million VND in a Loligo long-line. With both gear types, I can fish intensively and use more fishing grounds. Offshore fishing is profitable, but only for those who can afford to invest in it themselves; therefore, it is an opportunity only for the rich because the poor either cannot borrow money or do not have the capability to repay their loans.

This case show clearly how fishers, even those who are relatively well off, have to adapt continuously to changing conditions and make use of different opportunities and niches over time to sustain their livelihoods. Even when a fisher is able to invest a lot of resources, he needs to employ a variety of fishing techniques to earn a good return on his investments.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

To guarantee the long-term sustainability of small-scale fishery, policy should aim to provide fishing diversification opportunities especially for small-scale fishers who more strongly depend on near-shore resources. Diversification outside of fishing should be promoted to prevent overexploitation because once people begin to engage in activities other than fishing, they may move away or in a complementary way from dependency on marine resources. The diversification strategies are different for the various categories of fishers determined by wealth status and endowments. The poor lack financial capital to upgrade their fishing gears for within-fishing diversification and have to engage in non-fishing jobs earning low incomes and remain trapped in debts. “Safety nets” such as “food for work” or subsidies can support the poor on the short term.

To secure livelihoods and reduce vulnerability, they fish intensively causing resource decline and ecological disturbance, and violate the regulations. Opportunities for outside fishing diversification and effective fishery management are therefore urgently required to lessen the pressure on inshore fishing resources and to protect small-scale fishers.

Would you consider it a success story?  X Yes ☐ No

Fishermen in Mekong river delta
MAIN KEY FACTORS

The BP for the implementation of this project carried out in Ca Mau Province, Mekong Delta mainly focus on the following issues:

- Mekong Delta Communities highly dependent on fishery for food security;
- Fishermen adaptive capacity to sustain their livelihoods in diversification opportunities;
- Fishermen that do not diversify the activity fish intensively causing resource decline and ecological disturbance, and violate the regulations.
- Opportunities for outside fishing diversification and effective fishery management are therefore urgently in these area required to lessen the pressure on inshore fishing resources and to protect small-scale fishers.
ASIA 6 – BANGLADESH

CULTURING FISH

Fishery Management (involvement/promotion of management plan) and fish farming (capture of wild juveniles/adults for farming purposes)
## SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Bangladesh</th>
</tr>
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<tbody>
<tr>
<td>Location/Region</td>
<td>Oxbow Lakes</td>
</tr>
<tr>
<td>Year</td>
<td>2004 (project implementation 1990-1997)</td>
</tr>
</tbody>
</table>

### Sector/s involved in the Fisheries Multi-Functionality related activities
- Fish farming (capture of wild juveniles/adults for farming purposes)
- Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations)

### Actors involved in the implementation
IFAD Innovation Mainstreaming Initiative. The Department of Fisheries (DoF) of the Government of Bangladesh and the Project Implementation Unit (PIU). The other main partners in implementation were DANIDA, which financed and provided the Technical Assistance (TA) Team and the NGO, BRAC, which handled the formation of the groups of fishers and credit. But credit itself was through the Bangladesh Krishi Bank (BKB). Since the lakes were government-owned, they came under the purview of the Ministry of Land (MoL). The subsequent handover of the lakes to the project involved the district officials of both ministries, i.e. the District Commissioners (DCs) and the District Fisheries Officers (DFOs). At the level of supervision, UNOPS supervised the project.

### Direct Beneficiaries
Poor fishermen and women

### Still running?
X Yes ☐ No
BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The Oxbow lakes (baors) of South-western Bangladesh were lying in a state of neglect, generally overgrown with water hyacinth and with very low productivity. At the same time the traditional fishermen who depended on fishing from these and other waters were clearly poor. Ways were needed to solve the two problems of increasing fish production from the lakes and eliminating or reducing the poverty of the fishers.

Initially there were two specific issues: (1) securing the rights of the groups of fishers who were poor, and (2) establishing Common Property Management or Common Property Regime (CPR) systems for the lakes, so as to allow for somewhat equal sharing of benefits. The various water bodies were all under the Ministry of Land (MoL), while the project was one of the Department of Fisheries (DoF) in the Ministry of Livestock and Fisheries (MoFL). Getting the MoL, acting through the District Commissioners (DCs), to handover the lakes to the DoF and the Project Implementing Unit (PIU) was itself a long process. It took two years and even more for this to be done. Once there were decisions to handover such lakes to the PIU, then there was the process of actually putting the lakes in the hands of the groups of fishers or Lake Management Groups (LMGs), as they were called. In order to ensure that genuine poor persons were made members and only they remained members of the LMGs, the project formulated rules for membership. The rules in particular required that members (1) be from the poor, defined as those with land less than 0.4 ha or household income less than Tk.10,000 per year (at that time about USD 300 per year); (2) participated in fishing activities for at least 80% of the number of fishing days in the year; and (3) agreed to equal sharing of costs and incomes. Moving from small-scale to semi-intensive (i.e. stocking, but without feed or fertilizer) fish culture requires infrastructure of a higher order.

Landing platforms, with roads to connect to the main roads leading to markets were constructed by the project. Some of the lakes also required screens at the connections to the rivers; these screens were also constructed by the project. At the end of the project period, infrastructure was handed over to the LMGs for them to manage and maintain.

In Bangladesh, despite the prevalence of Hanafi Islamic Law, which grants women land rights equal to 50% that of men, in practice, women do not have direct access to productive resources, like ponds or land. The position of single women (widowed or divorced) is particularly bad and they have to live at the mercy of male relatives. Distribution programmes of government-owned land or similar productive resources have not considered women as recipients.

The project AR too did not have any provision for giving pond user rights to poor women. The construction of ponds at the ends of the lakes was taken up after the MTR. Initially these ponds
were to be given to the LMGs for them to raise fingerlings. But given the well-developed market
for fingerlings and the desirability of increasing the numbers of persons benefiting from the
project investments, it was proposed that the ponds be given to groups of poor women.

Some of the ponds had already been given to the LMGs, but in those cases where this had not
happened, they were given to groups of poor women organized in Pond Farming Groups (PFGs).

The members of the PFGs had the same user rights as the LMGs. They were given documents
stating their right to use the ponds for culturing fish, on the condition of paying the annual lease
fee. Securing User Rights of Poor Women Poor women are socially weaker than poor men. Since
the project gave priority to single women (widowed or divorced) that made the groups of women
even weaker. Further, in the Project poor men were organized in somewhat larger numbers (from
50 to 250) than women (15 to 50). All this meant that it was more difficult to secure the user rights
of poor women in the ponds. In 5 cases, women retained their user rights, remained in possession
and continued to culture fish in the ponds, in other cases the women had sub-leased the ponds to
men and in one case (Porapara) the men of the LMG had taken over the ponds. The lake groups
are really small to medium enterprises and their credit needs and strength as a group do not fit in
well with the micro-credit system. The women’s PFGs, on the other hand, fit in much better in the
micro-credit system and BRAC is clearly comfortable in carrying on this activity.

The women reported substantial changes in household and personal well-being. Houses had been
improved with tin roofs and all had acquired a number of animals (cattle and goats) with fish
income. In Saster the women had not improved their roofs, but mentioned that they were saving
money to be able to put up a pucca (brick and mortar) house. At Kayetpara, with annual income of
about Tk.10,000 per capita, fully 50% of the women had been able to build such brick houses.
Many had taken land on lease and started other economic ventures, like small shops. The pond
embankments were used to grow vegetables and this provided a substantial additional income, at
times even more from that in fish cultivation. Women also mentioned (Nathan and Apu, 1998)
that there was an improvement

in their status both within the household and in society. They were regarded as “owners of ponds”
and not merely asset less women, as they were before the project. They also said that there were
now fewer quarrels within the household and that family life was more harmonious, which is a
way of saying that there was less violence at home.

The women controlled all the activities of stocking, feeding, and sale of fish. Guarding was usually
done by men from their families.

The decentralization of resource use through secure, long-term tenure (50 years) to improve
investment and income from lake/pond fisheries; and, two, the establishment of CPR systems in
order to increase the benefits flowing to poor fishers (men in the lakes and women in the ponds) had success: the condition more than 7 years after project completion is positive. Both the lakes and ponds have become and remain resources with substantially improved productivity compared to the pre-project stage. There are high levels of stocking and income, the water condition is good in almost all cases. Infrastructure provided by the project has not just been maintained, it has even been improved.

The share of income earned by fishers in the lakes is high at 60% to 70% of total income in 8 out of 15 lakes studied, and 40% to 50% in another 3 lakes. In the ponds, the women earn an income of Tk.3,000 to Tk.10,000 (USD 53 to 175) per capita per year. This income is earned with less than 20 days of labour, which gives a daily per capita income of Tk.150 to Tk.500. In addition there is the income from vegetables grown on the pond embankments. Most of these women have improved their house condition, purchased livestock and taken land on lease. There have been substantial benefits to women in terms of improved consumption of clothes for themselves. Their acquisition of legal user rights to the ponds has improved their status both in the household and in society.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Strength:
The major strength of the innovation was that it gave a definite group of fishers a clear and long-term stake in managing lake fisheries.

Weaknesses:
1. A long-term institutional structure for credit supply was not put in place.
2. The NGO involvement was similarly restricted to the project period.
3. The leases required bureaucratic renewal at the end of each 10-year period.

Threats:
1. Bureaucratic and political pressure could be used to deny fishers renewals of leases.
2. Poor social mobilization in a number of cases meant that an elite group among the fishers could take a much higher share of fish income.
3. Credit dependence weakened fishers in relation to financiers, who are also fingerling traders.
4. Inability to resolve internal conflicts could lead to the lakes becoming derelict once again.
Would you consider it a success story? X Yes ☐ No

Cage culture, Bangladesh. Photo by Mahabubur Rahman, 2012.

MAIN KEY FACTORS

The BP for the implementation of this project carried out in Oxbow Lakes mainly focus on the following issues:

- Oxbow Lakes Communities highly dependent on fishery for food security;
- Fishermen had a project support (financial, training, etc.);
- Community gave to a definite group of fishers a clear and long-term stake in managing lake fisheries.
ASIA 7 – TAIWAN

DIVERSIFYING FISHERIES INTO TOURISM

Pluri-activity, whereby fishermen and their families continue to obtain income from traditional fishing, whilst also carry out integrative activities, such as fishing tourism or restaurants and catering.
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

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<thead>
<tr>
<th>Country</th>
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<tbody>
<tr>
<td>Location/Region</td>
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<tr>
<td>Year</td>
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<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Tourism (fishing-tourism, recreational/educational areas or activities)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Study author: Department of Marine Leisure Management, National Kaohsiung Marine University, Kaohsiung, Taiwan</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Off shore fisheries</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
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BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Tourism is accepted as natural part of the socioeconomic fabric and is juxtaposed with fisheries in some coastal areas in Taiwan. This is the result of governmental policy on diversifying fisheries into tourism. The tourism industry, along with other industries in modern society, is undergoing a change in its relationship to the environment. One dimension of this change is the increase in nature-based, environmentally-oriented tourism. Marine tourism is such a dimension. Marine tourism is widely regarded as one of the fastest growing areas of contemporary tourism and includes recreational activities that focus on the marine environment. Increasing marine tourism popularity makes coastal and marine environment increasingly important in the provision of open space and opportunities for leisure, contemplation and physical activity. This popularity is also reflected in the Taiwanese fisheries industry which has pursued diversification into marine tourism. Due to this initiative, fisheries in the Taiwanese context, are not just about catching fish, but also catering to tourists by offering recreational activities. The government in Taiwan started
to diversify fisheries into tourism in the early 1990s when its offshore fisheries faced a serious downturn. Decreased income from local fishing activity, a shrinking fisheries industry, and consequent out-migration of young adults from fishing villages are typical problems. With these socioeconomic problems and the upcoming negative impact to the offshore fisheries due to the accession to the World Trade Organization (WTO), the government perceived the need to restructure offshore fisheries and one of the approaches was to diversify fisheries into tourism. It is hoped that fisheries diversification could reduce dependence of fishers on fishing production and ease fishing pressure on offshore waters and further create alternative sources of income for fishers, revive depressed fishing communities and provide more recreational spaces for the public.

Three step were made:

1. Revision of laws: A number of fisheries laws were revised to include recreational activities to ensure that recreational fisheries has a legal footing
2. Stipulation of regulations: The revision of laws provides a legal basis for fisheries authorities to make more specific and detailed rules to manage and regulate recreational fisheries. Specifically, the regulation on the management of recreational fisheries was derived from the amended Fisheries Act, stipulated in 1993 and set out detailed rules regarding the application procedure, the operators’ guiding notices, and the administrative punishments and set up the permit allocation for recreational fishing boats at different fishing harbours.

Establishment of projects: The government has administered a number of projects to facilitate fisheries diversification. The projects are mainly concerned with reconstructing fishing harbours for multifunctional development and providing subsidies to fishing communities. The projects focusing on reconstructing fishing harbours are an essential trigger to fisheries diversification into tourism. Moreover, the government established projects for the rejuvenation of rural villages as an attempt to resuscitate fishing villages. They were designed to revitalize fishing villages, giving special attention to environmental improvement, tourism development, and community capacity. It is noted that the subsidies offered were generally used to build eco-friendly tourist facilities along the coasts and renovate public infrastructure. These projects are therefore intended to serve the public interest as a tool to improve the economic and environmental health of the community and encourage regional development and local tourism.

The aforementioned measures in diversifying fisheries into tourism have led to a number of recreational activities for public participation. These activities are briefly divided into three types based on the fishery features involved and are described below. Fishing boat-type: In accordance with the amended Fisheries Act, fishers could be permitted to operate their fishing boats to carry tourists to the sea to go recreational fishing and diving, watch fishing operations (oyster farming,
marine caging etc.), marine life (such as whales and dolphins), observe marine habitats (e.g. mangrove, lagoon, coral reefs), landscapes and seascapes, or simply enjoy proximity to marine nature. Trips out to sea have risen from 87 thousand in 2005 to 115 thousand in 2006. The development pattern of this type of activity is usually small scale and operated by an individual or a small company.

Fishing harbor-type: Based on the projects on multifunctional development of fishing harbors and the amended Fishing Harbor Act, fishing harbors can be constructed for fishing and recreational purposes. Since 1999 over thirty fishing harbors, 14% of all fishing harbors, have been restructured to provide bases for recreational activities and eleven harbors were allowed to provide yacht anchoring facilities.

Fishing village-type: According to the projects for the rejuvenation of rural villages, the fishing community can apply for subsidies to improve its living environment and develop its own character tourism industry. For instance, a tour to local fishing villages can be arranged, to include such items as staying at a fisher’s home, eating local seafood, enjoying village culture and scenic views, experiencing old-time fishing operations and participating in local festivals. The development pattern largely depends on the collective decision of the fishing community.

Therefore, building community capacity is quite important in deciding what form or style of village tourism is feasible and desirable.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Main Constraints:

Conflicts between commercial and recreational fishing activity: both activities may interfere with each other in many ways. The main areas of conflict are competence for resources and competition for space and gear interactions. However, there is a lack of proper dispute-solving mechanisms and poor communication among stakeholders in soothing conflicts. Traditional fishers worry that recreational fishery activities might deprive them of existing resource-use rights and/or privileges and limit their activities. They usually complained that their arguments to secure their fishing rights are not properly heard and the relevant authorities often failed to consult with them.

Lack of community capacity: Most locals lack the capacity to act effectively to safeguard or change their environment. They typically have no long-term planning, solid team work or strong commitment to conduct village affairs. In this regard, even with subsidies granted by the
government, if the community is not capable, the effort employed in reviving fishing villages would be in vain.

**Lack of business skills:** Fishers typically have low education and few social contacts with residents of urban cities. They lack business skills and are oftentimes ill equipped to manage a new industry like tourism.

**Future outlooks:**
The need to establish ad hoc negotiation mechanisms: The conflicts arising from recreational fisheries activities vary by site and by type of activities to the point where each conflict requires its own approach for resolution. However, the basic principle is to separate conflicting human activities while attending the needs of fishing operations. Whenever necessary, negotiation mechanisms are to be established and operated with participation of stakeholders representing different interests in order to devise a way of reducing conflicts and enhance mutual trust for each side. In addition, efforts to communicate the goals, benefits and dispute solving strategies of the fisheries diversification policy to stakeholders should be improved through such mechanisms, or via other occasions (e.g. public hearings).

The need to build public-and-private partnership to conserve marine resources and protect historical and cultural qualities: Marine resources and historical and cultural heritage are valuable assets in fishing communities. They can be manoeuvred as tourist draws and thus are critical to the rejuvenation of depressed fishing communities. Particularly, sites rife with coral reefs would be potential tourist destinations. Establishing marine protected areas (MPAs), recognized as an effective management tool for marine conservation and management.

The need to encourage training programs: Fishers know about fishing, but know little about how to run their own business profitably and sustainably. Local authorities should encourage training programs and prepare easy-to-read materials to suit the educational levels of recreational fishers. The program topics might include business management, customer service, marketing, environmental conservation and interpretation, etc.

Would you consider it a success story?  X Yes □ No
MAIN KEY FACTORS

The BP for the implementation of this project carried out in Taiwan mainly focus on the following issues:

- Taiwan promotes governmental policy on diversifying fisheries into tourism. Three steps were made:
  1. Revision of laws;
  2. Stipulation of regulations;
  3. Establishment of projects.
- Fishermen in the Taiwanese context, are not just about catching fish, but also catering to tourists by offering recreational activities;
- Taiwan policy build community capacity.
ASIA 8 – KOREA

DIVERSIFYING FISHERIES INTO TOURISM

Pluri-activity, whereby fishermen and their families continue to obtain income from traditional fishing, whilst also carry out integrative activities, such as fishing tourism or restaurants and catering.
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

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<thead>
<tr>
<th>Country</th>
<th>Korea</th>
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<tbody>
<tr>
<td>Location/Region</td>
<td>Korean fishing communities (fishing village cooperative)</td>
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<tr>
<td>Year</td>
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<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Tourism (fishing-tourism, recreational/educational areas or activities)</td>
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<td>Actors involved in the implementation</td>
<td>Study author: Department of Geography, University of Washington, Seattle, USA</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishing communities</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes ☐ No</td>
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BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Tourism development pattern in Korean fishing communities, so far, is similar to other kinds of rural tourism. Typically, it is small scale, traditionally operated and relatively geographically isolated. Fishing communities tend to be located in front of the rice field or mountain or next to the rocky coastline. Because land space is scarce for most fishing communities, houses line up along the main road or are concentrated in one area usually behind the road or the coastline. Tourist development also tends to occur alongside the main road for easy access by the tourist and the local resident. Restaurants, fishing gear shops, and gift shops favour locations close to the major roadways; accommodation facilities are situated behind them in the residential areas. Since tourism in fishing communities is small-scale and relatively isolated, the ability of the villages to attract tourists depends on their proximity to other tourist destinations, to the major transportation point, like a ferry terminal or to major cities. Fishing communities that have
multiple draws such as fishing port, beach, and recreational fishing spot have a better chance of successful tour operation. The better location advantages they have in terms of the nearness to major points of tourist draws, the higher income fishing communities can obtain from tourist activities.

A popular form of tourism is in the provision of tourist services such as accommodations and restaurants, and fishing communities rely on other leisure opportunities, particularly nearness to attractions to run tourism business. The accommodations in fishing communities are typically part of the fishermen’s home that has been converted into guest rooms. Fishermen sometimes renovate and add more rooms to the house, but overall the home stays (guest houses) follow the style of traditional fishermen’s homes. In the event that fishing communities are located near or within popular tourist destinations, near Seoul, or by a passenger ferry terminal, the higher demand prompts fishermen to build a separate unit to accommodate visitors. The official statistics published by the National Federation of Fisheries Cooperatives report that 4,400 fisheries households nationwide (17,203 rooms) operate home stays. A large number of home stays are said to go uncounted. At higher end, hotels and condominiums account for 1.2% and 3%, respectively. Their number is anticipated to grow because of popular demand from the younger population. The home stays vary in size from two to 10 rooms. The average size is three rooms accommodating 10–20 visitors. The units established separately from fishermen’s homes tend to have a larger number of rooms. On average, home stays are open about 45 days a year, and 82.1% of them operate less than 30 days. The average annual revenue is 3,479,000 won. During the peak season of July and August, the price per room doubles to 40,000 and 50,000 won compared to the cost of 20,000–25,000 won in off-peak season. The remote areas charge a lower rate. The home stays open in the summer to benefit from visitors to the beach. During spring and fall, recreational fishermen are the major users. Because many of the proprietors live on site or close by, year-round operation is plausible and they operate flexibly as long as there is demand. Compared to home stays, running seafood restaurants is more expensive but less seasonal. It requires sizable capital given fishermen’ level of income. Because of the relatively high cost of investment, local fishermen have a hard time engaging in the business. Thus, there are more opportunities for outsiders to operate. Compared to locally run home stays, more than one-third of the seafood restaurants are run by outsiders or recent migrants.

Recreational fishing is the third most popular tourist activity in the fishing communities. There were 2825 boats registered as recreational fishing boats in a survey by the Ministry of Maritime Affairs and Fisheries in 1997. The income generated from this activity in the same year amounted to 11.8 billion won. The boats weigh approximately between one and one and half tons, and can load three to five people. They operate for 30 days a year on average. The fare for the entire boat
is between 30,000 and 50,000 won, and an angler is usually present on board. The unique practice here is that the fishing village cooperative organizes the trips, and cooperative members take turns with the boat. Recreational fishermen tend to be repeat visitors compared to visitors to home stays and restaurants. They make contacts to recreational fishing boats through metropolitan fish gear shops or phone reservations.

**MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES**

Contrary to the state’s objective of maintaining the common resource system in local communities by giving the subsidies and loans to the cooperative, the tendency of the cooperative was to privatize commonly held local resources as far as tourism is concerned. Some cooperatives lifted the ban on water access to outsiders. The long-term leasing of the fishing ground allowed the management of fishing grounds by non-members, and the flexible use of the fishing ground for purposes other than fishing also opened access to the space. This provided an opportunity for water-borne recreational activities and generated ripple effects to other tourist services such as accommodations and restaurants.

The second way is where the cooperative holds the title to a facility, which is actually owned and operated by an individual. Individuals pay between two million and five million won to the cooperative as rental fee, and the building ownership and operation are privatized. The term of the rent is between one and 19 years. The cooperative asks the renter either to pay yearly or to pay one-time in full. When the cooperative requests rent yearly, this means that to some extent, the cooperative invested in the construction of the facility and wanted to retrieve the investment cost in the form of rent. Rent can also work as interest on the government subsidies that the cooperative received for developing tourism. When the renter pays the fee all at once, it acts as compensation for the subsidy or long-term loan the cooperative received from the government. After the one-time transaction, the cooperative no longer receives any fees. In both cases, non-members are free to rent tourist facilities. The state-led investment to the cooperative typically does not lead to a collective operation of tourist businesses.

All of the above have promoted the quantitative growth of tourism, and have shifted away from collective local resource management. In turn, the development of tourism strengthened the privatization of commonly held local fishing grounds and of cooperative businesses because of (1) the already present trend towards privatization, intentionally by the cooperative and inadvertently by the state, and (2) the private good nature of tourist resources. In place, common assets are overlooked though tourism enterprises ultimately depend on common tourism assets such as village culture, scenery, clean water, and infrastructure for successful operation.
Would you consider it a success story?  X Yes □ No

Fishermen at sunset

MAIN KEY FACTORS

The BP for the implementation of this project carried out in Korean fishing communities mainly focus on the following issues:

- Fishermen had two opportunities for the diversifications process: tourism (the accommodations in fishing communities are typically part of the fishermen’s home that has been converted into guest rooms; restaurants) and recreational fishing (that is the third most popular tourist activity in the fishing communities)
- Fishermen had the capacity to take advantage of tourism development pattern.
- Fishermen were organized in cooperatives
ASIA 9 – INDONESIA

SEAWEEDS FARMING

Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector
**SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY**

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
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<tr>
<td>Location/Region</td>
<td>Laikang Village in Takalar District and Nisombalia Village in Maros District - South Sulawesi Province</td>
</tr>
<tr>
<td>Year</td>
<td>2011</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Fish farming (capture of wild juveniles/adults for farming purposes)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Study author: Achmad Zamroni and YAMAO Masahiro - Biosphere Science, Hiroshima University</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishing communities</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes ☐ No</td>
</tr>
</tbody>
</table>

**BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY**

Marine and Coastal Resource Management Project (MCRMP) had a pilot program called Small Scale Natural Resource Management (SNRM). Officially, SNRM was operational from 2003 to 2008 during the same period as the MCRMP. It covered 42 districts/cities. Nationally, SNRM had 2 main components such as economic development and small-scale coastal resource management at the village level. Economic development was conducted to improve the status of small-scale fishermen through implemented revolving funds. This is supposed to help fishers improve their incomes by introducing alternative livelihoods such as mariculture, training for food processing and revolving fund to support fishermen activity. Besides, the management of coastal resource was implemented by setting up marine protected area (MPA), mangrove rehabilitation, infrastructure development and set up the village fishing regulation.
Takalar District with a land area of 566.51 km² is located on the southern side of the capital city Makassar/Ujung Pandang of South Sulawesi Province. Data collections were conducted in Laikang Village, which is 63 km from Ujung Pandang. Ten years ago the community had been involved only in capture fisheries, mostly one day fishing by adopting gillnets. Villagers then began to implement seaweed culture by adopting the long line method. Those fishers who got more income from seaweed culture than capture fisheries naturally shifted to seaweed culture as a main income source. According to interviewed respondents in Laikang Village, all of them relied heavily on income coming from fisheries activities but they reported that farming seaweeds today is more profitable than fishing. The local fishery resources have declined and they now have to travel far involving an overnight trip of 4-5 hours to catch sufficient fish. Furthermore, the costs of fuel for the fishing boats and fishing gear have gone up. Before SNRM started, 87.5% of respondents earned income of less than IDR 500,000 per month. After SNRM started, their income increased to more than IDR 1 million. At this point, the fisheries activities consisted of both capture fisheries and aquaculture (mainly seaweed). At present, fishermen get more profit from their activities and seaweed culture has become their main income source. As well as working age men and women, grandmothers, mothers with infants and children were all involved in various activities. Today about 800 households, 90% of the village, farm the seaweed. The seaweeds are grown attached to long lines kept afloat by discarded plastic bottles in the sea adjacent to the village. While men carry out farming activities on the sea installing long lines and harvesting the seaweed, women work on the land tying small pieces of seaweed and plastic bottles to nylon ropes and sun-drying harvested seaweed.

Diversification of livelihood activities has reduced destructive fishing practices, and made finding fishing ground with abundant resources easier, decreasing operational cost and increasing fish catch. Seaweed farming reduced the ecological impact of fishing activities in combination with other resource management tools. SNRM gave start-up funds to stimulate and increase business such as assistance in procuring capture equipment, tools for fish peddling and milkfish presto (as a new livelihood activity). Alternative livelihoods, which are introduced to poor or small-scale fishers, should bring more economic benefit by making their products more marketable. In fact, however, in cases where a newly introduced livelihood is considerably capital-intensive, the small-scale fishers could hardly start without any support.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Main constraints:
The failures of some activities in Laikang Village are caused by several factors:

1. Participants in SNRM projects did not understand the meaning of a project and its goal.
2. Due to little assistance from government agencies, fishers could hardly implement new activities.
3. Project and village implementers suffered from lack of communication, coordination and inter-local governance cooperation.
4. Some project implementers (local governmental officers) lacked understanding about the condition and potential of the project site.
5. Internal conflict in the village became a great obstacle to design and implement project activities.

Future outlooks:
Cooperation among all stakeholders should have a greater role in developing the coastal areas. Farming seaweeds is a popular alternative livelihood approach that has been introduced into several tropical developing countries as a fishing diversification activity to provide extra income for poor coastal fishing communities and has a great potentiality to improve their livelihoods.

Would you consider it a success story?  X Yes  □ No

MAIN KEY FACTORS

In Laikang Village, a traditionally fishermen village, local fisheries resources have declined and the community shifted to seaweeds farming.

Best practices rising from the diversification process:

- The introduction of an alternative livelihood such as mariculture enhanced the food security
- Today about 800 households, 90% of the village, farm the seaweed
- Farming seaweeds is more profitable than fishing
- Cooperation among all stakeholders (while men carry out farming activities on the sea installing long lines and harvesting the seaweed, women work on the land tying small pieces of seaweed and plastic bottles to nylon ropes and sun-drying harvested seaweed).
- Diversification of livelihood activities has reduced destructive fishing practices
ASIA 10 – PHILIPPINES

SEAWEEDS FARMING

Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector
The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Philippines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Danajon Bank, Bohol Province.</td>
</tr>
<tr>
<td>Year</td>
<td>2011</td>
</tr>
<tr>
<td>sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Fish farming (capture of wild juveniles/adults for farming purposes)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Author study: Nicholas Anthony Owen Hill, Imperial College London, University of London and Institute of Zoology, Zoological Society of London</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishing communities</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes  □ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Danajon Bank is a double barrier reef approximately 130 km long, running between Bohol and Cebu Provinces in the central Philippines. Seventeen municipalities (from four provinces and two regions) each have areas of jurisdiction over Danajon Bank. Danajon Bank has 40 small islands ranging from 2-3 ha to about 300 ha. There are 234 coastal and island villages (barangays) on and around Danajon Bank with an estimated 28,238 fishers, 7,338 motorized fishing boats and 8,766 non-motorized fishing boats. Danajon Bank suffers from high population densities and high incidences of poverty. The island villages of Danajon Bank are highly dependent on marine resources including fishing. There are a wide range of fishing gears and methods in operation on Danajon Bank, with over 20 generic types of gear and 44 specific types of gear inventoried from four of the municipalities. These gears and methods range from hook and line to bottomset gillnets, driftnets, drive-in gillnets, trammel nets, fish corrals, seine nets, lift nets, traps, lantern fishing, flashlight fishing, gleaning and compressor fishing. There are also many highly destructive
gears and methods in use including blast fishing, cyanide fishing and Danish seine. Almost all fish and invertebrates are targeted and are either marketed or consumed by the fisher, including the poisonous pufferfish and juvenile fish and seahorses. Squid (locally known as nokos) and blue crabs (Portunus pelagicus, locally known as lambay) are important target species and form a large component of the landings. Fishing is an important component of the culture for many people on Danajon Bank and access to other occupations on the islands is limited. Fishing effort on Danajon Bank is unsustainable and catches have declined considerably in recent decades. The human population near Danajon Bank has increased in recent decades, which in the absence of many alternative occupations to fishing will likely lead to an increase in fisher numbers. As seaweed farming started in the Philippines in the 1960s and has since developed into a major export industry, Government actively started promoting seaweed farming within fishing communities on Danajon Bank in the mid-1990s. Assistance is primarily provided in the form of financial and technical assistance via People’s Organisations (Pos) to help PO members take up seaweed farming. Recognised POs can apply to the government for assistance through the municipal local government unit. Seed capital is provided that is used to buy seedlings and monolines which are distributed among PO members in the form of a loan per member. The municipal LGU also provides a license for a seaweed farming area that the PO members divide among themselves.

Areas of the reef are claimed by individuals or households for their seaweed farming use. These areas can vary in size depending on the resources of the individual or household and their ability to farm that area. Seaweed farmers are required to register these areas (up to 1 ha per household) with the municipal agricultural officer, and pay a license fee for its use. Sometimes, the municipal agricultural officer will then formalise the boundaries, normally by visiting the site and recording the location of the boundaries on a handheld global positioning system device. Nowadays many fishermen are converted to seaweeds farming although the process has requested many local administrative and economic supports.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

It is clear that solely introducing alternative occupations and passively allowing their development will be insufficient to change behaviours on the scale that is required for conservation, especially in the context of increasing human populations and other increasing environmental pressures such as climate change. Therefore, livelihoods-based approaches should be focused on providing the ‘enabling environment’ required to actively encourage and attract people to those alternative occupations. In the case of Danajon Bank, this involves building experience in seaweed farming and addressing issues of risk.
Would you consider it a success story?  X Yes ☐ No

Danajon Bank, algae harvesting

MAIN KEY FACTORS

The BP for the implementation of this project carried out in Danajon Bank mainly focus on the following issues:

- The island villages of Danajon Bank are highly dependent on marine resources for food security;
- Fishing is an important component of the culture for many people on Danajon Bank;
- Fishing effort on Danajon Bank is unsustainable and catches have declined considerably in recent decades;
- Diversification process as seaweed farming started to react to the poverty situation by fishing communities;
- Diversification of livelihood activities has reduced destructive fishing practices and converted many fishermen to seaweeds farming.
EUROPE 1 – FRANCE

FISHERMEN INVOLVED IN RESEARCH STUDIES

Broader diversification of the fisheries area into sectors not directly related to fishing, such as environmental, research, social services, renewable energies or other emerging sectors
# SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>France</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Picardie/Nord-Pas de Calais</td>
</tr>
<tr>
<td>Year</td>
<td>3 year study 2011-2013</td>
</tr>
</tbody>
</table>
| Sector/s involved in the Fisheries Multi-Functionality related activities | Environmental services (Design/management of Marine Protected Areas, samples/data collection, scientific research, guardians of the sea, oil spills recovery, waste management/removal, purification plants – bivalves for pollution reduction)  
Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations) |
| Actors involved in the implementation | The three Estuaries (Somme, Authie and Canche) FLAG/Fishermen/local Environmental NGO |
| Direct Beneficiaries | Fishermen |
| Still running?   | X Yes □ No |
| Reference        | [FARNET Project Summary #034-FR01-EN – Diversifying captures](#) |

## BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Bringing together environmental research and fisheries to diversify local production, this project has put fishermen at the heart of a process to develop an economically and environmentally sustainable strategy to ease pressure on their main target species while safeguarding their activity.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

This project is a good example of cooperation between fishermen and environmental research. This sort of cooperation can be extended to those fisheries areas around Europe where environmental organisations are addressing marine and fisheries issues.

Would you consider it a success story?  X ☑ Yes  ☐ No

American razor clam, Ensis directus(CC BY-SA 3.0 – Arne Hückelheim)

MAIN KEY FACTORS

The BP for the implementation of this project carried out in the French Region of Picardie/Nord-Pas de Calais, mainly focused on the following issues:

- The project brought together environmental research and fisheries to diversify local production;
- Fishermen played a key role in the process of developing an economically and environmentally sustainable strategy to ease pressure on their main target species while safeguarding their activity;
- Fruitful and proactive cooperation between scientists and fishermen.

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EUROPE 2 – DENMARK

TROUT FISHING TOURISM

Pluri-activity, whereby fishermen and their families continue to obtain income from traditional fishing, whilst also carry out integrative activities, such as fishing tourism or restaurants and catering.
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Island of Fyn, Denmark</td>
</tr>
<tr>
<td>Year</td>
<td>website development from July 2009 – January 2011</td>
</tr>
</tbody>
</table>
| Sector/s involved in the Fisheries Multi-Functionality related activities | Tourism (fishing-tourism, recreational/educational areas or activities)  
Fish farming (capture of wild juveniles/adults for farming purposes)  
Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations) |
| Actors involved in the implementation | FLAG: Fyn |
| Direct Beneficiaries | Tourist industry |
| Still running? | X Yes □ No |
| Reference | FARNET Project Summary #029-DK04-EN – Online promotion of fishing tourism |

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The initiative, “Seatrout Fyn”, run by the ten municipalities of the Danish island of Funen, received Axis 4 support for the development of a website to promote the island as a location for recreational sea trout fishing. The multilingual website aims to provide a comprehensive range of information to make recreational fishing holidays in the area a success. The goal is to establish Funen as “the best place for inshore fishing”. This includes working closely with professional fishermen to reduce the impact of their activities on the local environment as well as supporting a local fish hatchery to help repopulate the area with seatrout.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The project is transferrable to areas with potential for recreational fishing and tourism in general. On the other hand, the project needs solid cooperation between the local actors (both public and private) and a strong commitment to environmental conservation within plans to develop the local economy. It is a good example of integrated tourism project offering visitors information not only on the area’s fishing, but on places to stay, places to eat and how to get around.

Would you consider it a success story? □ Yes □ No

MAIN KEY FACTORS

The BP for the implementation of this project run by the ten municipalities of the Danish island of Funen mainly focuseded on the following issues:

- development of a website to promote the island as a location for recreational sea trout fishing;
- working closely with professional fishermen to reduce the impact of their activities on the local environment as well as supporting a local fish hatchery to help repopulate the area with seatrout;
- good example of integrated tourism project offering visitors information not only on the area’s fishing, but on places to stay, places to eat and how to get around.

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EUROPE 3 – SPAIN

ICE PRODUCTION

Pluri-activity, whereby fishermen and their families continue to obtain income from traditional fishing, whilst also carry out integrative activities, such as fishing tourism or restaurants and catering.
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Cataluna</td>
</tr>
<tr>
<td>Year</td>
<td>1 year (May 2009 – May 2010)</td>
</tr>
</tbody>
</table>
| Sector/s involved in the Fisheries Multi-Functionality related activities | Tourism (fishing-tourism, recreational/educational areas or activities)  
Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses) |
| Actors involved in the implementation | Fishermen organizations, tourism, restaurants |
| Direct Beneficiaries | Fishermen |
| Still running?   | ☑ Yes ☐ No            |
| Reference        | FARNET Project Summary #023-ES15-EN – Fishing organisation diversifies its ice production |

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

This project offers an example of how fishing organisations can be innovative in seeking to safeguard and improve their revenue by diversifying their traditional activities (in this case ice production) and tapping into new markets (tourism and restaurants).

The Cofradía (Spanish fishermen organization) decided to diversify its ice producing activities and seek out new markets. With support from the Delta del Ebro FLAG, the Cofradía adapted its ice making equipment so that it could produce ice-cubes for local restaurants and bars. Taking advantage of the touristic nature of the area, the Cofradía linked up with the local tourism agency and local distributors to secure clients for what is already proving to be a profitable activity.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Ice production is common to many fishing organisations around Europe. The idea of building on this activity is transferrable to many types of areas with a strong presence of tourism, bars and restaurants. This project offers a good example of how an imaginative idea has allowed a fishermen’s organisation not only to remain viable but to expand its activities into new and productive areas.

Would you consider it a success story? □ Yes □ No

Ice production

Production facility

MAIN KEY FACTORS

The BP for the implementation of this project run in the Region of Cataluna, mainly focuseded on the following issues:

- The Cofradía (Spanish fishermen organization) decided to diversify its ice producing activities and seek out for new markets. Fishermen adapted their ice making equipment so that it could produce ice-cubes for local restaurants and bars.
- Strong cooperation between Fishermen organizations, catering, restaurants;
- Touristic vocation of the area

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EUROPE 4 – SWEDEN

VALORIZATION OF BY-PRODUCTS

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
**SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY**

*The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.*

<table>
<thead>
<tr>
<th>Country</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Southern part of Lake Vänern</td>
</tr>
<tr>
<td>Year</td>
<td>Pilot study from June 2010 to September 2011 (16 months)</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses) By-products (fish waste, fish skin tanning)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>The project is led by a multidisciplinary team, consisting of eight fishermen from the Vänern area and academics from Gothenburg University and Chalmers University of Technology. It also involves several public and private partners, such as SIK – the Institute of Food and Biotechnology, which is helping with product development, and the Food &amp; Health Concept Centre, which has considerable project management expertise and a wide contact base within the fields of product and business development.</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>Reference</td>
<td><a href="#">FARNET Project Summary #008-SE06-EN – Valuing by-products of vendace roe extraction</a></td>
</tr>
</tbody>
</table>
BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

This pilot project brings together fishermen, universities and a variety of other public and private partners to research and develop new processes to generate value from the by-products of vendace (*Coregonus spp.*) roe extraction.

The team worked to test a number of possibilities for utilising vendace by-products, including:

- producing a new type of bait for freshwater crayfish, a sought after product of Lake Vänern
- the extraction of oil from vendace waste
- technical solutions to fine-tune existing male/female separation processes

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The project has been successful in developing adding-value processes, incorporating the experience of local stakeholders, as well as in fostering entrepreneurship and the pooling of expertise through the establishment of a local platform.

The focal point of this project is the effective cooperation between the different stakeholders (private, public, university, fishermen). This should be promoted and is easily transferable to other contexts. Within the area, the competence platform developed through the project helped to establish contacts with other Axis 4 project promoters (see project summary #006-SE06 – High School Project for Sustainable Fisheries).

The project establishes a basis for a wider adding-value initiative, involving fishermen in an innovation process which will facilitate and inspire further development within the area and, potentially, elsewhere.

Would you consider it a success story?  X Yes ☐ No
MAIN KEY FACTORS

The BP for the implementation of this project run in the Southern part of Lake Vänern, mainly focused on the following issues:

- multidisciplinary team involved in the project, consisting of fishermen, academics from Gothenburg and Chalmers Universities, several public and private partners;
- development of new processes generating value from by-products of vendace (Coregonus spp.) roe extraction.
- adding-value to products, matching the experience of local stakeholders, with a pool of expertise through the establishment of a local platform.

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EUROPE 5 – SPAIN

FEEDS FROM FISH WASTE

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
**SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY**

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Andalusia</td>
</tr>
<tr>
<td>Year</td>
<td>Activities running from September 2011 to date</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses) By-products (fish waste, fish skin tanning) Fish farming (capture of wild juveniles/adults for farming purposes)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Local Farming company/fish auction</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Farming company</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes ☐ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Summary #018-ES08-EN – Fishmeal from fish waste</td>
</tr>
</tbody>
</table>

**BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY**

The aquaculture company, Salinas del Astur, which breeds and commercialises sea bass and guilthead, saw a business opportunity in the discards and fish waste produced by the local fish auction. Until then, this fish waste produced no added value but was merely sent for incineration by the Town Hall. At the same time, the purchase of fishmeal implied an annual cost of €40 000 for the company.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

This project is transferrable to all fisheries areas with aquaculture and fish farming activities and which are generating sufficient volumes of fish waste. This initiative offers a good example of a diversification activity which is both profitable as well as making the company’s practices more environmentally friendly.

Would you consider it a success story?  

☐ Yes  ☐ No
MAIN KEY FACTORS

The BP for the implementation of this project run in the Region of Andalusia, mainly focused on the following issues:

- Example of interaction between the fishery and aquaculture sectors;
- Availability of a farming plant near a fish auction;
- Business opportunity in the discards and fish waste produced by the local fish auction, collected and used for fish farming purposes.

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EUROPE 6 – PORTUGAL

CRABS FOR BIO-MEDICAL INDUSTRY

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Portugal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Peniche</td>
</tr>
<tr>
<td>Year</td>
<td>24 months (November 2011 – November 2013)</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Environmental services (Design/management of Marine Protected Areas, samples/data collection, scientific research, guardians of the sea, oil spills recovery, waste management/removal, purification plants – bivalves for pollution reduction) Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses) By-products (fish waste, fish skin tanning)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Fishermen/bio-medical companies/Research Institute</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen, scientists, bio-medical companies</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes ☐ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Summary #019-PT04-EN – “Pilado” crab for bio-medicine</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

By looking into the biological components of the common swimming crab’s shell, this pilot project aims to increase the economic value of a resource that is presently discarded and to create market bridges between fishermen and other stakeholders of the area.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The resource (crab by-catch) is common in a number of fisheries areas and indeed chitin and astaxantin can also be found in other crustaceans which could also be considered for bio-medical use. The process itself (cooperation between fishermen and local research institutes) can be applied to many areas be it in the field of bio-medicine or other innovative uses of fisheries by-products.

Developing some of the more lucrative fisheries by-products such as those linked to the pharmaceutical industry requires specialised knowledge that fishermen can sometimes find amongst specific actors present in the area. This project illustrates how, with an inclusive and a well communicated local strategy, FLAGs can support very specific actors (fishermen, research units, biomedical companies) to develop links and work towards a common goal for mutual profit.

Would you consider it a success story? ☑ Yes ☐ No
MAIN KEY FACTORS

The BP for the implementation of this project run in the Region of Peniche, mainly focused on the following issues:

- Strong cooperation between Fishermen, bio-medical companies and Research Institutes brought;
- Chitin and Astaxantin are common elements used by the pharmaceutical industry;
- Increase the economic value of a resource (common swimming crab's shell) that is normally discarded and to create market bridges between fishermen and other stakeholders of the area.

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EUROPE 7 – FRANCE

FISHING TOURISM

Pluri-activity, whereby fishermen and their families continue to obtain income from traditional fishing, whilst also carry out integrative activities, such as fishing tourism or restaurants and catering.
## SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>France</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Le Var-Cote D’Azur</td>
</tr>
<tr>
<td>Year</td>
<td>2009-2011</td>
</tr>
</tbody>
</table>

**Sector/s involved in the Fisheries Multi-Functionality related activities**

- Tourism (fishing-tourism, recreational/educational areas or activities)

**Actors involved in the implementation**

- The “steering committee” includes:
  - The Director of Maritime Affairs of the Var Département (county)
  - Project Officer from the maritime department of the region (PACA)
  - Project Officer from the Agriculture, Marine and Forestry Service of the Var’s County Council
  - Project officer from the economic department of the “Communauté d’agglomération” (inter-municipal body) of Toulon – Provence – Méditerranée
  - President of Marco Polo Echanger Autrement
  - President of the Local Fisheries and Aquaculture Committee of the Var
  - Representative from the Environmental Service of St Raphaël
  - Representative from the Tourist Department of the Var

Secondly, a broader partnership of public and private bodies including fishing organizations, tourist offices, marine research organizations (IFREMER) environmental organizations (WWF) and regional and county departments in charge of maritime affairs.

**Direct Beneficiaries**

- Fishermen organizations/touristic operators/

**Still running?**

- ☐ Yes  ☒ No

**Reference**

- [FARNET Project Case Study #005-FR10-EN – Pescatourisme 83](#)
BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

This project transfers and adapts fishing-tourism experience gained in Italy to the context of the Var, France. Not only has it created a specific touristic activity that is in line with the type of fishing in the area but it has also involved the right actors to encourage the legislative evolution necessary to facilitate this activity around the French coast.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Pesca-tourism is among the first ideas that spring to mind when exploring avenues for fishermen to diversify their activities and the methodology of Pescatourisme 83 has strong potential to be transferred to other areas. And yet, it must be mentioned that it is also a practice with a finite potential to compensate for many of the difficulties in the fishing sector and is not necessarily suitable for all areas. For successful transfer to different areas, the project promoter insists on the importance of the following:

- clear definition of the context and needs of the area and the target audience
- finding the right partners to address these needs – and real participation of these partners
- development of a methodology that is adapted to the needs and objectives established

Pescatourisme 83 has already attracted interest from four other French FLAGs which have started work to set up similar programmes in their areas. A round of trials has already taken place in the Bay of Arcachon, while the following FLAGs are currently studying the viability of carrying out pesca-tourism: Marennes Oléron, Etang de Thau and Côte Basque.

Would you consider it a success story? X Yes ☐ No
MAIN KEY FACTORS

The BP for the implementation of this project run in the Cote d’Azur, France, mainly focused on the following issues:

- Creation of a specific touristic activity that is in line with the type of fishing in the area;
- Involvement of the appropriate actors to encourage the legislative evolution necessary to facilitate this activity around the French coast;
- Clear definition of the context and needs of the area and the target audience;
- Research and involvement of the right partners to address these needs – and real participation of these partners;
- Development of a methodology that is adapted to the needs and objectives defined
EUROPE 8 – FINLAND

FISH SKIN TO LEATHER INDUSTRY

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Finland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Ostrobothnia</td>
</tr>
<tr>
<td>Year</td>
<td>2010-2011</td>
</tr>
<tr>
<td>sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
</tbody>
</table>

**Actors involved in the implementation**

The project promoter was the Korsholm Adult Education Center. However, the idea behind the project initially came from the Ostrobothnian Fisheries Association, following a study visit to Gotland (Sweden) organised by the Österbotten FLAG. The FLAG played an important role in bringing together the various actors (Korsholm Adult Education Center; Ostrobothnian Fisheries Association; the Swedish Cultural Foundation in Finland, Svenska kulturfonden). The fisheries community was involved via the Fisher Women’s branch of the Ostrobothnian Fisheries Association.

In terms of the participants on the course, these were very diverse and ranged from the unemployed to the retired as well as including a local net maker and handicraft entrepreneurs.

<table>
<thead>
<tr>
<th>Direct Beneficiaries</th>
<th>Fishermen organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still running?</td>
<td>□ Yes  X □ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Case Study #002-FI02-EN – Tanning of Fish Skin</td>
</tr>
</tbody>
</table>
BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

This project proves that fish is not only a valuable food source but can also provide raw material for other more durable products, such as leather for clothing items. The project promotes the tanning and multiple use of fish skin through training, the sourcing of raw material, product design and marketing.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The greatest challenge for the project was the fact that fish skin is not well-known as a raw material in the leather industry, which meant there was a considerable need for promotion and awareness-raising. Another bottleneck was ensuring the continuous supply of the raw material. An important lesson of the project was the fact that fish skin tanning is a multi-phase process, which takes time, and it may be more appropriate for craftsmen, rather than fishermen, to undertake this work in order to ensure a high quality raw material. The success of the project is largely attributed to the FLAG manager’s ability to identify the opportunity during the visit to Gotland and his subsequent determination to promote the idea in his local fisheries area, building the necessary networks and “critical mass”. The local media also helped by giving good publicity to the project while the course marketing by the Adult Education Center of Korsholm and the Fisher Women’s network both helped to ensure good participation from the local community.

Would you consider it a success story?  X Yes  □ No
MAIN KEY FACTORS

The BP for the implementation of this project run in the region of Ostrobothnia, mainly focused on the following issues:

- The project promotes the tanning and multiple use of fish skin through training, the sourcing of raw material, product design and marketing;
- Promotion and awareness-raising to address the suspicion on using fish skin as a raw material for the leather industry;
- Continuous supply of the raw material
- Fisher Women’s network helped to ensure good participation from the local community

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EUROPE 9 – ESTONIA

FISHING TOURISM

Pluri-activity, whereby fishermen and their families continue to obtain income from traditional fishing, whilst also carry out integrative activities, such as fishing tourism or restaurants and catering.
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Estonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Kolga-Jaani, Lake Võrtsjärv</td>
</tr>
<tr>
<td>Year</td>
<td>February 2010 – February 2011 (1 year)</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Tourism (fishing-tourism, recreational/educational areas or activities)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>The project leader was the Võrtsjärv Foundation, which was established in 2000 to organise the joint planning of the development of the Lake Võrtsjärv region. The Foundation has two staff members; a director and a tourism coordinator, and its activities are planned and overseen by a seven-member board, nominated by the seven municipalities bordering Lake Võrtsjärv.</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Touristic operators, municipalities</td>
</tr>
<tr>
<td>Still running?</td>
<td>Yes ☑ No ☐</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Case Study #013-EE07-EN – Developing a recreation area</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The main aim of the project was to develop the tourism potential of Jõesuu, an area in the north of the Lake Võrtsjärv region, by developing fishing tourism and building on the area’s fishing culture and traditions. A supportive entrepreneurial environment was established and, with the help of fishing-oriented tourism products, visitors were attracted to the area. These tourism products have included trips in an old sailing boat (“kale-boat”) and demonstrations of traditional fishing methods and tools.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

This project represents a good example of how an area’s fishing “story” (fishermen, the kaleboat, fish, fishing tools and facilities, the life of a fisherman, and a fishing village) can form the basis of a tourism development strategy. However, key to the success of such a venture is the need for cooperation between the actors concerned, which can help to ensure a diversified product that is developed and promoted in a coherent way.

The project demonstrates that a lot can be done with minimal resources once those involved are prepared to start small and remain focused on a longer term goal (“big rivers emerge from small streams”). Small investments for the purchase of a lifejackets might seem unimportant at first, but they helped to establish the basic requirements that had allowed subsequent activities to take place. The project also shows how an active project team, following proper procedures, can successfully implement a project and effectively manage the project finances.

Would you consider it a success story? □ Yes □ No
MAIN KEY FACTORS

The BP for the implementation of this project run in the region of Kolga-Jaani, Lake Võrtsjärv, mainly focuced on the following issues:

- the aim was to develop fishing tourism, building on the area’s fishing culture and traditions.
- a supportive entrepreneurial environment was established and, visitors were attracted to the area also enjoying trips in an old sailing boat and demonstrations of traditional fishing methods and gears.

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EUROPE 10 – DENMARK

SEAWEED VALORIZATION

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Islands of Anholt, Fejrø, Skarø, Årø, Bjørnø, Ertholmene, Bornholm, Thurø</td>
</tr>
<tr>
<td>Year</td>
<td>two years (Jan 2011 – Dec 2012)</td>
</tr>
<tr>
<td>sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>The project involves eight islands, five of which are members of the “Danish Small Islands Food Network”. Bornholm, one of the biggest Danish islands, was the founder and is an active member of the European Culinary Heritage Network (<a href="http://www.culinary-heritage.com/index.asp">http://www.culinary-heritage.com/index.asp</a>). In all, 16 producers are participating in the project, either in cultivation, or in both cultivation and product development. They come from a variety of backgrounds and include: mussel growers, fish farmers, gardeners, a nature manager and artist, a wine producer, a cider producer, an ice cream producer, a producer of plant extracts and functional food, and a producer of jam, pickles and spiced herrings.</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Local communities/small scale economy</td>
</tr>
<tr>
<td>Still running?</td>
<td>☐ Yes ☒ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Case Study #009-DK1314-EN – Production of edible seaweed</td>
</tr>
</tbody>
</table>
BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

This project involves cooperation between stakeholders from two Danish FLAGs, one on the island of Bornholm and the other covering smaller islands, in commercially exploiting seaweed, an overlooked resource in Danish waters. By promoting the sustainable cultivation, harvesting and processing of seaweed, the project will assist in diversifying the local economies of the islands, thereby helping to maintain strong local populations and vibrant communities.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The essence of this project is development based on local resources that were previously unused or under-used. There has never been a tradition of eating seaweed in Denmark, but the emergence of the sushi culture and the New Nordic Cuisine has opened up a new market opportunity. The project concept is directly transferable to areas with under-utilised natural resources (fish by-catch, wild plants, old varieties of vegetables and cereals or traditional breeds of cattle or other animals). In Scandinavia, for example, the New Nordic Cuisine has created a demand for local, high-end products. In terms of organization of the project, the same organisational and financial systems could be used. Still the process could be streamlined further with, among others, an improved strategy to deal with the issues of interim financing.

Would you consider it a success story?  X Yes  □ No
MAIN KEY FACTORS

The BP for the implementation of this project run in the Islands of Anholt, Fejø, Skarø, Årø, Bjørnø, Ertholmene, Bornholm, Thurø, mainly focused on the following issues:

- This project involves cooperation between stakeholders from two Danish FLAGs, one on the island of Bornholm and the other one covering smaller islands, in commercially exploiting seaweed;
- By promoting the sustainable cultivation, harvesting and processing of seaweed the aim is to diversify the district production.

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EUROPE 11 – DENMARK

SEAWeed BASED PRODUCTS

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Strandby, Denmark</td>
</tr>
<tr>
<td>Year</td>
<td>2 years (2009-2011)</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Fishermen, SME</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>SME</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Summary #011-DK01-EN – The dining room of the Sea</td>
</tr>
</tbody>
</table>

**BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY**

This project is an example of market driven innovation which has led to the creation of a successful SME that employs 4 people and, after just two years, is generating a turnover of over €1.5 million. This is in a region, North Jutland, faced by population loss and a higher unemployment rate than the national average.

**MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES**

The project was developed by Jesper Pedersen, son of a fisherman who saw an opportunity in using seaweed as a base for the development of a new product range. He created a new business called “Havets spisekammer”, literally the “dining room of the sea” which develops and sells
different food products that all use seaweed as an ingredient. Products such as a seaweed spread, seaweed salad and seaweed flavoured salt were developed. Seaweed was also successfully used as condiment in meat dishes, pasta, bread and ham.

Jesper’s company outsources the manufacture of the various products to local producers specialized in the base of the product such as local bread, pasta or ham companies. He then sells the different final products under the “Havets spisekammer” common brand through 3 food store chains in Denmark and has also started exports to Germany. On top of the 4 new jobs directly generated in the new “Havets spisekammer” venture, this new range of products has also contributed to an increase in the activity of the local producers manufacturing the final products.

Would you consider it a success story?  X Yes  □ No

Seaweed based products
MAIN KEY FACTORS

The BP for the implementation of this project run in the region of Strandby, mainly focused on the following issues:

- The region, North Jutland, suffers of population loss and an higher unemployment rate than the national average;
- using seaweed as a base for the development of a new product range was considered an interesting opportunity in the area;
- On top of the 4 new jobs directly generated in the company which was established, this new range of products has also contributed to an increase in the activity of the local producers manufacturing the final products.

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EUROPE 12 – ESTONIA

FISH FESTIVAL

Pluri-activity, whereby fishermen and their families continue to obtain income from traditional fishing, whilst also carry out integrative activities, such as fishing tourism or restaurants and catering.
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Estonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Lakes Peipsi and Pihkva</td>
</tr>
<tr>
<td>Year</td>
<td>June – November 2010 (5 months)</td>
</tr>
<tr>
<td>sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses) Awareness programs of the fishery-based culture (schools, support to consumers, festivals)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>NGOs, local authorities and entrepreneurs. The project also took place with close involvement of the 4 Leader LAGs of the territory who offered their experience and support.</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen, Municipalities, tourism</td>
</tr>
<tr>
<td>Still running?</td>
<td>☒ Yes ☐ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Summary #003-EE08-EN – Fishing festivals &amp; activities</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The leading partner in the project was the inter-municipal NGO, Peipsi Association. The main fishing-related activities introduced to these local festivals included:

- Workshops introducing and teaching how to use different fishing gear, make fishing rods etc.
- Discussion platforms for fishermen to share experience, news, difficulties and solutions
- Popularising seafood: competition to make the best fish soup
- Angling contests & fishing relay-race
• Fish fair where fishing companies present and sell their products
• Advertising and introducing the Association of Peipsi Fishery Developers in the “Info-tent”

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The project was successful in generating better visibility for the fisheries sector around the Lake Peipsi area and directing consumers towards fish products as an option for their regular diet. The project also brought fishermen together with other actors in the area including tourist services and these contacts are expected to make fishermen more “present” and active in the territory. Moreover, it initiated cooperation with the Leader LAGs who are proving a useful source of experience for the FLAG.

This type of project is especially transferable to areas and countries with a strong tradition of local fairs and festivals. Interest by the general public in meeting and talking with their local fishermen is something that can be encouraged in most areas with a view to raising awareness and encouraging the consumption of local fish. Such events are also an opportunity for families to get out and spend time together.

Would you consider it a success story? □ Yes  □ No
MAIN KEY FACTORS

The BP for the implementation of this project run in the lakes Peipsi and Pihkva, mainly focused on the following issues:

- Cooperation between fishermen and other actors in the area including tourist services, expecting fishermen to be more active in the territory;
- Involvement of the Leader LAGs who are proving a useful source of experience for the FLAG.
- High visibility for the fishery sector in the Lake Peipsi, with possible positive fallout.

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EUROPE 13 – PORTUGAL

KM 0 BRAND

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Portugal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Minho-Lima</td>
</tr>
<tr>
<td>Year</td>
<td>12 months (May 2011 – May 2012)</td>
</tr>
</tbody>
</table>
| Sector/s involved in the Fisheries Multi-Functionality related activities | Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)  
Awareness programs of the fishery-based culture (schools, support to consumers, festivals) |
| Actors involved in the implementation | “KM 0” is a branding initiative to promote local sourcing. It brings together stakeholders from the entire chain of actors involved in the production, processing, sales, marketing and consumption of fisheries products from the Minho-Lima area. |
| Direct Beneficiaries | consumers |
| Still running? | ☐ Yes ☑ No |
| Reference       | FARNET Project Summary #028-PT01-EN – Km 0 |

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The development of the brand, “KM 0”, started by developing a traceability system with a quality charter for a number of products from Minho-Lima. The brand identifies quality foods produced close to local consumers. To attract the initial interest of the public and other regions, a launch event was organized, bringing together local producers and famous chefs as well as Spanish and French delegations of catering professionals to discover the products and learn how to prepare them. The event covered a wide array of local products, from wines to dairy products to pastries,
and offered a specific workshop for local seafood products. Six other events of this kind, two gourmet itineraries and a presence in the local and online media are amongst the tools being developed by the project to attract visitors and professionals. In parallel with this outreach strategy and the brand development, a third action seeks to work on the image of these products and the conditions in which they are sold or consumed. By supporting the refurbishment of sales counters, backed by promotional material, in sales outlets and restaurants which join the KM 0 initiative, product marketing is harmonized, providing a clear and coordinated message to consumers on the benefits of purchasing local products branded Km 0.

**MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES**

Traceability and branding schemes can be a valuable marketing tool for many fisheries areas looking to add value to their local products. However, project promoters should look carefully at the seasonality of the products they wish to promote and the market demand in their catchment area. This project capitalizes on the strong identity of the products targeted as well as the broad range of different types of products which should benefit distributors and consumers alike.

Would you consider it a success story? X □ Yes □ No

Chefs involved in the project

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**SMALL SCALE FISHERIES MULTI-FUNCTIONALITY BEST-PRACTICES**
Local fisherman

MAIN KEY FACTORS

The BP for the implementation of this project carried out in the Portuguese region of Minho-Lima, mainly focused on the following issues:

- Branding initiative to promote local sourcing;
- Bringing together stakeholders from the entire chain of actors involved in the production, processing, sales, marketing and consumption of fisheries products;
- Organization of events, bringing together local producers, famous chefs and catering professionals to discover the products and learn how to prepare them;
- Work on the image of these products and the conditions in which they are sold or consumed, providing a clear and coordinated message to consumers on the benefits of purchasing local products branded Km 0.

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EUROPE 14 – SWEDEN

VALORISATION OF LOCAL PRODUCTIONS

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Southern Like Vänern</td>
</tr>
<tr>
<td>Year</td>
<td>10 months (May-October 2012)</td>
</tr>
</tbody>
</table>
| Sector/s involved in the Fisheries Multi-Functionality related activities | Tourism (fishing-tourism, recreational/educational areas or activities)  
Awareness programs of the fishery-based culture (schools, support to consumers, festivals)  
Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations) |
| Actors involved in the implementation | catering students, fishermen and local enterprises |
| Direct Beneficiaries | Catering students |
| Still running? | ☐ Yes ☒ No |
| Reference | Project Summary #006-SE06-EN – High School Project for Sustainable Fisheries |

**BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY**

This project supports the valorisation of local species through an inclusive community initiative bringing together catering students, fishermen and local enterprises around a small but promising project to raise awareness and promote local and sustainable sourcing. In the second year of the course, students are required to put together their own menus, following specific criteria. This provided the opportunity to develop a project on sustainable fisheries based on the Swedish version of the WWF’s buyer’s list of fish and shellfish.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The project demonstrated the successful involvement and knowledge transfer within a community with a long term vision. Although this was a small scale project, it has the potential to deliver longer term results by disseminating the outputs in subsequent training programmes and by capitalising the experience transversally within the community.

Would you consider it a success story? X ☑ Yes ☐ No

Catering students

MAIN KEY FACTORS

The BP for the implementation of this project carried out in the Southern Like Vänern region, mainly focused on the following issues:

- Cooperation between catering students, fishermen and local enterprises
- Valorization of local species through an inclusive community initiative
- Involvement of young people with a positive fallout in terms of education to sustainable fishery products consumption

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EUROPE 15 – FRANCE

FISHERMEN AND MPA

Broader diversification of the fisheries area into sectors not directly related to fishing, such as environmental, research, social services, renewable energies or other emerging sectors
The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>France</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>St Pierre d’Oléron</td>
</tr>
<tr>
<td>Year</td>
<td>2011-2012</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Environmental services (Design/management of Marine Protected Areas, samples/data collection, scientific research, guardians of the sea, oil spills recovery, waste management/removal, purification plants – bivalves for pollution reduction)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Fishermen, Environmental NGOs, local stakeholders</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>Yes</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Summary #004-FR05-EN – Coordinating the role of fishermen in designing a Marine Protected Area</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

This project supports the recruitment of a designated fisheries sector coordinator to ensure that fishermen are fully integrated into the process of developing a Marine Natural Park (MNP), both in terms of communication and decision-making.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The involvement of fishermen in the design and management of Marine Protected Areas can be applied in many European fisheries areas. This example shows how Axis 4 can provide solutions which facilitate communication both within the fisheries sector and with other sectors. Among the next steps and ideas arising from this project, a possible Axis 4 cooperation project with fishermen...
of other geographic areas involved in the design or management of MPAs (Arcachon & Brittany) is foreseen. These would involve organised visits of fishermen to their counterparts to replicate the successful experience at national level and facilitate the transfer of experience.

**Would you consider it a success story? X Yes □ No**

![Map of Charente-Maritime, France](image)

**MAIN KEY FACTORS**

The BP for the implementation of this project carried out in the region of St Pierre d’Oléron, mainly focused on the following issues:

- Cooperation between Fishermen, Environmental NGOs, local stakeholders;
- Involvement of fishermen in the design and management of Marine Protected Areas;
- Proactive attitude in the decision-making process

*Pictures and maps presented in this sheet are courtesy of FARNET (www.farnet.eu), pictures remain the property of their original owners.*
EUROPE 16 – FRANCE

INTEGRATION OF INJURED FISHERMEN

Broader diversification of the fisheries area into sectors not directly related to fishing, such as environmental, research, social services, renewable energies or other emerging sectors
### SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>France</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Charente-Maritime</td>
</tr>
<tr>
<td>Year</td>
<td>2012</td>
</tr>
<tr>
<td>sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations) Others (please specify) Social assistance, labor</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>injured and disabled fishermen</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Summary #017-FR05-EN – Jobs for Injured Fishermen</td>
</tr>
</tbody>
</table>

**BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY**

This project supported the social enterprise, “Atelier des Gens de Mer”, to facilitate the return of injured and disabled fishermen to the work place. Capitalizing on their specific skills, they are employed in fisheries and other marine related activities.

**MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES**

The principals of this project are transferable to other countries’ fisheries areas, especially those with a busy port, active the year round and that counts on regular fish auctions and/or other activities. The business model of this type of project will usually rely, to some extent, on public funds and social security systems will vary from country to country. However, public services in a number of countries are increasingly relying on private input to social objectives. The types of jobs to be created will vary depending on the fisheries sector of the area and the physical or mental...
disability of the target group in question. They may include: repair and maintenance work to boats, manning oyster beds, work in the fish auctions, as well as supervisory roles.

An excellent example of integrating social objectives into a viable and sustainable business model which creates employment and generates revenue in a fisheries community.

Would you consider it a success story? X Yes □ No

Injured fishermen integration

MAIN KEY FACTORS

The BP for the implementation of this project carried out in the region of Charente-Maritime, mainly focused on the following issues:

- Reintegration of injured and disabled fishermen to the work place;
- Capitalization of fishermen specific skills, to perform other marine related activities;
- Involvement of the social security system (social funds);
- Integration of social objectives into a viable and sustainable business model which creates employment and generates revenue in a fisheries community.

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EUROPE 17 – GERMANY

INTERNET DIRECT SALES

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Schleswig-Holstein, Baltic Sea</td>
</tr>
<tr>
<td>Year</td>
<td>2011-2012</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Participants in the project include fishermen, maritime organizations (such as the museum port of Probstei in Wendtorf, the marine biology station in Laboe, the maritime information route in Möltendorf and the IFMgeomar Aquarium) and local authorities (such as the municipality of Wentorf).</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen, consumers</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes □ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Case Study #024-DE13-EN – Fish from the Cutter</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

This project has successfully linked increasing demand for fresh and local fish with the use of cheap and widespread IT technologies. The project developed a direct sales system for fish coming from the “AktivRegion Ostseeküste” (Baltic Sea Coast Active Region) that makes use of a dynamic website www.fischvomkutter.de. Fishermen send details of their catch and their estimated landing time using their mobile phones via SMS to this website while at sea. Customers can then see where, when and what fish will be available for sale directly from the boat when it comes to port.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The project is transferable to other coastal areas which meet the requirements for the direct sales of fish products. This involves compliance with local regulations regarding direct sales (in line with food safety and control requirements), availability of suitable landing places and presence of customers (tourists, purchasers...). The technical implementation of the project linked with the website and SMS system is on the other hand considered as pretty straightforward.

Would you consider it a success story? X ☑ Yes ☐ No

MAIN KEY FACTORS

The best practices carried out in the project “Fish from the boat” in the Baltic Region of Germany, regard the following main issues:

- The project has successfully linked increasing demand for fresh and local fish with the use of cheap and widespread IT technologies;
- Fishermen send details of their catch and their estimated landing time using their mobile phones via SMS to this website while at sea;
- Customers can then see where, when and what fish will be available for sale directly from the boat when it comes to port;
- Fishermen, Environmental NGOs, local stakeholders have been involved through the whole process of the establishment of the MPA;
- The project supported the recruitment of a designated fisheries sector coordinator to ensure that fishermen are fully integrated into the process of developing a Marine Natural Park (MNP), both in terms of communication and decision-making.

Pictures and maps presented in this sheet are courtesy of FARNET (www.farnet.eu), pictures remain the property of their original owners.
EUROPE 18 – DENMARK

UNDERVALUED SPECIES VALORISATION

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Læsø island, Kattegat strait</td>
</tr>
<tr>
<td>Year</td>
<td>2009 – present</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Fishermen, caterers, touristic operators</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen, caterers</td>
</tr>
<tr>
<td>Still running?</td>
<td>☒ Yes ☐ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Summary #030-DK10-EN – Smoked weever fish</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

On the island of Læsø, a local fisherman used Axis 4 to invest in developing a new range of products based on an undervalued species, the weever fish. By adding value to this local resource and creating an “iconic” product, he is encouraging more people to discover the fish itself but also the island.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The development of ‘smoked weever fish’ has added a new product to the range of local delicacies on offer to residents and visitors at the fishing port of Østerby. As the fish is smoked at the nearby smoke house, owned by local fish monger, the full added value of the product is retained on the island. As for the restaurant itself, it has been a strong success: its income doubled from the first business year to the second, followed by a 20% increase the following year; customers have
reacted positively and many return several times each summer (the number of visitors to the restaurant has doubled since it opened in 2009); and, a comparative analysis of the dishes sold per day shows that weever fish, with 50 servings per day, is now amongst the restaurant’s most popular dishes (alongside its fish patties and ahead of Norwegian Lobster with approximately 30 servings per day).

Would you consider it a success story? X ☑ Yes ☑ No

MAIN KEY FACTORS

The BP for the implementation of this project carried out in the Danish region of Læsø Island, Kattegat strait, mainly focused on the following issues:

- Developing a new range of products based on an undervalued species;
- By adding value to this local resource and creating an “iconic” product, people is encouraged to discover the fish itself, but also the region;
• Cooperation between fishermen, caterers and touristic operators;
• Increase in the income for restaurants serving undervalued species-based dishes.
EUROPE 19 – DENMARK

RESTOURANT and DIRECT SALE

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>North Jutland</td>
</tr>
<tr>
<td>Year</td>
<td>2008-2009</td>
</tr>
</tbody>
</table>
| Sector/s involved in the Fisheries Multi-Functionality related activities | Tourism (fishing-tourism, recreational/educational areas or activities)  
|                 | Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)  
|                 | Infrastructure improvement/management (landing spots, harbour services, market) |
| Actors involved in the implementation | FLAG North Jutland, fisherman |
| Direct Beneficiaries | fisherman                              |
| Still running?   | ☒ Yes ☐ No                               |
| Reference        | FARNET Project Summary #025-DK01-EN – Multi-functional fish restaurant, shop & work space |

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Hune is a small town of 3 000 inhabitants, located in one of the top 5 Danish tourism destinations 40 km away from the city of Aalborg. The area has beautiful beaches that attract tourists from all over Denmark but also from Norway, Sweden and Germany. Despite a good tourism offer, it lacked restaurants and shops focusing on high quality fish products. In order to fill this gap, in 2009 Mogens Klausen decided to set up a business that brought these services together under the same roof. To put this into action, he contacted the North Jutland FLAG that provided him with technical and financial support.
The complex was built from scratch and started running over the summer of 2009. Open all the year, it includes a 30-seat restaurant, a processing smoke house and a fish shop. Around 70% of the sea products processed and served in the restaurant (lobster, mackerel, herring, cod, shrimp and eel) come from the area and only the salmon is bought abroad in Norway. In addition, the shop also uses two of Mr. Klausen’s old wagons to sell fish all week in different points of North Jutland. Although most business takes place locally with tourists and residents, since last Christmas they started selling their smoked fish to shops in other parts of Denmark, including a big hotel in Copenhagen. Plans for the future include building a second smoke house to increase their production of processed fish and thus compensate the low activity of the restaurant during the autumn/winter season.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

This initiative is a good example of a multifunctional business that is able to reorient its activities according to the season: due to the touristy nature of the area during the summer they put more emphasis on the restaurant and the shop; in autumn and winter they prioritise the smoke house to cope with the orders of processed fish.

Would you consider it a success story? X ☑ Yes ☐ No
MAIN KEY FACTORS

The BP for the implementation of this project carried out in the Danish region of North Jutland, mainly focused on the following issues:

- Willingness of the area to high quality fishery product sales due to the lack of restaurants and shops focusing on this market target;
- Cooperation between a private initiative and the local FLAG which provided financial support;
- Multifunctional business that is able to reorient its activities according to the season: due to the touristy nature of the area during the summer they put more emphasis on the restaurant and the shop; in autumn and winter they prioritise the smoke house to cope with the orders of processed fish.

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EUROPE 20 – PORTUGAL

EEL CONSERVATION MEASURES

Broader diversification of the fisheries area into sectors not directly related to fishing, such as environmental, research, social services, renewable energies or other emerging sectors
### SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Portugal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Aveiro</td>
</tr>
<tr>
<td>Year</td>
<td>January 2012 – January 2014</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Environmental services (Design/management of Marine Protected Areas, samples/data collection, scientific research, guardians of the sea, oil spills recovery, waste management/removal, purification plants – bivalves for pollution reduction)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Fishermen, researchers</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>☐ Yes  ☒ No</td>
</tr>
<tr>
<td>Reference</td>
<td>FARNET Project Summary #032-PT02-EN – A future for the eel, fishermen and researchers cooperate</td>
</tr>
</tbody>
</table>

### BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

Fishermen in Aveiro are participating in environmental conservation measures to help restore the sustainability of a once economically valuable species: the European eel. Their participation is allowing researchers to go further and faster in their study and giving fishermen a role in assessing eels stocks, and a voice in proposing conservation measures.

### MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES
The European regulation on eel stock recovery is applicable to all EU Member States. This example of involvement of the local fisheries sector (inclusion in an interdisciplinary study, knowledge transfer, improving the sector’s image...) could therefore be transferred to all fisheries communities in FLAG areas with current or historical eel catch.

Would you consider it a success story? X ☐ Yes ☐ No

European eel (Anguilla Anguilla)

MAIN KEY FACTORS

The BP for the implementation of this project carried out in the Portuguese region of Aveiro, mainly focused on the following issues:

- Cooperation between fishermen and scientists for the conservation of the European eel;
- The real involvement of fishermen associations allowed researchers to give fishermen a role in assessing eels stocks, and a voice in proposing conservation measures.

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EUROPE 21 – ITALY

TORRE GUACETO MPA

Broader diversification of the fisheries area into sectors not directly related to fishing, such as environmental, research, social services, renewable energies or other emerging sectors
# SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Italia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Torre Guaceto Marine Protected area (Region Puglia, Province Brindisi)</td>
</tr>
<tr>
<td>Year</td>
<td>2012</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Environmental services (Design/management of Marine Protected Areas, samples/data collection, scientific research, guardians of the sea, oil spills recovery, waste management/removal, purification plants – bivalves for pollution reduction)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Study author: Paolo Guidetti, University of Salento</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes ☐ No</td>
</tr>
</tbody>
</table>

## BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The marine protected area of Torre Guaceto extends over 2200 ha, with 8 km of coastline. Its maximum depth is 50 metres. The reserve is divided into 3 separate regulatory areas. The Torre Guaceto territory has always been a site frequented by fishermen. Upon its creation in 1991 fishing was initially prohibited in the marine protected area. With the help of scientists and fishermen, the managers have established a management plan where a partial opening of the reserve for fishing was decided on. Joint governance with the fishermen was then put in place to ensure adapted and regulated co-management: the fishing effort has been determined and the fishing gear selected in order to limit the impact of fishing on juveniles, benthic communities and habitats (length of trammel nets and mesh size).
Fishing is now regulated in the marine protected area and only artisanal fishing can be practised in zone C once a week and by a limited number of artisanal fishermen (all other forms of fishing are prohibited). Fishing catches monitored inside and outside of the MPA show that catches on the inside of the MPA are 2 to 3 times higher than those on outside of the MPA. The fishermen have formed a cooperative of fishermen from Torre Guaceto, bringing the fishermen together in an association, with the idea of fishing less and selling more. They are clearly identified and speak with one voice. They have received public awards and have created a quality mark. Communication has been essential to enhance the marine protected area of Torre Guaceto and its co-management with the fishermen. Fishermen from Torre Guaceto emphasised the good results of this co-management experience, which translates into good returns for their business. Fishermen are also promoting their business among the younger generation and intervene in schools to stress the importance of sustainable fisheries and sustainable environment.

In Italy, the regulations do not permit fishermen to be part of the management bodies of marine protected areas. On the other hand, each site is free to get involved in management activities such as the creation of the management plan and the defining of the MPA rules (such as at Torre Guaceto). It is also the case in Tavolara, a larger Sardinian MPA, which started a similar co-management process and approached fishermen to establish regulations.

**MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES**

The Torre Guaceto fishermen:

“The fisherman from Torre Guaceto recalled what led them to adopt the co-management process: "In 2001, surveillance of the reserve was applied; we therefore felt that a part of the sea had been "stolen" from us. We poached for 4 years. Afterwards we were able to discuss and collaborate. We now fish 4 times more than 10 years ago. If we can show the fishermen that by collaborating, the returns are better, we can convince them”.

Would you consider it a success story?  X Yes  ☐ No
MAIN KEY FACTORS

The best practices carried out establishing the Torre Guaceto (Puglia Region) MPA regard the following main issues:

- The Torre Guaceto territory has traditionally been exploited by fishermen
- The fishing effort and gears has been determined in order to limit the impact on fishing on juveniles, benthic communities and habitats.
- Fishermen established a cooperative with the idea “fishing less and selling more”
- The cooperative received public awards and created a quality mark
- Communication has been a main driver for the business promotion
- Greater involvement of schools and young generations
- Fishermen involvement in a specific management plan
EUROPE 22 – ITALY

OCTOPUS MANAGEMENT PLAN

Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Italia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Porto Ercole (Region Tuscany)</td>
</tr>
<tr>
<td>Year</td>
<td>2007</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses) Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Fishermen, traders</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes ☐ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

*Octopus vulgaris* is a valuable species which is very much appreciated on the local and national market. Many coastal areas in Italy largely depend on this resource, but often the fishing activities suffer of a lack of management.

This project had the target to set common rules for the fishermen in Porto Ercole for the best exploitation of this resource.

Biology of the species allows to release live individuals after catch. The management plan set a minimum size of 400 gr. For the catch, so each octopus under this weight is released in the environment. The fast growth of the species, together with their restricted distribution area, permits fishermen to re-catch the same individuals after a short period of time with a significant increase in weight.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

This is a good example on how fishermen can decide and set their own fishing rules, according to their needs and prospective. In Porto Ercole after this management plan has been implemented the average amount of catch per single vessel, increased from 10 to 30 tons per year.

Would you consider it a success story?  X Yes □ No

MAIN KEY FACTORS

The best practices carried out implementing the Octopus management plan in Porto Ercole (Tuscany Region) regard the following main issues:

- Octopus vulgaris is a valuable species, very much appreciated on the local market; Biology of the species allows to release live individuals after catch;
- The management plan set a minimum size of 400 gr for the harvest, specimens under this size are released;
- The fast growth of the species, together with their restricted distribution area, permits fishermen to re-catch the same individuals after a short period of time with a significant increase in weight.
- In Porto Ercole after this management plan has been implemented the average amount of catch per single vessel, increased from 10 to 30 tons per year.
EUROPE 23 - ITALY

SQUILLA MANTIS STOCKING

Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Manfredonia (Region Puglia)</td>
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<tr>
<td>Year</td>
<td>2009</td>
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<table>
<thead>
<tr>
<th>Sector/s involved in the Fisheries Multi-Functionality related activities</th>
<th>Environmental services (Design/management of Marine Protected Areas, samples/data collection, scientific research, guardians of the sea, oil spills recovery, waste management/removal, purification plants – bivalves for pollution reduction)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adding value to fishery products (direct sales and/or short circuits, new products, processing, new marketing strategies, support to businesses)</td>
</tr>
<tr>
<td></td>
<td>Fish farming (capture of wild juveniles/adults for farming purposes)</td>
</tr>
</tbody>
</table>

| Actors involved in the implementation | Fishermen, scientists |
| Direct Beneficiaries | Fishermen |
| Still running? | Yes ☑ X No |

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

*Squilla mantis* is a valuable resource for many fisheries in Italy. The best period for the fishing is between January-March, which is also spawning time for the species. This crustaceous is mainly captured by trawlers which often perform huge catches after storms. In these occasions, due to the great availability on the market, prices fall. Fishermen in Manfredonia, started this project in cooperation with scientists of the University of Viterbo with the aim to test the possibility to stock in tanks *Squilla m*. for a period of time after the catch, optimizing their value on the market.
MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The results of the project showed good potentiality for this activity. Individuals kept in captivity did not lose weight and several food administrations were tested. The main constraint was the need to have big volumes since high densities lead to cannibalism.

Would you consider it a success story? X Yes □ No

MAIN KEY FACTORS

The BP carried out implementing the this project in the region Puglia concern the following main issues:

- Cooperation between fishermen and scientists;
- This project started with the aim to address commercial constraints for the fishing of squilla;
- Good results in terms of feasibility of stocking for market reasons.
OCEANIA 1 – MELANESIA

CRABS AND MANGROVES MANAGEMENT

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc) and fisheries management
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Vanuatu, Melanesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Eastern Coastline of the Island of Malekula</td>
</tr>
<tr>
<td>Year</td>
<td>2002-</td>
</tr>
<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>AKTE Committee, Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP)</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>X Yes ☑ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The successes of the Amal-Crab Bay initiative in conserving marine resources in their tabu area, located on the eastern coastline of the island of Malekula, Vanuatu, has been underpinned by the use of a traditional resource management system and innovative awareness-raising efforts. The bay forms part of the Port Stanley mangrove area, and is home to extensive fringing reefs, seagrass beds, and a high abundance of crabs. This resource is critical for local livelihoods and food security, and has been the focus of sustainable harvesting regulations since 2002, when community chiefs instituted a ban on harvesting within the mangrove forests.

These fishing community-led efforts have been strengthened with support from an array of international partners; as a result, the initiative has overseen an increase in marine and coastal resources, compiled an evidence base for the bay’s mangrove ecosystem, and developed local ecotourism infrastructure. With an increasing population and the advent of a cash economy leading to an increased demand for cash income, the supply of land crabs in the bay began to

\[ \text{Fish in Med} \]

SMALL SCALE FISHERIES MULTI-FUNCTIONALITY DATABASE
decline in the late 1990s. Within a few years, crab collectors reported finding it increasingly
difficult to harvest a sufficient number of crabs; their collecting methods were, conversely, seen as
the cause of this decline. Collectors were using baits and nets to trap crabs, as well as digging out
individuals from holes and using lights in night fishing to bundle enough crabs for sale in nearby
markets. In September 2002, in response to the trend of declining land crab numbers, community
chiefs instituted a tabu on the mangrove forests and reefs within the bay to prohibit crab
collection, supported by the Malampa Provincial Authority. This created the Amal-Krabbei Tabu
Eria (AKTE); a management committee was subsequently established to oversee its
implementation, marking the beginning of the Amal-Crab Bay Community Resource Management
Initiative. The AKTE mandate includes two zones: the tabu area, in which harvesting is prohibited,
and an access area that extends along the coast, in which regulations ensure that crab harvesting
is conducted in a sustainable fashion. The AKTE Committee has established clear rules to govern
both, on display within the bay area. The strict protection of biodiversity within the tabu area has
spillover effects for the access area, ensuring a refuge area for breeding stocks of marine species.
Tabu area prohibitions:

- No terrestrial or marine resources, including plants and animals, may be killed or removed
  from the AKTE.

- No non-living resources, including dead wood, stones, shells, coral rubble, or sand, may be
  removed from the AKTE.

- All household waste must be disposed in disposal drums in the area.

- No person may make fires or cook food outside the area’s barbecue house (constructed
  recently for tourism purposes.)

- No person may enter the tabu area without the authorization of the AKTE committee.

- Authorized visitors must pay 1,000 Vatu (approximately USD 10) per small truck and boat,
  or 1,500 VT (USD 16) per large truck, to enter the tabu area, and must be accompanied by a
  member of the AKTE committee.

- Passengers of yachts are allowed to swim and walk in the AKTE for a 1,000 VT usage fee.
  They are subject to all rules of the tabu.

Access area sustainable use regulations:

- A person may collect max. 30 crabs to eat, and 80 to sell, per day.

- Crabs must be larger than four fingers across their carapace to be harvested.
• Crabs with eggs must not be harvested.

• The access area is divided among the sixteen local communities.

Each fishing community access area is subject to local rules and regulations, which must be respected by all community members.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

The achievements of the AKTE initiative to date include significant increases in the abundance of marine and coastal resources, improved local management capacity, national and international recognition, and an improved evidence base for the area’s mangrove ecosystem. The tabu area has provided a site for the regeneration of other marine species in addition to land crabs. The AKTE initiative has generated economic benefits for the members of its constituent communities through two main channels. The organization collects money through fees for access to the conservation site, as well as an anchorage fee for mooring yachts in the access area. This is an income stream that the project hopes to exploit through the further development of ecotourism. The AKTE Committee has also begun collecting revenue from the use of the newly-constructed information centre. These revenues have been reinvested in building a water system at the project site. The second source of economic benefit for the communities of Amal and Crab Bay has come through increased sales of land crabs at market. The increase in harvests noted between 2005 and 2010 of 430% has translated into an increase in annual sales from 555,200 VT (USD 6,019) to 2,386,000 VT (USD 25,868) over the same period, emphasizing the substantial benefit of sustainable crab harvesting to local communities. Cardisoma crabs are also a common source of meat for villagers within the project area. While most meats are eaten a few times a month, Cardisoma are typically gathered 1 to 4 times a week by 95% of local households; the increase in their availability has therefore also improved local food security.

Would you consider it a success story?  XYes  ☐No
MAIN KEY FACTORS

The Amal-Crab Bay Community Resource Management Initiative started the activities in response to the trend of declining land crab numbers.

Best practices rising from the diversification process:

- Community chiefs instituted a tabu on the mangrove forests and reefs within the bay to prohibit crab collection;
- A management committee was subsequently established to oversee its implementation: the Amal-Krabbei Tabu Eria (AKTE);
- The AKTE mandate includes two zones: the tabu area, in which harvesting is prohibited, and an access area that extends along the coast, in which regulations ensure that crab harvesting is conducted in a sustainable fashion;
- The strict protection of biodiversity within the tabu area has spillover effects for the access area, ensuring a refuge area for breeding stocks of marine species;
- Minimum size introduced for crab harvesting and crabs quota introduced;
- The access area is divided among the sixteen local communities;
- Fees and regulations to enter the tabu area established which must be respected by all community members;
- Significant increases in the abundance of marine and coastal resources resulted;
- Improved local management capacity;
- National and international recognition;
- Economic benefits for the members of its communities.
THE IMPACT OF A MPA IN THE FISHERMEN COMMUNITY

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc) and fisheries management
SMALL FISHERIES - MULTI-FUNCTIONALITY SURVEY

The purpose of this survey is to collect international experiences which have been undertaken with the aim to introduce the concept of Multi-Functionality in small scale fisheries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Solomon Islands</th>
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</thead>
<tbody>
<tr>
<td>Location/Region</td>
<td>Arnavon Community Marine Conservation Area</td>
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<tr>
<td>Year</td>
<td>1995</td>
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<tr>
<td>Sector/s involved in the Fisheries Multi-Functionality related activities</td>
<td>Fishery Management (involvement/promotion of management plans, synergies with FLAGS, Producers Organizations)</td>
</tr>
<tr>
<td>Actors involved in the implementation</td>
<td>Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP)</td>
</tr>
<tr>
<td>Direct Beneficiaries</td>
<td>Fishermen</td>
</tr>
<tr>
<td>Still running?</td>
<td>☑ Yes ☐ No</td>
</tr>
</tbody>
</table>

BRIEF DESCRIPTION OF THE ACTIVITIES RELATED TO FISHERIES MULTI-FUNCTIONALITY

The nation of the Solomon Islands is made up of a double chain of 922 islands covering more than 835,000 square miles of the Pacific Ocean, string out southeast of Papua New Guinea. A scientific assessment led by the Nature Conservancy showed that the Solomon Islands has coral diversity greater than most places on Earth and the country is one of the world’s top five for fish diversity. The Arnavon Community Marine Conservation Area was established in 1995 as the first community-managed marine conservation area in the Solomon Islands. The 157-km² area is home to nesting grounds of the endangered Hawksbill sea turtle. This Marine Protected Area, created to stem the overexploitation of dwindling marine resources, attracts ecotourism that provides a valuable source of income for local communities. A management committee that represents the three founding villages – Kia, Wagina and Katupika – helps resolves resource conflicts. In partnership with The Nature Conservancy, this initiative has led attempts to diversify sources of income and nutrition for the villages’ fishing communities, including making handicrafts for visiting...
tourists, seaweed harvesting. The Marine Protected Area (MPA) encompasses three small uninhabited islands, flourishing reefs, fish-filled lagoons, and beaches that are home to thousands of hawksbill sea turtles. The communities of Kia, Waghena, and Katupika are home to approximately 2,200 people; most local livelihoods in the Arnavons depend on the marine environment. These include fishing, sea cucumber harvesting, trochus shell collection (used to make buttons), and seaweed farming. Since the establishment of this protected area, numbers of these critically endangered species have increased by nearly 400%, as well as increases in populations of coral reef fish and commercial species of marine invertebrates.

The primary cost of conservation to local people has come through the loss of revenue from the sale of fish caught from the reefs surrounding their islands. Reef fishing is still permitted within the conservation area for subsistence purposes but alternative source of income has been promoted as seaweed farming. This began in 2003, and was initially a successful source of community income.

MAIN CONSTRAINTS AND FUTURE OUTLOOKS FOR THE IMPLEMENTATION OF THE FISHERIES MULTI-FUNCTIONALITY EXPERIENCES

Support for the MPA is predominantly based on its expected longterm benefits, however, rather than its impacts on household wellbeing to date. The respondents are also very positive about the contribution of the MPA in terms of the maintenance and revival of local culture and traditions. In many other aspects, however, the surveyed community members were less positive about its impacts, especially concerning local infrastructure, fish catches, access to markets, and household income. They also did not feel that the MPA management communicated effectively or had promoted the role of women within the communities. These results demonstrate that support for the MPA exists in spite of the relatively limited social and economic benefits it has brought the communities of Waghena, Kia, and Katupika, in part due to the failure of the fisheries centre to adequately compensate local fishers for the decrease in the price of reef fish. The project has been able to successfully communicate the idea that the MPA will deliver long-term benefits to its constituent communities; the delivery of these benefits is therefore integral to the future sustainability of the project. The re-opening of the fisheries centre and the development of the Arnavons as an ecotourism destination would both help to ensure future economic gains for the communities’ households.

Would you consider it a success story? ☐Yes ☐No to be analyzed next years (long term benefit for the fishing communities?)
Early attempts to diversify income sources for community members focused on deep-sea fishing. Photo: Djuna Ivereigh. Equator Initiative Environment and Energy Group, United Nations Development Programme (UNDP)
MAIN KEY FACTORS

The BP for the implementation of this project carried out in Arnavon Community Marine Conservation Area mainly focus on the following issues:

- Community established a first community-managed marine conservation area in the Solomon Islands;
- This Marine Protected Area attracts ecotourism that provides a valuable source of income for local communities;
- A management committee was established (that represents the three founding villages);
- Diversifying sources of income and nutrition for the villages’ fishing communities, including making handicrafts for visiting tourists, seaweed harvesting were successfully activated;
- A successful source of community income and long-term benefits to its constituent communities
GUIDELINES DEFINITION - DRIVING FACTORS

Considering the evidence that the success of a diversification project/activity is often associated with a few key elements which, despite of the different contexts, tend to be of similar nature, the approach was to identify for each of the BP which have been collected, a set of “key factors” which resulted to be crucial for the successful implementation of the activity itself.

A macro identification of the main key factors which have been considered is provided below:

- Stakeholders active involvement
- Associative models promotion
- Environmental sustainability
- Women/vulnerable groups empowerment
- Local production valorization
- Direct link between production and research activities
- Promotion and dissemination

On the basis of the analysis of the BP database, the aim was to define a restricted and representative diversification processes group as it is detailed in the following categories:

1. Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector;

2. Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc);
3. Pluri-activity, whereby fishermen and their families continue to obtain income from traditional fishing, whilst also carry out integrative activities, such as fishing tourism or restaurants and catering;

4. Broader diversification of the fisheries area into sectors not directly related to fishing, such as environmental, research, social services, renewable energies or other emerging sectors.

Moreover, according to specific features of the ones which better fit with the Mediterranean context, a further selection has been carried out.

The following 10 BP have then been selected in order to undergo a deeper analysis from the FISHINMED working groups.
SELECTION OF THE BEST PRACTICES TAILORED ON THE MEDITERRANEAN COUNTRIES

Starting from the analysis of the collection of Best Practices, the next step was to focus the attention on the ones which showed the specific topics to be potentially tailored on the Mediterranean context.

Although some of the following ten projects have been implemented in specific context which are often very different from the Mediterranean fisheries, indications and common patterns can be sorted out for a deeper Mediterranean analysis.

The exploitation of the stocks in the UE is more and more implemented under specific management plans which depend on the collection and analysis of the stocks’ scientific data. Several examples have been provided on how cooperation with scientists can drive fishing communities towards a better exploitation of marine resources. In other cases, it is shown how fishermen can set their own rules to preserve the environment and the stocks on which they depend.

Especially in contexts where market dynamics play an important role on the fishing communities, diversification of productions tailored on the species and/or process valorization, becomes extremely effective. This is the case of several initiatives carried out both in Europe (Danmark, Portugal) and in other countries (Brazil, Indonesia).

Finally, technological platforms can be a good opportunity to promote and optimize the impact of fishery productions on the market. This approach is obviously feasible only in the context showing the higher profiles of technological development.
EUROPE 21 – ITALY

TORRE GUACETO MPA

Broader diversification of the fisheries area into sectors not directly related to fishing, such as environmental, research, social services, renewable energies or other emerging sectors

MAIN KEY FACTORS

The best practices carried out establishing the Torre Guaceto (Puglia Region) MPA regard the following main issues:

- The Torre Guaceto territory has traditionally been exploited by fishermen
- The fishing effort and gears has been determined in order to limit the impact on fishing on juveniles, benthic communities and habitats.
- Fishermen established a cooperative with the idea “fishing less and selling more”
- The cooperative received public awards and created a quality mark
- Communication has been a main driver for the business promotion
- Greater involvement of schools and young generations
- Fishermen involvement in a specific management plan
MAIN KEY FACTORS

The best practices carried out implementing the Octopus management plan in Porto Ercole (Tuscany Region) regard the following main issues:

- **Octopus vulgaris** is a valuable species, very much appreciated on the local market; Biology of the species allows to release live individuals after catch;

- The management plan set a minimum size of 400 gr for the harvest, specimens under this size are released;

- The fast growth of the species, together with their restricted distribution area, permits fishermen to re-catch the same individuals after a short period of time with a significant increase in weight.

- In Porto Ercole after this management plan has been implemented the average amount of catch per single vessel, increased from 10 to 30 tons per year.
MAIN KEY FACTORS

The best practices carried out in the project “Fish from the boat” in the Baltic Region of Germany, regard the following main issues:

- The project has successfully linked increasing demand for fresh and local fish with the use of cheap and widespread IT technologies;
- Fishermen send details of their catch and their estimated landing time using their mobile phones via SMS to this website while at sea;
- Customers can then see where, when and what fish will be available for sale directly from the boat when it comes to port;
- Fishermen, Environmental NGOs, local stakeholders have been involved through the whole process of the establishment of the MPA;
- The project supported the recruitment of a designated fisheries sector coordinator to ensure that fishermen are fully integrated into the process of developing a Marine Natural Park (MNP), both in terms of communication and decision-making;

INTERNET DIRECT SALES

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)
MAIN KEY FACTORS

The BP for the implementation of this project carried out in the Danish region of Læsø Island, Kattegat strait, mainly focused on the following issues:

- Developing a new range of products based on an undervalued species;
- By adding value to this local resource and creating an “iconic” product, people is encouraged to discover the fish itself, but also the region;
- Cooperation between fishermen, caterers and touristic operators;
- Increase in the income for restaurants serving undervalued species-based dishes.
MAIN KEY FACTORS

The BP for the implementation of this project carried out in the Portuguese region of Minho-Lima, mainly focused on the following issues:

- Branding initiative to promote local sourcing;
- Bringing together stakeholders from the entire chain of actors involved in the production, processing, sales, marketing and consumption of fisheries products;
- Organization of events, bringing together local producers, famous chefs and catering professionals to discover the products and learn how to prepare them;
- Work on the image of these products and the conditions in which they are sold or consumed, providing a clear and coordinated message to consumers on the benefits of purchasing local products branded Km 0.
AFRICA 3 – SENEGAL

THE FISHERS’ ASSOCIATION OF THE RURAL COMMUNITY OF MANGAGOULACK MANAGES A COMMUNITY CONSERVED AREA

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc) and fisheries management

MAIN KEY FACTORS

Fishermen belonging to eight villages in central Casamance manage a community conserved area with the aim to improve local income, strengthening food security and protecting biodiversity.

Best practices emerging from the establishment of the Association:

- The Fishers’ Association of the Rural Community of Mangagoulack faced the declining fish catches establishing a community-driven resource management plan
- The association is directly involved in conservation and surveillance activities
- The association based the fish stocks management in a “zoning system”
- The larger association was the first of its kind in Senegal, unique in engaging local and regional governments to legally recognize community fishing rights
- Monitoring demonstrated a Fish stock regeneration
- The example has been followed by the local women that associate to manage shellfish collection
AMERICA 3 – BRAZIL

WOMEN PROCESSING TILAPIA

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc)

MAIN KEY FACTORS

A group of 14 women, wives and daughters of local Betume’s farmers (North-eastern State of Sergipe), joined efforts and established the Women Association of Betume having in mind to add value to the farmed fish (tilapia).

Best practices rising from the Association works:

- Installation of a small ice plant that guaranteed better conservation standards for tilapia fillet and high quality fish
- Highest quality seafood available in the region (sold with better prices)
- Ice surplus sold
- Direct sales to restaurants (short circuits)
ASIA 9 – INDONESIA

SEAWEEDS FARMING

Diversification of primary production activities (e.g. new fishing techniques and gear) – i.e. diversification within the fishing sector

MAIN KEY FACTORS

In Laikang Village, a traditionally fishermen village, local fisheries resources have declined and the community shifted to seaweeds farming

Best practices rising from the diversification process:

- The introduction of an alternative livelihood such as mariculture enhanced the food security
- Today about 800 households, 90% of the village, farm the seaweed
- Farming seaweeds is more profitable than fishing
- Cooperation among all stakeholders (while men carry out farming activities on the sea installing long lines and harvesting the seaweed, women work on the land tying small pieces of seaweed and plastic bottles to nylon ropes and sun-drying harvested seaweed).
- Diversification of livelihood activities has reduced destructive fishing practices
OCEANIA 1 – VANUATU, MELANESIA

CRABS AND MANGROVES MANAGEMENT

Diversification of activities within the fish value chain (often regarding those adding value to fish products: short circuits as direct sales, marketing strategies, etc) and fisheries management

MAIN KEY FACTORS

The Amal-Crab Bay Community Resource Management Initiative started the activities in response to the trend of declining land crab numbers.

Best practices rising from the diversification process:

- Community chiefs instituted a tabu on the mangrove forests and reefs within the bay to prohibit crab collection
- A management committee was subsequently established to oversee its implementation: the Amal-Krabbei Tabu Eria (AKTE)
- The AKTE mandate includes two zones: the tabu area, in which harvesting is prohibited, and an access area that extends along the coast, in which regulations ensure that crab harvesting is conducted in a sustainable fashion
- The strict protection of biodiversity within the tabu area has spillover effects for the access area, ensuring a refuge area for breeding stocks of marine species.
- Minimum size introduced for crab harvesting and crabs quota introduced
- The access area is divided among the sixteen local communities
- Fees and regulations to enter the tabu area established which must be respected by all community members
- Significant increases in the abundance of marine and coastal resources resulted
- Improved local management capacity
- National and international recognition,
- Economic benefits for the members of its communities
CONCLUSIONS

This report is to be intended as a support for the working groups of the FISHINMED project which can use the information and reviews that have been reported, to address the specific issues of diversification of fishing activities in the Mediterranean context.

A worldwide analysis of the best practices connected with the multi-functionality of the sector has been carried out, together with a further selection of the best practices tailored on the Mediterranean countries. In both cases – regardless of the specific context - the following main driving factors for the success of any undertaking of such initiatives have been identified:

1. Deep knowledge of the territory and of the legislative framework in force  
2. Participative approach towards local communities  
3. Scientific approach  
4. Effective community-based management  
5. Allocation of adequate financial resources to diversification processes  
6. Availability of specific training for fisheries operators/stakeholders  
7. Direct involvement of vulnerable groups, particularly women and young/disadvantaged people  
8. Promotion of cooperative and associative models for the management of diversification activities  
9. Biodiversity protection as an economic and sustainable development driving force  
10. Raise awareness on diversification models (tourism, environment operators etc.), the environmental sustainability and strategic importance as a part of the value chain.

The global financial and economic crisis has revealed Mediterranean vulnerability to external economic shocks. Largely dependent on the export of commodities, many of the continent’s economies suffered setbacks in economic growth and in their
efforts to meet the Millennium Development Goals by 2015. In particular the fishery sector is showing deep criticalities which must be taken in due consideration. Diversification of the fishing activities, holds great potential to increase Mediterranean sector resilience and would contribute to achieving and sustaining long term economic growth and development in the basin.

The expansion of activities in artisanal fisheries, or indeed the development of new activities, is a significant challenge and requires a combined effort by Mediterranean governments, the private sector and the international community. In addition, and in light of the small size of many small scale fisheries economies, a regional approach to economic diversification is imperative to reap the benefits of larger domestic markets and economies of scale.

A responsible management of natural resources and good governance represent a must to support private enterprises, harness their innovative potential, and implement other innovative ideas put forward in this study.
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