



**Regional Fisheries Livelihoods Programme  
for South and Southeast Asia (RFLP)**

# Seaweed for a better life

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**This case study is an example of an intervention to boost incomes and improve livelihoods in vulnerable households, by supporting women and their families to improve processing and marketing of seaweed products in Indonesia.**

## Introduction

This case study documents activities undertaken by the Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP) which is funded by Spain and implemented by the United Nations Food and Agriculture Organization.

RFLP has been operational since 2009 and aims to improve the management of fisheries resources and the livelihoods of vulnerable fishing communities in Cambodia, Indonesia, Sri Lanka, the Philippines, Timor-Leste and Viet Nam. The strategy featured in this case study comprises two main areas: the provision of technical support to producer groups; and the strengthening of supporting institutional capacity.

These aspects, along with the motivation, perseverance and sense of community of the beneficiaries, have been key to the success of this initiative.

The interventions carried out by the RFLP in Indonesia contribute to poverty reduction through livelihoods diversification while adding value to seaweed products contributes to food security, employment and women's empowerment (MDG1 and MDG3).

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## Situation Analysis

The Nusa Tenggara Timur (NTT) archipelago in Indonesia comprises 853 islands. NTT province has 20 districts, one municipality and 281 sub-districts, which include 2,667 villages. The population in 2010 was estimated at 4.7 million and it is the only province in Indonesia that has a predominantly Roman Catholic population.

NTT is also one of the poorest provinces in Indonesia with malnutrition reported (World Food Programme, 2010) especially in rural and remote areas. The province depends mainly on agriculture with the average urban income exceeding that of rural areas by around six times. Food waste due to losses through traditional food storage is very high, estimated at 25 to 30 percent (Bottema *et al*, 2009).

A baseline survey carried out by RFLP in 2010 indicated that in NTT province, processing of fish and aquatic products was limited. Consumers were more accustomed to eating fresh fish, with processed aquatic products not common. Preservation techniques were only applied when there was a surplus of fresh fish that remained unsold in local markets with resulting, mainly low quality products used

for household consumption. From an economic perspective, these activities were of relatively limited importance.

With declining catches and the often irregular supply of fresh fish and other aquatic products, processing is essential. It results in products lasting longer, fetching higher prices and reaching more distant inland communities where people may not have access to the nutritional benefits of aquatic products. Actions to support enhanced processed product quality therefore act as both a livelihoods option to reduce vulnerability of coastal communities and as an overall contribution to better food security.

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Figure 1: Women and child carrying water in Sulamu village

## Sulamu Village

RFLP has worked with some 20 communities and groups in three districts and one municipality of NTT province, namely Kupang Municipality, Kupang District, Alor and Rote Ndao Districts to improve the post harvest quality of their fisheries and aquatic products.

One community RFLP has supported is Sulamu, a small village in Kupang District. Here a group of women producers have seen their livelihoods improve considerably through their collaboration with the RFLP.

Sulamu is one hour away by boat from Kupang City or about three hours along a very poor quality road.

The village is home to Bajau people, a traditional Muslim ethnic group of sea nomads, and local Timorese people, who are mainly Christian.

The major livelihoods options in Sulamu are fishing (mainly carried out by the Bajau people), seaweed farming and animal husbandry.

Some agricultural products are produced, however due to the scarcity of water and high soil salinity, vegetable and fruit crops production is difficult.



Figure 3: Seaweed drying racks in Sulamu Village



Figure 2: Map of Sulamu, Kupang, NTT, Indonesia

Under these conditions, seaweed farming is a reliable livelihood option.

In the past, seaweed was produced, dried and sent to Kupang and then on to Surabaya as a raw material for processing. Although the income stream was regular, the producers occupied the lowest position on the value chain and this resulted in relatively low returns. Some processing of seaweed did take place, but only for home consumption.

However, since 2011, the RFLP has worked with a women's group in the village to improve the production quality of local processed seaweed products.

The key beneficiary in this case study is 41-year-old Mrs. Shinta Lona, better known in Sulamu village as 'Mama Fons.'

"My first encounter with RFLP was a turning point for me. Since then my life has changed significantly," she said.

This first encounter occurred in 2011, when RFLP staff visited Sulamu to develop livelihoods activities with the village fishers and seaweed farmers. Shinta's product was discovered by chance.

"We invited the [RFLP] team for some tea when they came to talk with my husband [a seaweed farmer] about potential improvements to our drying racks for seaweed. Rikhun [the national consultant for post-harvest] tried my pillus<sup>1</sup> – he mentioned that my product, if improved, could be sold in Kupang and invited me to work with RFLP to see its potential."

Through interaction with RFLP, Shinta was able to improve the quality of her pillus and started selling it, where previously it had only been for family consumption. She also encouraged other women in her village to form a processor group and urged her fellow seaweed farmers to produce improved quality seaweed.

RFLP support included step-by-step improvement of her product through training on increasing product hygiene (better sanitation and removing potential hazards), personal hygiene (the use gloves, apron, etc.) and overall hygiene in the processing room (excluding rodents, etc.). She received support to improve her recipe and received basic equipment to produce more professional packaging instead of the plastic bags previously used. Attractive



Figure 4: Mama Fons with her products

labels were designed under a "Mama Fons" brand, while RFLP also provided technical support to obtain PIRT health and safety certification which is needed if products are to be sold in shops, as well as Halal certification which opens the door to Indonesia's huge Muslim market.

Furthermore, RFLP helped Mama Fons introduce her product to supermarkets, minimarkets, and gift shops in Kupang City. The products also featured at provincial fairs highlighting products from across NTT, and at nationally staged events in Jakarta.

"I also joined an exposure visit to successful processors in Surabaya to learn new seaweed processing techniques. This was all facilitated by the RFLP," explained Shinta. "We spent two days working as interns in a small processing plant and learned a lot."

As a result of their hard work and the training and technical advice provided by RFLP, Shinta and her group have improved their income significantly. "Before, when selling the raw material, we were only making a profit of about IDR 6,000 (USD 0.6) a kilo for dried seaweed. Now selling pillus we make a profit of around IDR 40,000 (USD 4) per kilo," explains Shinta.

However, the success is not only a matter of increased income. "We are happy that we can contribute to the improvement of conditions in our community which has such high levels of unemployment. Some of the teenagers are starting to help after school and we are able to pay them. Our main concern is to ensure that people in



Figure 5: Seaweed farmer

our community have employment, especially young people, and our dream is to be able to contribute to this with a processing plant," Shinta said.



Figure 6: RFLP Project team testing Dodol



Figure 7: Pillus with the brand "Mama Fons"

## The facilitator team

One of the key factors behind the success of Mama Fon's group as well as other small processors supported by RFLP has been the strategy to form a well trained and highly motivated group of support staff and mentors to act as change agents.

"We created four groups of facilitators, and assigned one group per district. Each group had four people: two representatives of the district government, DKP<sup>2</sup>, one representative of a local NGO and one representative of an education institution", said Mr. Rikhun, RFLP's National Post-harvest Consultant.

This combination was very constructive – government officers brought the policy knowledge plus the institutional support, NGO representatives brought people-centered perspectives (and most of the time, women oriented), while the educators brought technical knowledge and educational methodologies.

"We trained these facilitator groups at the beginning of the programme to become trainers themselves. We provided technical advice on post-harvest issues as well as conflict resolution and team building skills. Some of them had little experience working with communities, but we taught them how to use Participatory Rural

Appraisal PRA) techniques. The lack of experience was also not an issue, as we provided them with a lot of support," said Rikhun.

"When we selected this group, we looked at their motivations and their wish to serve their community. It is important to note that the facilitators received no extra salary to do this job – they provided their time and effort, which can be considered as in-kind support to the RFLP by their organizations" Rikhun added proudly. "They did this to learn new skills and serve their communities. And I think this is what made our actions successful. Without their commitment, this would have been impossible."

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Figure 8: Some of the TOT Alumni with the National Coordinator (first to the left in red).

<sup>2</sup> Marine Affairs and Fisheries Agency

For the facilitators, working in this way was also a new experience. “My institution [DKP] is in charge of fish processing, however, the focus has always mainly been on capture fisheries with little attention given to other aspects of the supply chain,” said Samuel Alnabe. “My experience with RFLP opened my mind, as I understood that much can be done to add value to fish and other aquatic products, and that there are other actors we have to consider, not only fishers, but also processors, who are mainly women.”

In the beginning, the facilitator groups were unaware of what was required of them. They attended training thinking that that would be the end of it, however on the last day of the training they were given a task: to prepare a list of potential processor groups that could receive support from RFLP. A week after the training they met again, and with the RFLP staff, selected four or five processing groups in each district. The criteria used for the final selection were that groups should not have previously received support – or if they had received some, it had never been followed up.

They then realized their involvement with RFLP was just beginning.

Many were enthusiastic about the idea of becoming “community facilitators”. Others were less so, concerned about the amount of work they already had and that these new tasks would be an added burden. Meanwhile, some feared that they did not have enough knowledge to teach others. In the end their worries were unfounded with RFLP providing all the technical advice and support needed.

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Figure 9: A community awareness campaign



Figure 10: Community consultation meeting

## The way forward

The success story of Mama Fons is just one example of the results of training and the engagement of facilitator groups.

In recognition of Mama Fons' achievements, her product was chosen for promotion nationally by the Ministry of Marine Affairs and Fisheries through the "*national branding for fisheries product*" programme. This programme promotes leading fisheries products from provinces to retail giants like Carrefour. These products will be sold under a new brand called '*Freeze and Fresh*'. The improved product will come in attractive, modern packaging, and be laboratory tested to verify safety and nutritional content.

The main challenge now for the Mama Fons group is to ensure sufficient supply of material for national retail chains, as they will need to produce and deliver 100 kg of seaweed *pillus* a week. This will be a major step up as previously the five-strong group produced a maximum of 10 kg per week. To meet this increase in demand five more people have joined the group, including some Bajao people, increasing the sense of unity within the community.

As with many small-scale producers, access to capital is a major obstacle to increasing production. Following RFLP support, the group, which is now more professionally run

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Figure 11: Mama Fons group is accessing microfinance for the first time

and with 'bankable' products has also received attention from a micro-finance institution, Swasti Sari. This should enable them to further expand their business.

In addition to producing *pillus* Shinta and her group are also looking at new products. Following RFLP training and visits to other producers they have also started to produce *dodo*<sup>3</sup> (compacted seaweed jelly). This famous snack can be found in large stores, hotels, and at the airport in Kupang. Mama Fons' team is improving the quality, packaging and marketing of dodol. DKP donated equipment for dodol production, however it was never used due to insufficient power. "We have electricity in the village, but it is insufficient for the processing equipment," explained Shinta. "We hope that Sulamu village gets better noticed by the government so we can get the support the village needs."

8 <sup>3</sup> Dodol is a common snack in Indonesia. Sweet, green, sticky and thick it can be made from various ingredients such as corn, brown sugar, milk, rice, apples, pineapples, strawberries and other fruit. It is usually consumed when families and friends gather, and is also sold as a gift.

## Scaling up

To expand seaweed farming in NTT and replicate the success of Mama Fons, RFLP and DKP are working with BAPPEDA<sup>4</sup> to produce a Road Map for Seaweed Development in the province.

This Roadmap will support larger-scale industry as well as small-scale processors, by examining the entire supply and value chain. It will require the collaboration of different stakeholders, making use of the networks created by RFLP through its facilitators.

When the RFLP ends in August 2013, coordination will fall under the SPADU<sup>5</sup> office. In addition, a Fisheries Information Marketing System (FIMS) is also being developed, which will facilitate access to fisheries-related data, and will be used by the different government departments to develop policies.



Figure 12: The Mama Fons Brand



Figure 13: Mama Fons with members of her group

<sup>4</sup> The Planning and Development agency.

<sup>5</sup> The Integrated Secretariat under the coordination of BAPPEDA.

## Lessons Learned

Key lessons learned are as follows:

- The need for support to be on-going – RFLP has provided on-going support to Mama Fons' group on a step by step basis. This on-going mentoring has been vital to the success of the group. (Do not just give training then expect communities to be able to carry it out their own with no further assistance).
- The motivation of the beneficiaries – Much of the success of the Mama Fons group is due to group motivation to better themselves and learn more. This positive attitude and entrepreneurial spirit has been vital. (Emphasis must be placed on appropriate beneficiary selection at the outset).
- All stages of the product value/market chain should be effectively developed. However this is time consuming and resource intensive (mainly people hours).
- Building of local capacity – The building of local mentoring capacity (government staff, NGOs etc.) must be integral to ensuring the success of the initiative and helps facilitate sustainability and replication.
- The involvement of local counterparts and facilitators – Once trained, the facilitators were actively involved in RFLP actions and received on-going mentoring to help them put their skills to use and build confidence. (Facilitators cannot just be trained and 'left to it').
- Scaling up production capacity is a challenge for small-scale producers. 'Centers of production' should be supported where producers can group together to maximize economies of production scale.

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## **Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP)**

The RFLP operates in 5 main outputs; implementation of co-management mechanisms to improve the management of the resources, safety at sea and vulnerability reduction, improved post-harvest and marketing of aquatic products, livelihoods strengthening and diversification and micro-finance services. In addition to Indonesia, the Programme is also being implemented in 5 other countries: Cambodia, the Philippines, Sri Lanka, Timor-Leste and Viet Nam.

For more information, please visit: [www.rflp.org](http://www.rflp.org)