



MINISTERIO
DE ASUNTOS EXTERIORES
Y DE COOPERACIÓN



**REGIONAL FISHERIES LIVELIHOODS PROGRAMME
FOR SOUTH AND SOUTHEAST ASIA (RFLP)**

**Enhancing Small-Scale Coastal Fisheries
Livelihoods in Nusa Tenggara Timur
Province through Improved Processing and
Marketing**

For the Regional Fisheries Livelihoods Programme for South and Southeast Asia

Prepared by
Angela Lentisco
M&E Advisor
Regional Fisheries Livelihood Programme

February 2013

Disclaimer and copyright text

This publication has been made with the financial support of the Spanish Agency of International Cooperation for Development (AECID) through an FAO trust-fund project, the Regional Fisheries Livelihoods Programme (RFLP) for South and Southeast Asia - GCP/RAS/237/SPA.

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO, AECID, or RFLP.

© FAO 2013

FAO encourages the use, reproduction and dissemination of material in this information product. Except where otherwise indicated, material may be copied, downloaded and printed for private study, research and teaching purposes, or for use in non-commercial products or services, provided that appropriate acknowledgement of FAO as the source and copyright holder is given and that FAO's endorsement of users' views, products or services is not implied in any way.

All requests for translation and adaptation rights, and for resale and other commercial use rights should be addressed to www.fao.org/contact-us/licence-request or to copyright@fao.org.

FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org.

For copies write to: Steve Needham, RFLP Information Officer
FAO Regional Office for Asia and the Pacific
39 Phra Athit Road
Bangkok 10200
Thailand
Tel: (+66) 2 697 4000
Fax: (+66) 2 697 4445
E-mail: RAP-Publications@fao.org

Bibliographic reference

For bibliographic purposes, please reference this publication as:

Lentisco, A. (2013). Enhancing Small-Scale Coastal Fisheries Livelihoods in Nusa Tenggara Timur Province through Improved Processing and Marketing Regional Fisheries Livelihoods Programme (RFLP) for South and Southeast Asia (GCP/RAS/237/SPA)

TABLE OF CONTENTS

EXECUTIVE SUMMARY	5
INTRODUCTION.....	8
ABOUT RFLP	9
CONTEXT.....	9
OVERVIEW OF THE STRATEGY	11
PLANNING.....	12
1. PREPARATION STAGE	13
2. SELECTION OF THE CORE GROUP OF IMPLEMENTERS.....	14
3. CAPACITY BUILDING FOR THE CORE GROUP OF IMPLEMENTERS.....	15
4. BENEFICIARY SELECTION	19
5. STRATEGY IMPLEMENTATION IN THE FIELD	20
INTERVENTION 1: AWARENESS, CAPACITY BUILDING AND TECHNICAL ASSISTANCE	21
INTERVENTION 2: PROCESSING OF AQUATIC PRODUCTS AND COLD-CHAIN SYSTEM	23
INTERVENTION 3: IMPROVEMENT OF OEBA FISH LANDING SITE.....	29
INTERVENTION 4: IMPROVED MARKET INFORMATION.....	30
6. EXIT STRATEGY	30
ACHIVEMENTS	32
LESSONS LEARNED	36

EXECUTIVE SUMMARY



Figure 1 - Shinta Lona, better known as 'Mama Fons' with her 'dodol' seaweed jelly

What and why?

From late 2010 to mid 2013 the Regional Fisheries Livelihoods Programme for South and Southeast Asia carried out a strategy to improve post-harvest processing, handling and marketing of fisheries and aquatic products by certain coastal communities in Indonesia's Nusa Tenggara Timur province. This report focuses on the process and the approach used for the implementation of the strategy, and does not detail activity implementation. The main aim is to provide donors, NGOs, government agencies or government-led initiatives attempting similar interventions with useful guidance that helps them to maximize the success and impact of their work.

The strategy in a nutshell

Intensive efforts took place to improve the processing and marketing practices of a relatively small number of pilot processor groups along the entire value and marketing chains. This was supported by enhanced management of a key landing site and enhanced awareness of hygiene and sanitation issues. Underpinning the strategy was the training of a cadre of local and provincial government staff, NGOs and fisheries education institution members to help build capacity within communities.

Key achievements

- **The capacity of 20 producer groups (mainly women) was enhanced.** This included better and more hygienic production skills, improvements to recipes, packaging and labelling, product certification and marketing. Previously sold only locally, a number of products became available on provincial and national markets.
- **Capacity building of key local staff.** RFLP worked closely with staff from local government, NGOs and educational institutions. After intensive training of trainers (TOT) training and on-going mentoring they then worked closely with communities to enhance all aspects of their post harvest practices. By doing so RFLP will leave a legacy of well prepared, experienced and motivated people, better equipped to respond to the needs of the communities they work for.

- **Enhancement of Oeba fish landing centre.** RFLP successfully helped improve the management and infrastructure of the major aquatic product landing centre for Kupang, the provincial capital of NTT. This took place amidst a very challenging working environment.
- **Development of motorcycle ice boxes.** Fibre glass ice boxes for motorcycles were designed and constructed for use by fish traders. The boxes were made by young school drop outs trained by RFLP and ILO as part of a livelihoods initiative. Their use by mobile fish traders in Rote Ndao district has resulted in the more cost-effective distribution of better quality fish over longer distances.

Major lessons learned

- **Beneficiary selection.** Much of the success of RFLP producer groups has been due to their motivation to better themselves and learn more. This positive attitude and entrepreneurial spirit has been vital.
- **The need to encompass the entire value and market chain.** Support needs to be provided all along the value/market chain. It is no good improving product quality, if the packaging remains poor, or if there is no market (or skills) to sell the products. Marketing skills must reach communities, in addition to government and NGOs.
- **Mentoring.** Experience in post-harvest and processing is very important, but equally, if not more important, is the ability to share that experience with others. In the case of RFLP Indonesia, the motivation and personal commitment of the National Consultant to share his knowledge and to mentor others made a significant and positive difference.
- **Building local capacity.** The building of local mentoring capacity (government staff, NGOs etc.) has been integral to ensuring the success of RFLP's actions and will help facilitate sustainability and replication. As much emphasis should be placed on building this capacity, through the provision of TOT training to develop a cadre of key local trainers, as it is on supporting communities.
- **Prior expertise is not always necessary.** Some members of the core implementers group did not have a fisheries background, while many had never carried out participatory type consultations or training before. However with on-going support and the chance to put quickly learned skills into practice, their capacity and confidence was built.
- **Involve NGOs and educational institutions (not only government staff).** Involving staff from NGOs and education institutions in addition to government offices, helped inject new skills sets and to widen the base of those with the ability to support communities.

- **Infrastructure should not be improved unless management plans are in place.** The need to improve Oeba fish-landing site was evident. However it was equally clear that there were conflicts regarding the management of the facility. If these had not been considered any attempt to improve the infrastructure would have been unsuccessful.
- **Do not “Stop and drop”.** For example, when providing equipment, there is also a need to provide training and instructions on how to use and to maintain it. Do not assume people will know how to use donated equipment.
- **Buy locally.** Instead of buying cool boxes from elsewhere RFLP worked with the ILO to produce them locally, providing young people with vocational skills, jobs and supporting the local economy.

INTRODUCTION

This report describes the strategy to improve post-harvest processing, handling and marketing of fisheries and aquatic products undertaken by the Regional Fisheries Livelihoods Programme for South and Southeast Asia in Indonesia from late 2010 to mid 2013. This undertaking formed part of RFLP's overall objective of strengthening capacity among participating small-scale fishing communities and their supporting institutions in order to improve the livelihoods of fishers and their families while fostering more sustainable fisheries resources co-management practices.

The main purpose of this report is to provide an overview of the different steps taken in this regard during the implementation of a fisheries livelihoods programme.

The report focuses on **the process** and **the approach** used for the implementation of the strategy, and therefore does not detail activity implementation. More information on activities (including training materials) is available on the RFLP website www.rflp.org.

This report will have achieved its main goal if it provides donors, NGOs, government agencies or government-led initiatives attempting similar interventions with useful guidance that helps them to maximize the success and impact of their work.

The report starts with an overview of the situational context of Indonesia's Nusa Tenggara Timur (NTT) province where RFLP activities have taken place. It then goes on to summarize the strategy used for enhancing livelihoods by working with processing groups and their supporting institutions to improve post-harvest and marketing practices at project sites. The report explains each design and implementation stage of the strategy.

Most of the preparatory work undertaken was directed towards strengthening the capabilities of a highly motivated team (including government, NGO and educational establishment staff, referred in the report as the core group of implementers) that was mobilized and given trainer of trainer (TOT) training and technical support, so that they were able to implement work plan activities.

Implementation of the main elements of the strategy was undertaken in the field by the core group of implementers. This included awareness raising campaigns, training and capacity building activities for processor groups (which were mainly women), improvements to a major fish landing site and the setting up of a marketing information system. Some of these activities were still on-going at the time of writing and therefore it was not possible to fully assess the results. Nonetheless, real achievements have been made, some of which have been included as change stories. The report concludes by summarizing some of the lessons learned during the process of implementing the strategy.

ABOUT RFLP

The Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP)¹ is working to strengthen the capacity of small-scale fishing communities and their supporting institutions on improved livelihoods and sustainable fisheries resources management. In Indonesia RFLP has been improving the livelihoods of small-scale coastal fishing communities by directly addressing issues of poor handling, preservation and processing as well as weak access to markets. Activities have included increased public awareness of food safety issues; the training of processors and traders in fish handling, processing and business management; improved management of landing centers; pilot operations on product value addition and marketing; and improved market information.

Other related areas of RFLP work have included livelihoods diversification, gender mainstreaming and improving access to micro-finance. These areas, although important, are covered where relevant as an integral part of the described post-harvest strategy. RFLP interventions directed to the improvement of the co-management of aquatic resources and safety at sea are not covered in this report².

CONTEXT

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 million³ 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 reported⁴ 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 percent⁵.

¹ The Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP) is a four-year programme funded

² For more information of other activities of the RFLP in Indonesia and other RFLP countries please visit <http://www.rflp.org/>

³ BPS Indonesia 2010.

⁴ World Food Programme. 2010. Nutrition Security and Food Security in Seven Districts in NTT Province, Indonesia: Status, Causes and Recommendations for Response.

⁵ Bottema, T., Sukesi, K. and Seran, S. 2009. NTT at a Cross-roads – A report commissioned by UNRC to support the UNDAF process, Indonesia.

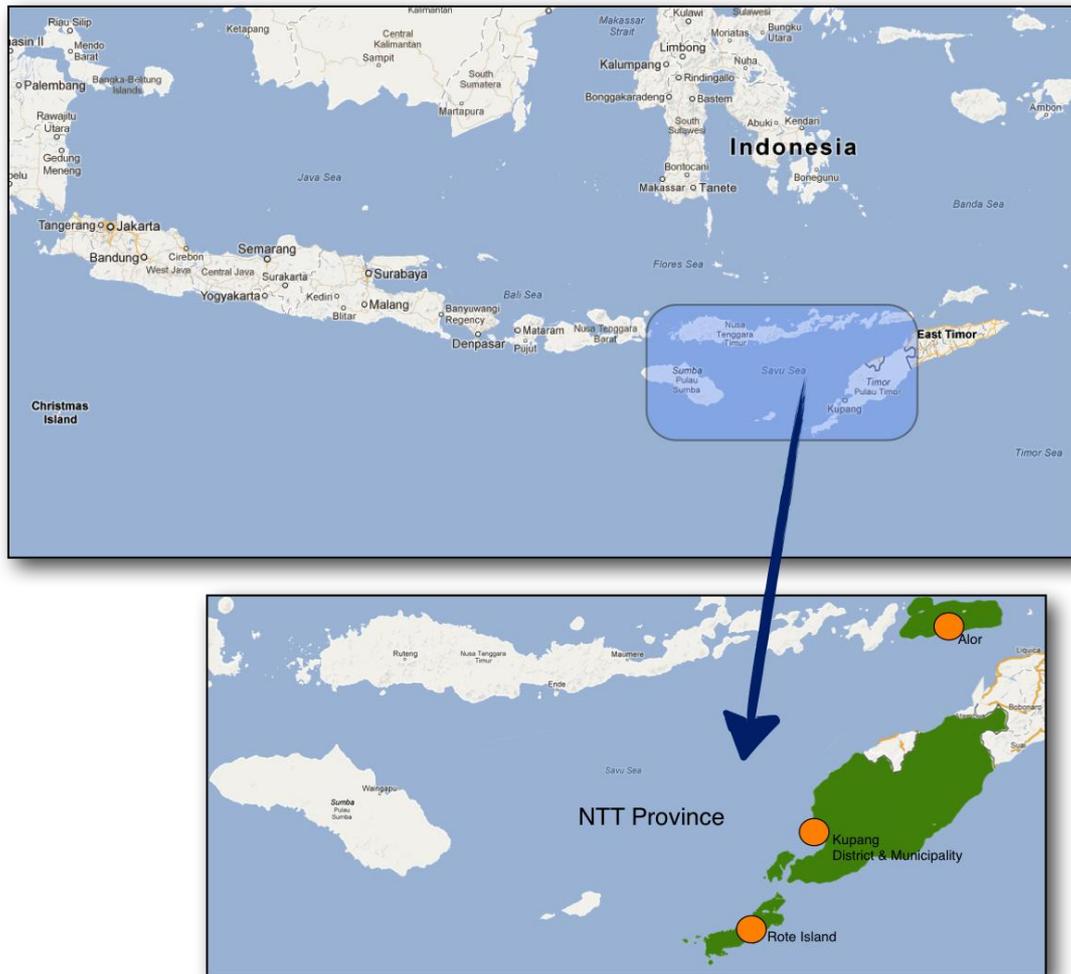


Figure 2 - Map of RFLP field sites in Indonesia

A baseline survey⁶ 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 only limited processing of aquatic products taking place. Preservation techniques were only applied when there was a surplus of fresh fish that remained unsold in local markets with the resulting, mainly low quality processed products used for household consumption. From an economic perspective, processing activities were of relatively limited importance. With regards to distribution of fresh fish, lack of ice was the main problem, resulting in rapid spoilage of fish products that were subsequently of low quality and price.

It was also identified that the fish landing site in Oeba, Kupang Municipality, which is a major landing site serving much of Kupang's urban population had many problems due to inadequate management and building design deficiencies. Traders refused to utilize the main trading building because the floors were dangerous when wet. As a consequence, most fishers and traders carried out

⁶ RFLP. 2012. Baseline Survey for Regional Fisheries Livelihoods Programme in Kupang Municipality, Kupang District, Alor District and Rote Ndao District, East Nusa Tenggara.

their business in unhygienic conditions outside the building. Compounding the problems were a lack of fresh clean (potable) water and electricity as well as a lack of waste management that resulted in stinking fish waste and other garbage littering the site. At the heart of the problems facing Oeba was a lack of effective management of the facility mainly due to unclear delineation of powers and competencies between the municipal and provincial governments. As a result, the landing site was not fulfilling its purpose, to the detriment of the quality of aquatic products being landed.

With declining catches and the often irregular supply of fresh fish and other aquatic products, aquatic product processing becomes 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 a livelihoods option to reduce vulnerability of coastal communities, and contribute to both better food security and food safety and hygiene.

OVERVIEW OF THE STRATEGY

The following sections describe the main steps carried out by the RFLP in NTT to implement an integrated strategy for reducing vulnerability and enhancing the livelihoods of coastal fishing communities through post-harvest and marketing improvements.

RFLP in Indonesia worked with some 20 communities and groups in three districts (Kupang, Alor and Rote Ndao) as well as in Kupang Municipality and at provincial level to improve the post-harvest quality of their fisheries and aquatic products.

The post-harvest improvement strategy for RFLP has been to enhance post-harvest practices along the entire value and marketing chains. Intensive efforts have taken place to improve the processing and marketing practices of a relatively small number of pilot processor groups. The successes (or lessons learned) from these groups were then used as motivation for other communities as well as government agencies to replicate this process. Complementing these actions were efforts to enhance hygiene and sanitation as well as to make better market information more readily available.

Underpinning the strategy has been a focus on the provision of TOT training to increase the capacity of a cadre of local and provincial government staff, NGOs and fisheries education institution members to carry out tasks in support of the strategy. By doing so RFLP will leave a legacy of well prepared, experienced and motivated people, better equipped to respond to the needs of the communities they work for.

PLANNING

The general areas of post-harvest intervention for RFLP in Indonesia were identified during the RFLP inception phase. These were based on a mission undertaken by an international consultant in January 2010. Results obtained during a Baseline Survey carried out during the initial project phase were also taken into account.

Initial work plan activities were devised based on these findings/assessments. They were revised and agreed through a participatory process, involving the government at national, provincial and local levels, and other relevant stakeholders, including representatives of NGOs and other partner organizations. A National Coordinating Committee (NCC) comprising all main stakeholders which met every six months acted as the main decision making and oversight body for RFLP in Indonesia and needed to agree all work plans.

Flexibility did however exist and following the recruitment of a highly experienced National Consultant for post-harvest in January 2011 the strategy and work plan activities were fine tuned and put into action.

Because the RFLP area of geographical coverage in Indonesia was very large, RFLP also employed District Coordinators (DC) to support implementation of RFLP activities in each district.

STAGES OF IMPLEMENTATION

This report describes the different implementation stages for the RFLP post-harvest strategy in Indonesia, namely:

- 1. Preparation**
- 2. Selection of the implementation team**
- 3. Capacity building of the team**
- 4. Beneficiary selection**
- 5. Activity implementation**
- 6. Exit strategy**

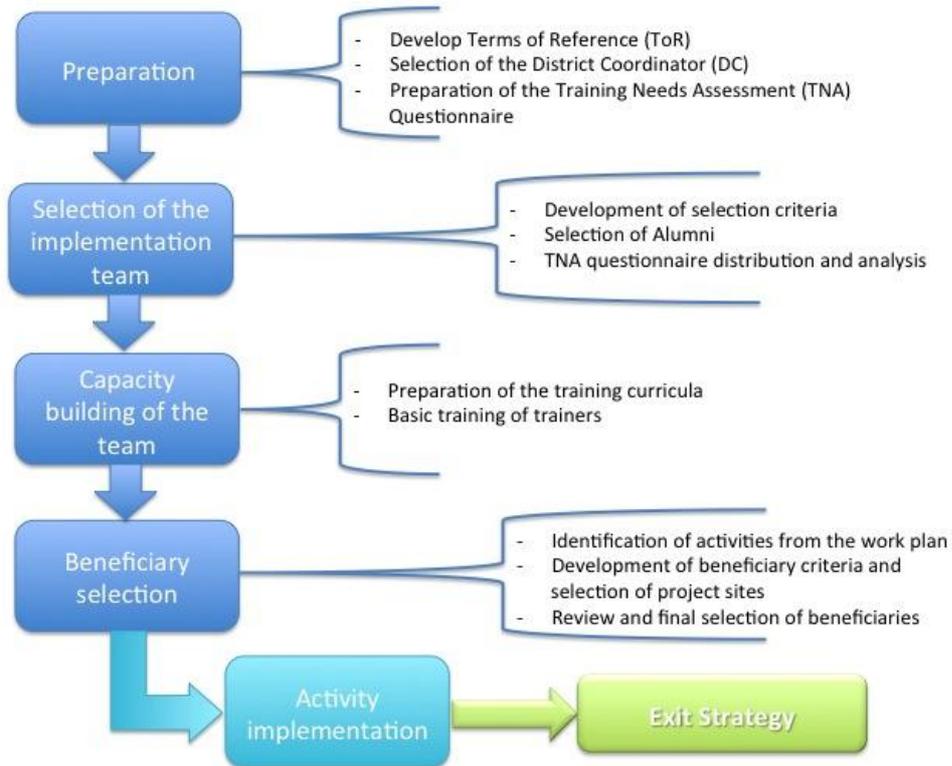


Figure 3 - Diagram with the different phases of the Post-harvest strategy

1. PREPARATION STAGE

Approximate time: 2 months

Main Actions:

- Develop Terms of Reference (TOR)
- Selection of District Coordinators
- Develop Training Needs Assessment

During the Preparation Stage, RFLP developed Terms of Reference (TOR) for the District Coordinators (DC). These were made public and after a round of interviews, the DCs were hired, one per project district/municipality (Kupang Municipality, and Rote, Alor and Kupang districts).

Once the District Coordinators were in their post, the national consultant on post-harvest, with the support of the DC, developed a Training Needs Assessments (TNA) questionnaire.

2. SELECTION OF THE CORE GROUP OF IMPLEMENTERS

Approximate time: 1 month

Main Actions:

- Development of selection criteria
- Selection of team members
- Assessing training needs

During the early phases of implementation, the need to build local capacity to provide post-harvest improvement support for communities became clear. It was therefore decided to develop a cadre of skilled post-harvest trainers through RFLP provision of training of trainers (TOT) training course for key staff from local government and other institutions. This process included the selection of DKP⁷ local officials, members of NGOs and educational establishments. Throughout this report this group is referred to as the 'core group of implementers' although in other documentation they are also referred to as the 'TOT Alumni'.

The criteria used to select the support teams were:

- To have a certain degree of influence in their department (not too senior or too junior positions);
- Motivation; and,
- Age (preferable younger than 40).

This group was trained and mentored so they were ultimately able to deliver training and technical advice to community beneficiaries themselves. This was done to guarantee the sustainability of the strategy once RFLP ends in August 2013, as this core group of implementers will continue their work.

During this stage, the RFLP national consultant for post-harvest and the newly appointed district coordinators developed criteria for the selection of the core group of implementers. Once trained as trainers, the five teams worked under the supervision of the national consultant and district coordinators to implement activities in the field (described in Section 4).

A total of 20 trainees were selected, including four from each of the four project implementation areas (Kupang Municipality as well as Rote, Alor and Kupang districts), plus a provincial level team. The composition of each team was:

- 2 representatives from district and provincial government (DKP);
- 1 representative from a local NGO; and,
- 1 representative from a fisheries education institute.

This combination of representatives brought to each team:

- The **technical and policy knowledge** from the government;
- The **people centered approach** from the local NGO; and,
- The **training and education skills** from the fisheries education institute.

⁷ Marine Affairs and Fisheries Agency (Dinas Kelautan dan Perikanan – DKP).

DKP were approached through an official request for its staff to participate in RFLP activities. The commitment of the district and provincial government to RFLP helped facilitate this process. The local NGOs and fisheries education institutions were approached without an official letter.

It is important to note that the core group of implementers did not receive any extra pay for their services. Their contribution was considered as 'in kind support' from the partner organizations, which benefited from the enhanced capacity of their staff and through improved relationships with communities.

Once selected, the core group of implementers completed the Training Needs Assessment (TNA) questionnaire prepared in the previous stage of the strategy. A training curriculum was then developed responding to the specific needs of the trainees, so that they could then work with RFLP to pass post-harvest skills on to coastal communities.

3. CAPACITY BUILDING FOR THE CORE GROUP OF IMPLEMENTERS

Approximate time: 3 to 24 months

Main Actions:

- Preparation of the training curricula
- Delivery of basic training of trainers (TOT) training

An important part of the strategy was to improve the capacity of the core group of implementers so they became more confident to provide direct support to communities. This was done through provision of TOT training, mentoring and the provision of technical advice. Field visits also helped the core group of implementers to put their skills into practice in real situations. More information about this training can be found in Section 5 - Implementation of the Strategy in the Field, particularly under Intervention 3:

- **Basic Training of Trainers (TOT) Training:** During the first stage, the District Coordinators and National Consultant prepared a training curriculum for the group, based on the results of the initial TNA. This covered basic post-harvest aspects and helped level-out the knowledge among trainees. It also included conflict management and resolution techniques, as well as Participatory Rural Appraisal (PRA) tools. The aim of this training was to develop simple post-harvest and community development skills. Emphasis was placed on building capacity of the core group of implementers on participatory techniques and tools that would enhance their confidence and willingness to work directly with communities. This training lasted five days. After the training there was constant follow up by the District Coordinators and the National Consultant. The training was very much hands-on, and included study visits to some field sites.

TOT training content

1. Overview of national and international seafood and seaweed standards, relevant to NTT fisheries.
2. Introduction to post-harvest fisheries and aspects of Potentially Hazardous Foods (PHF).
3. Spoilage of fish: causes of spoilage, spoilage of wet fish, spoilage during transportation and marketing, spoilage during processing, spoilage during storage and consequences of spoilage (quality, nutritional, health and food safety and economic losses).
4. Loss assessment in different fish supply chains: loss assessment in fresh fish supply chains (measurement of quantity and quality) and loss assessment along the processed fish supply chain.
5. Use of ice and ice boxes: varieties of ice boxes and manufacture and maintenance of ice boxes.
6. Good management practices on-board and after landing: good handling at sea and icing at sea, infrastructure for landing, sorting and marketing fish at the landing centres, hygiene, cleanliness and sorting and grading at the landing centres, storage of fish at landing centres and markets and maintaining quality during transport to markets and at markets.
7. Improved practices in processing: preparing fish for processing and smoking, shredded fish and other traditional processing methods of aquatic products. Processing of seaweed into various products including jelly, dodol, pillus, crackers and carrageenan and alginate for industry and good practices after processing: Packaging and prevention of storage losses.
8. Quality control, assessment, assurance and certification.
9. Various types of seaweed, benefits of seaweed and post-harvest of handling seaweed: Harvesting, dryer construction, quality standards of seaweed, sorting, packaging and distribution.
10. Managing seaweed businesses, practical concepts for seaweed marketing.
11. Participatory project planning and management.
12. Working with the community and community institutions, community institution building and strengthening.
13. Business management on fisheries product and its development in cooperation with micro-finance institutions.
14. Training management.
15. Achievement motivation training (AMT).
16. Two day field trip.



Figure 4 - TOT laboratory trials



Figure 5 - TOT training on fish processing

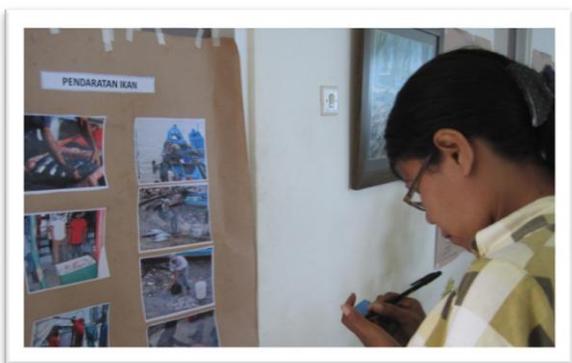


Figure 6 - Training on good-handling practices



Figure 7 - TOT field visit

- Development of the curriculum and community training:** The core group of implementers undertook an additional two days training to further build their skills and confidence to work with communities. The training specifically helped them to build training modules for communities and included module content, logistics, presentations, etc.

The role of the National Consultant and the motivation of core trainees

The National Consultant was a very dynamic and inspiring person, both a strong leader and a good facilitator. He provided the personal approach to ensure that the group stayed motivated, highlighting the importance of their efforts to support the communities they worked for.

Location	Core group trainees
Kupang district	4 women
Kupang municipality	1 woman + 3 men
Rote	1 woman + 3 men
Alor	1 woman + 3 men
Province	2 women + 2 men
Total	9 women + 11 men

Enhanced capacity to support communities – an RFLP legacy

One of the foundations of the RFLP Post-harvest strategy has been the approach to form a well trained and highly motivated group of support staff and mentors to act as change agents – the core group of implementers.

“We trained the 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 and mentoring,” said Akhmad Rikhun, the RFLP National Coordinator for Post-harvest.

“When we selected this group, we looked at their motivation. It is important to note that the facilitators did not receive any extra salary to do this job – they provided their time and effort, which was considered as in-kind support to the RFLP by their organizations. They did this to learn new skills and to better serve their communities. And I think this is what made RFLP actions successful. Without their commitment, this would have been impossible”.

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 been mainly 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,” he added.

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 as RFLP provided all the technical advice and follow-up support needed.



Figure 8 - Core group of implementers after the TOT training

4. BENEFICIARY SELECTION

Approximate time: 2 months

Main Actions:

- Identification of work plan activities
- Development of beneficiary criteria and project sites
- Review and final selection of beneficiaries

Soon after the core group of implementers completed their basic training, they discussed with the National Consultant and the District Coordinators the activities in the RFLP Indonesia activity work plan. They assessed the relevance of these activities in each context, and jointly selected the types of post-harvest activities they would implement at the project sites. They also developed a set of criteria to select beneficiary processors and processor groups.

The criteria to select the beneficiaries for post-harvest improvements were:

- Processors that were not currently receiving support;
- Processors who may have received support in the past, but had not received any subsequent follow up;
- Location of the groups (due to budget and time constraints it was not possible to select very remote groups as it would not have been possible to provide the follow-up support needed); and,
- As traditionally most processors were women, groups with higher numbers of women members were prioritized

The core group of implementers suggested a list of potential community groups based on their experience and the work plan activities they were going to implement. The National Consultant and the District Coordinators reviewed the list, and after carrying out their own assessment and field visits, jointly selected four to five processor groups in each district and Kupang Municipality.

In addition to the processor groups, other stakeholders such as fishers, seaweed farmers, traders and consumers were also selected for participation in other stages of implementation.



Figure 9 - Community consultations

5. STRATEGY IMPLEMENTATION IN THE FIELD

Approximate time: 1 year and 6 months

Main actions:

- Implementation of the 4 areas of intervention
- Follow-up
- Document success stories and lessons learned

After undertaking the training of trainers (TOT) training course, the core group of implementers were then put in charge of the implementation of the post-harvest strategy, putting to use all that they had learned by directly providing support to community beneficiaries.

Immediately after selection of project sites and work plan activities (previous stages), the core group of implementers commenced implementation in the field. It should be noted that as the core group of implementers were key to implementation, RFLP avoided rushing into carrying out field activities until the capacity of the core group was deemed sufficient. Their work was also supervised and supported at all times by the National Consultant and District Coordinators who at each stage provided on-going mentoring and back-stopping technical advice.

The areas of intervention described below are a summary of the activities conducted by RFLP Indonesia to enhance post-harvest processing, handling and marketing in NTT province:

- **Intervention 1:** Awareness, capacity building and technical assistance
- **Intervention 2:** Processing of aquatic products and cold-chain system
- **Intervention 3:** Improvement of Oeba fish landing site
- **Intervention 4:** Improved market information system

Intervention 1 on awareness, capacity building and technical assistance took place mainly to support Interventions 2-4. Actions under Intervention 1 were done throughout the project period because awareness raising and training had to be continuous rather than 'one off' events, as this intervention underpinned all other actions.

The three other areas of intervention were also interconnected from a supply chain perspective, although links in the field were not always possible geographically or chronologically. For logistical reasons and in order to avoid delays, these three interventions were treated as being independent of each other, and were implemented separately despite the fact that the outcomes of some would benefit others. For example, improvements to Oeba fish landing site will ultimately benefit the processing of aquatic products, and also the cold-chain system in Kupang Municipality and possibly further afield.

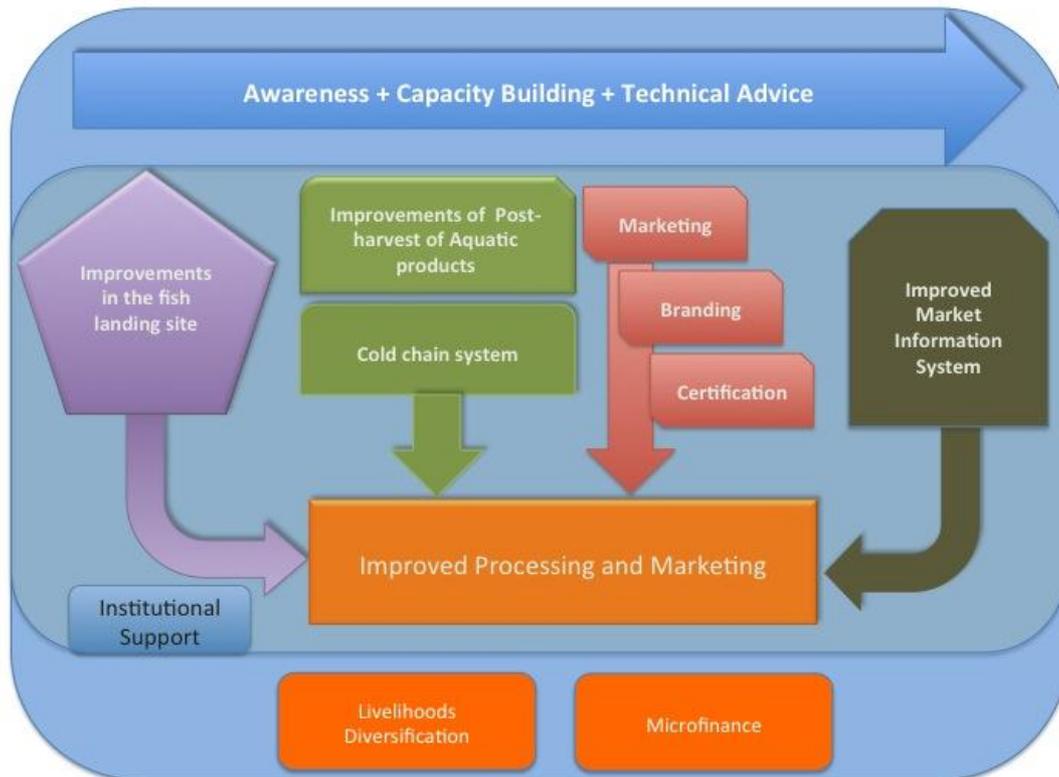


Figure 10 – Diagram of the strategy implemented in the field

Intervention 1: Awareness, Capacity Building and Technical Assistance

This cross-cutting intervention was related to and took place in support of all the other interventions.

Activities that comprised the awareness and capacity building component were planned depending on the target stakeholder group from the RFLP communities, i.e. fishers, seaweed farmers, traders, consumers, government officers, etc. The content of the awareness raising (socialization) campaigns was prepared specifically for the stakeholder group, for example:

- Fishers: Handling fish, use of ice, sanitation, etc.
- Seaweed farmers: Reduction of spoilage and increased quality.
- Traders: Chemical hazards, use of ice, etc.
- Consumers: Identification of fish quality in the market, benefits of fish consumption, etc.

These activities were also used as an opportunity for the core group of implementers to make contact and build relationships with the people in coastal communities and for some this was the first time to do so.

One of the first activities carried out by the core group of implementers were one-day sessions to raise awareness on Good Handling Practices (GHP) for fresh fish and seaweed. These were conducted in 20 locations in four target areas

(Kupang Municipality, Kupang District, Rote Ndao District and Alor District) and at the provincial level (several villages in Kupang Municipality area).

A number of posters and other information materials were prepared and distributed among communities. These basic activities were undertaken not only to raise awareness amongst communities, but also to help the core group of implementers gain confidence in their ability, as well as to spark interest in the type of activities they could carry out.



Figure 11 - Awareness Campaigns



Figure 12 - Community Awareness

Other awareness activities carried out were campaigns for the promotion of fish consumption with the purpose of improving nutrition and overall health in communities, as well as to raise awareness among policy makers about the needs and opportunities for improving processing and marketing systems in NTT province to promote income generation and livelihoods, while supporting food safety and food security. The project developed an information strategy to inform and influence stakeholders (fishers, seaweed farmers, fish traders and consumers), through a range of information materials:

- Information newsletters, distributed to relevant agencies, were aimed to help policy makers understand the need for holistic and appropriate levels of support to improve the local post-harvest fisheries context.
- Training manuals (on “Fisheries awareness module on the supply chain” and “Development of fisheries processed products and marketing”) were developed in Bahasa Indonesia for DKP training based on materials from published sources suitably adapted to the NTT context.
- Illustrated extension leaflets included topics such as good management practices for fishers.
- Posters and stickers covered a range of post-harvest themes for enhancing the awareness of fishers, fish traders and consumers, who are critical stakeholders in influencing change in current practices.

Most of the extension materials developed were published in Bahasa Indonesia and disseminated widely. Some of these documents have also been published on the RFLP website (www.rflp.org) to provide wider exposure.

Intervention 2: Processing of Aquatic Products and Cold-chain System

This intervention directly involved the processor groups that were identified in the early stages of RFLP. Each core group of implementers (four people) was responsible for four processor groups, with each member of the core group of implementers taking direct responsibility for one of the processor groups. This approach ensured that each processor group received the same level of attention. It also helped further build the confidence of the core group of implementers.

Women's empowerment: RFLP recognized the highly important (yet often invisible) role of women in fishing communities and the importance of including gender issues in each phase of programme implementation. In Indonesia, a gender impact assessment of RFLP's activities took place in 2012. The assessment found that women involved in processing activities perceived they had benefited in terms of increased income, skills and wider networking. It was noted that empowering women as entrepreneurs increased their confidence to speak out their ideas in public and to select their preferred options. They indicated that, in the cases where activities conducted were supported by husbands, better family happiness had resulted.

The assessment implied that group development has brought positive changes to women in both their productive and domestic roles, and could be used as one way to empower women to give their opinions, as a first step to getting them more involved in the public domain.

However, the assessment also pointed out that more needs to be done to successfully improve women's participation in decision-making in the public domain, for example through their involvement in co-management mechanisms. The full gender impact assessment is available at http://www.rflp.org/sites/default/files/RFLP_Indonesia_Gender_Impact_Assessment_October_2012.pdf

The process for implementation of this intervention was:

Processing of Aquatic Products

1. Community training level (processor groups)

From June to July 2011 the core group of implementers delivered two-day training courses in all four target areas, involving 25 women processors in each area (approx 4-5 participants from each processor group).

The training focused on Good Handling Practices (GHP) and was tailored to be relevant to the products being produced in each district. It also included quality management and basic Hazard Analysis and Critical Control Points (HACCP). Modules were also included on improved fish and seaweed processing practices, packaging, labeling, certification, transportation and distribution as well as developing marketing plans.

Capacity building and technical assistance: The core group of implementers was in charge of the implementation of training for communities, as well as providing technical support. They provided training and capacity building on processing aquatic products and marketing operations.

Support was provided to the core group of implementers by the national consultant and the district coordinators. Efforts were made to facilitate participation of women processors by holding the sessions in locations within the district that they could easily travel to.

2. Follow-up training and technical support

For a full year, the core group of implementers followed up the previous activities by providing back-stopping technical advice. The specific needs of the different processor groups were taken into account so they could improve their products by putting into use what they had learned during the community training.

The core group of implementers also provided additional training and advice regarding packaging and labelling of products in order to make them more attractive for consumers. The training included different types of packaging and their uses. In addition, a designer was brought in to assist processor groups with the design of labels for their products.



Figure 13 - Examples of product labels supported by RFLP

Group Development: During this stage, the core group of implementers also worked to strengthen groups in areas not directly linked to processing, such as financial literacy and business management.

This training was aimed at a larger group of stakeholders, including small-scale fishers, seaweed and fish processors, seaweed farmers, women’s group members and aquaculture farmers. As part of the ‘360 degrees financial literacy training’ they learned about managing personal and household finances, business cash flow, investments and loan proposals. They learned about production costs, pricing, as well as calculating the income and net profits over specific time periods. The training also covered family budgeting and household finances.

Micro-finance: A scoping study was carried out by the Asia-Pacific Rural and Agricultural Credit Association (APRACA) in late 2010 and early 2011 to assess the constraints faced by small-scale fishing communities when assessing financial services in RFLP project areas. The study identified ways by which RFLP could address these constraints. One such action was the provision of financial literacy training for fisher communities. As a result, two processor groups have started to receive direct support from micro-finance institutions. At the time of writing, two pilot saving and lending groups had been formed in Kupang District.

Provision of tools: Most tools and materials needed for processing were distributed during this phase to RFLP processing groups. Tools were specific for the type of processing and included:

- **Processing tools:** Hand sealer, vacuum cleaner, knife, cutting board, stove, scale, blender, water barrel, fish cracker mould, apron, hand gloves, cooking/frying pans, basins, meat grinder, spatula, processing table, drying table, aluminium basin, hanging weighing scale, grater, oven.
- **Cleaning Tools:** Brushes, rubbish bins, boots, buckets, hose pipes.

3. Advanced training

After a year, the processor groups received advanced training:

- Specialization and improvement of taste, quality and quantity of new products (e.g. fish nuggets, fish sticks, shredded fish, etc.). These products were selected by the processor groups, following exposure visits (see below).
- Exposure visits and internships in Surabaya. Representatives of processor groups travelled to Surabaya, Indonesia's second largest city, to work for a few days with successful producers to learn how to prepare new products. After the visit, they started preparing new products, such as seaweed sauce and dodol (seaweed jelly). They also started making, new, tastier shredded fish products.
- Groups learned how to undertake cost/benefit analysis to produce more efficiently.
- The core group of implementers provided guidance and support to help producers with branding, as well as to gain access to Household Industry and Halal certification.
 - **Household Industry Certificate:** RFLP assisted processors to obtain two types of certification – the Fisheries Business License (Surat Ijin Usaha Perikanan - SIUP) issued by DKP and the Certificate of Domestic Food Industries (Sertifikat Produksi Pangan-Industri Rumah Tangga - P-IRT) provided by the Food and Drug Control Agency ([Badan Pengawas Obat dan Makanan - BPOM](#)) and Health Agency. Activities leading to achieving this certification included specific training on food safety, sanitation and hygiene, standards for packaging and labelling as well as good manufacturing practices. After conducting the training, the products were taken to the BPOM for laboratory tests. Successful results of the tests were then used to issue the P-IRT (household industry certificate) issued by the health agency, and therefore recognizing the processor as a micro-industry.
 - **Halal Certificate:** The Halal Certificate is provided by the MUI, Majelis Ulama Indonesia (Indonesia Cleric Council). The Halal Logo gives Muslim consumers confidence that the product meets Islamic standards and is safe for them to consume. This opens up market opportunities amongst Indonesia's huge Muslim population. The 10 most advanced processor groups were asked if they wanted to obtain the Halal Certificate and five groups indicated their interest to do so. The main pre-requisites to obtain the Halal Certificate are; the absence of pork in the products, the absence of pig-farms in the surrounding area where the processing is taking place, and that at least one of the processing staff is Muslim. Of the five groups interested in receiving the certificate, four were successful. One group did not receive Halal Certification due to the absence of a dedicated area for production. The core group of implementers facilitated the visit of the MUI experts and the completion of the required paperwork, while the costs involved were met by the processors themselves.

- **Product marketing:** A number of activities took place to support groups to market their products more effectively. The National Consultant visited a number of mini-markets and gift-shops in Kupang City to introduce the products which then went on sale.

RFLP teamed up with DKP to take part in the NTT Development Exhibition held in Kupang in August 2011. The event was organized by the NTT provincial government to promote the results of development activities as well as to celebrate Indonesian Independence Day. More than 20 seaweed and processed fish products produced with RFLP support were displayed in the exhibition. Hundreds of people from Kupang and further afield were able to sample the products helping boost exposure for the producers.

RFLP-supported products also featured in the Indonesia Fisheries Expo events held in Jakarta in 2011 and 2012 alongside products from across the country. At the 2011 event the RFLP/DKP NTT booth received the “Best Booth Award” from amongst booths representing 33 Indonesian provinces.

These events not only gave RFLP-supported products exposure on the provincial and national stage, but also gave producers the opportunity to take part in large-scale events and gain confidence to talk with potential customers.

A seaweed snack developed with RFLP-support was one of the products included in the official launch of a national branding programme for fisheries products in October 2012. The Minister of Marine Affairs and Fisheries Mr. Sharif C. Sutardjo launched the 'national branding programme for fisheries products' at the Indonesia Fisheries Expo (IFE) 2012. Amongst the products selected was the seaweed pillus (a crunchy seaweed snack) made by NTT's 'Mama Fons' who has worked closely with RFLP to develop her product. This will be sold under a new brand named 'Freeze and Fresh' and is set to join other leading products from around Indonesia on the shelves of national supermarket chains Alfamart and Alfamidi.

Cold Chain System

An RFLP assessment that took place in NTT province in the early part of the programme (March- April 2011) found that the main causes of fish spoilage were the lack of clean potable water, limited ice availability, and ice storage facilities and high ice prices. Limited ice availability is common to all four RFLP Indonesia project areas. As a result, fishers tend to rely on ice made in home refrigerators

which melts faster and is inadequate to keep fish fresh for longer periods. In addition the availability and use of clean potable water is also not guaranteed.

The situation is further compounded by inappropriate equipment for fish storage and transportation along the supply chain. For example, in Kupang, Alor and Rote Ndao districts, it is normal for motorcycle fish traders to use plastic containers without proper insulation to transport fish and aquatic products for sale. This means that they need to sell their product in less than four hours, otherwise the product will spoil and its price will decrease. As a result, the availability of fresh aquatic products in remote and particularly inland areas of NTT province is extremely limited.

The assessment highlighted the need:

- To repair ice plant machinery in Alor and Rote.
- To provide ice crushing machinery – making ice more suitable to fishers’ and fish traders’ needs.
- To provide storage facilities at strategic locations, like the landing site in Oeba, that will allow better distribution to wider areas.
- To provide specific containers (ice boxes) for different stakeholders along the value chain: Small fishing boats - 100 litre ice boxes suitable for carrying on boats; 250 litre cool boxes for traders; and Fibre Reinforced Plastic (FRP) containers for motorcycle traders to replace old metal ‘jerry can’ containers.

RFLP has addressed these issues, through the development of a distribution channel for ice from the existing ice plant to reach remote/rural areas. For example, on Rote Ndao island, RFLP and Rote Ndao District’s DKP provided motorcycle cool boxes for mobile fish traders. 18 sets of motorcycle cool boxes were handed over, each of which comprises two boxes carried one on either side of the motorcycle. One cool box set (pair) can carry a maximum of around 20-25 kg of fish depending on the size and species. Recipients were also trained on good handling practices, and stickers promoting GHP, as well as the benefit of consuming fish, were attached to the cool boxes. With the improved cool boxes and the use of ice the fish traders can reach more remote areas and transport and sell larger quantities of fish.

RFLP is seeking to collaborate with local micro-finance institutions to help traders gain access to credit, so that they can purchase cool boxes. Moreover, the cool boxes are being fabricated by former school drop outs who were given vocational training from RFLP in collaboration with the ILO EAST project (see

In collaboration with the International Labour Organization (ILO), RFLP trained unemployed youth from coastal communities with new skills. One of the outcomes was a number of young people skilled in the production of products made from fibre glass. These skills were used to make motorcycle cool boxes that are being used to transport aquatic products to remote areas, improving the quality of these products through better use of ice and more hygienic transportation methods.

box).

Intervention 3: Improvement of Oeba Fish Landing Site

RFLP worked to improve the conditions at the Oeba fish landing site in Kupang Municipality, seeking to improve fish quality and reduce losses due to poor handling and the lack of basic services (clean potable water, ice, electricity, etc.).

This intervention was carried out with the support of the Oeba Fish Landing Site management, the core group of implementers and the Institute of Cross-Timor Economic and Social Development (INCREASE). INCREASE is a local NGO and facilitator that specializes in conflict management and which facilitated a process of consensus building amongst the landing site users in order to improve its management. The services of INCREASE were engaged under an FAO letter of agreement contract, funded by RFLP Indonesia.

The activities carried out under this intervention took place in two key areas:

- **Improvements to the landing site facilities:** Physical improvements funded by RFLP Indonesia, which were implemented by the NGO INCREASE.
- **Formalization of the mutual management agreement:** A written agreement that clarifies how, and by who, management of the facility takes place.

Improvements to Oeba landing site facilities

Physical improvements to the Oeba facilities included rehabilitation of water pipelines, taps, and water hoses in order to guarantee fresh potable water supply. Improvements also included repair of the drainage facilities, removal and replacement of the slippery tiles in the trading hall with a non-slippery floor, vending table improvement, upgrading of the electrical supply and installation of additional lighting around the landing site. Re-zoning of the site also took place to better facilitate fish trading.

Formalization of the mutual management agreement

This agreement defines the competencies of each stakeholder involved in managing the facilities. The agreement was signed by representatives of the small, medium and large-scale traders as well as the government appointed head of Oeba fish landing centre.

The agreement includes the rights to use vending tables, where the cool boxes can be stored, the daily financial contributions from traders, sanitary issues (including waste management), parking rules, and the roles of the coordinators. The main functions of the coordinators are to coordinate activities and better manage the fish landing center. They are assisted by an operator who collects money from the traders which is used to keep the landing center clean. The

traders have agreed to contribute cleaning daily costs, with small traders paying IDR 1,000 (0.1 USD)/day, mid-scale traders IDR 2,000 (0.2 USD)/day and large-scale traders IDR 3,000 (0.3 USD)/day. In order to ensure transparency, the money collected is managed by the 'Mina Aditya' cooperative unit which performs a micro-finance role, allowing members to save and borrow money.

INCREASE is acting as a facilitator, working towards building consensus among the different stakeholders involved, and managing any conflicts. The different stages of the process conducted by INCREASE are documented in their final LOA report on the activity for RFLP Indonesia.

Intervention 4: Improved Market Information

By making fishers more aware of fish prices at various landing sites and markets, and by giving traders and outside investors more information on NTT's fisheries industry, it is hoped that all stakeholders as well as the province's fishing industry will benefit.

RFLP has worked with DKP to develop an online Fisheries Marketing Information System. The website can be visited at: www.infoperikananntt.com.

DKP will use the system to make available useful information for small-scale processors and to highlight the importance of this sector at provincial and national levels.

The system will provide a variety of fisheries information e.g. fish prices, product details, statistics and fishing ground maps for intended users such as fishers, traders, buyers, DKP, other government agencies, and the public.

Training was provided to DKP staff on how to input data e.g. recent news, photographs, fish prices and weather reports as well as how to edit website content. When publicly launched in March 2013, DKP NTT staff are expected to manage and update the website.

In addition to fisheries information, the local NGO Besipae will use the weather information included on the site to send out weather alerts to fishers via an SMS system.

6. EXIT STRATEGY

Approximate time: 10 months

- Support the transference of responsibilities
- Hand over materials
- Assessment of achievements

During the 6th RFLP Indonesia National Coordinating Committee meeting held in Jakarta in November 2012 an exit strategy was agreed that would see:

- The closure of the RFLP Indonesia national office in Kupang (30 June 2013).
- The transfer of responsibilities for RFLP activities to counterpart institutions, including various Directorate Generals of the Ministry of Marine Affairs and Fisheries (MMAF), and the provincial and district level of DKP and other relevant institutions.
- Government departments taking up responsibility for and allocating government budget against the RFLP activities listed in the table below:

Activity	Department accepting responsibility
Business development for fisheries	Directorate of Capture Fisheries (<i>Dirjen Perikanan Tangkap/DJPT</i>)
Motorcycle cool box	Directorate of Processing and Marketing for Fisheries Product (<i>Ditjen Pengolahan dan Pemasaran Hasil Perikanan / P2HP</i>)
Seaweed culture and fish culture	Directorate of Aquaculture (<i>Dirjen Budidaya</i>)
Fisheries Product Processing	Directorate of Processing and Marketing for Fisheries Product / <i>Ditjen Pengolahan dan Pemasaran Hasil Perikanan (P2HP) KKP</i>
Fish Landing Centre	Should be proposed to Directorate of Fisheries Port (<i>Dirjen Pelabuhan Perikanan</i>) with coordination from DKP NTT
SMS Gateway	Meteorology, Climatology, and Geophysics Agency (<i>Badan Meteorologi, Klimatologi dan Geofisika/BMKG</i>)
Fisheries marketing and information system	DKP NTT
Women processor	Ministry of Women Empowerment
Saving and lending system	Directorate of Business Development for Fisheries (<i>Dirjen Pengembangan Usaha Penangkapan Ikan/PUPI</i>)
Core group of implementers	Human Resource for Marine and Fisheries (Badan Sumber Daya Manusia Kelautan dan Perikanan/BKSDM)
Fishers workshop by youth	Directorate of Fishing Vessels and Fishing Equipment (<i>Dirjen Kapal Perikanan dan Alat Tangkap Perikanan</i>)

RFLP and DKP are working with BAPPEDA⁸ to produce a road map for Seaweed Development in the province. This road map will support larger-scale industry as well as small-scale processors, by examining the entire supply and value chain to identify knowledge and training gaps, and opportunities for technology improvement and value addition. It will require the collaboration of different stakeholders, making use of the networks created by RFLP through its facilitators. At the end of the RFLP, coordination will fall under the SPADU⁹ office.

The government is also working to make funds available for the development of small-businesses for the processing of aquatic products, like the Programme for

⁸ The Planning and Development agency.

⁹ The Integrated Secretariat under the coordination of BAPPEDA.

Business Development for Marine Fisheries (Pengembangan Usaha Mina Pedesaan - PUMP), which will be mainly directed towards women.

ACHIVEMENTS

The achievements and success stories of RFLP Indonesia are only now starting to become apparent. Over a relatively short time period (approximately two years) it is difficult to assess the impact RFLP-supported activities have had on the livelihoods of those involved. However a number of case studies have been documented which highlight some of the changes that RFLP interventions have helped bring about.

Nina Kasih Group – Shredded Fish group

The Nina Kasih shredded fish group is based in Oebelo, a small fishing village in Kupang District. This community is mainly made up of poor former refugees from Timor-Leste who fled the country following the violence that took place around the 1999 referendum on independence from Indonesia.

The six-member Nina Kasih group started as a women's prayer group, composed mainly of the wives of shrimp fishers. Before becoming involved with RFLP, these women processed shredded shrimp for home consumption and did not seek to sell any. Their daily activities involved cooking for the family, praying and doing housework. On the whole their feeling of self-worth was low. They felt they had been left behind, as they could neither speak for themselves, and were not recognized by their neighbours. They felt that they had no alternatives other than housework and had no role to play in their community. However, things changed when they started working with RFLP.

The group was approached by RFLP for the first time during the "Beneficiary selection" phase, when the core group of implementers was selecting the processor groups to work with. A member of one of the core groups of implementers, Yustina Sangadi was also a member of the Women's Network (WN) in Kupang and was familiar with this village. The Women's Network had been working with them for some time, trying to bring both groups (local people and refugees) to work together, as a way to reduce conflicts and to promote community integration. This strategy was also applied with the processing group.

Training and technical assistance provided by the core group of implementers, helped group members learn how to improve product quality and packaging. They also received advice on how and where to sell their shredded fish and they were provided with some equipment needed to develop their business, like the spinner machine to do shredded fish, plus other processing and cleaning tools.

In addition the group also learned basic book keeping and underwent financial literacy training, both of which were important skills necessary for developing

their business. Group members also helped each other out during the training process with one member stating that although she could neither read nor write, she was now able to understand and manage her business.

Following the training the group now sells all 40 of the packages of shredded fish (about 4 kg) that they produce in a week. These are sold to relatives, neighbours, and at the school canteen. As a result, the group has improved its income and their livelihoods. Now they have more independence and they also feel that their work is being recognized by others in the village. They feel that their lives have changed for the better.

One of the group members is Maria Josefina de Jesus. Maria Josefina was originally from Timor-Leste and arrived in the village in 1999. Previously she was a housewife, depending financially entirely upon her husband. Things changed in 2011 however, when she became involved with RFLP and started carrying out processing activities.

Maria Josefina now has her own source of income and does not depend so much on her husband. She does housework during the morning and joins the processing group in the afternoon. According to Maria Josefina, she never imagined that she would be able to earn a living by herself, and that it would contribute to their household income and change her life.

Other women in the group shared similar stories. They tell how their husbands have also changed, as before they did not want the wives to participate in any group activities, but now they remind them about their meetings and encourage them to go. With the extra money they are making, they can now send their children to school every day, while in the past they had to ask their husbands for money to buy rice and to send the children to school, and on some days this was not possible.

Their main concern now is how to keep the group working and growing. They are thinking of admitting new members to the group, but they need to make sure that new members share the same ideas and vision for the future. The group also wants to increase its production and to gain better access to the market. RFLP has helped facilitate their access to other distributors. However, to expand production they will need further support. Currently they have no problems

obtaining raw materials (they get skipjack tuna from Oeba market, and shrimp from their husbands), but a lack of storage facilities limits their production. The group members have started to save money, but they are still uneasy about getting in touch with banks and micro-finance institutions as they are not



Figure 14 - Members of Nina Kasih group

sure that they will be able to repay any loans they take.

The future looks bright for the Nina Kasih group. The government recognizes their work and has seen their potential. As a result, the government's new Programme for Business Development for Marine Fisheries (Pengembangan Usaha Mina Pedesaan - PUMP) programme, which specifically targets women, will help them to expand their business. However the most important factor affecting the group's future is their motivation and new-found belief in themselves.

Lasiana Group of shredded fish producers

Mama Wihelmina lives in Mawar Sejat, a small village in Kupang District. The main source of income for the villagers comes from construction jobs and fishing; activities that are mainly done by men. Mama Wihelmina had never thought about doing business before, but when she was approached by the RFLP core group of implementers, she not only considered the idea, but also made it a reality.

The core group of implementers approached Mama Wihelmina and the other 22 members of her savings group in April 2011. She and three other women were the only ones initially interested in the idea of forming a smaller group to carry out fish processing activities. Two years on they now have a small business producing and selling shredded fish.

RFLP supported the group by training them in processing techniques, better hygiene, financial management, packaging and labelling, as well as new product development. The group also learned time management and other important skills.

As a result of this support and their own hard work, they started a small business and have gradually increased the number of group members. Initially a group member's husband provided the fish, however after he recently passed away the group now buys raw material from Oeba fish landing site and the widow still has an income which enables her to support her four children.

Group members now go twice a week to Kupang's Oeba market and buy about six tuna (15 to 20 kg) from which they produce 4 to 5 kg of shredded fish. Normally the five group members do the work, but occasionally they need to hire others to assist.

The main challenges they face are how to increase production despite the supply of fresh fish being unpredictable at times. They also have limited storage and with better facilities would be able to ensure maintain more regular production. Financial capital is therefore needed if the group is to expand production.



Figure 15 - Wihelmina (center) with Lasiana group members and Core Group of Implementers

Looking forward the group would like to diversify into new products such as fish crackers, but to do so they feel they need technical assistance. However thanks to the Women's Network, they have been and are able to share experiences with other groups and this may provide the knowledge and confidence they need to produce fish crackers.

When asked what has been the biggest change in their lives, group members responded that it has been their own mindset and their confidence to do things. They have been able to save some of their income to increase production and are also able to send their children to school daily. Their husbands, although initially somewhat skeptical, are also now more supportive.

Sehati Group of fish cracker producers

Mama Ina and her group, from Manutapen Village in Kupang Municipality, were first approached by RFLP in April-May 2011, when the core group of implementers were selecting the processor groups they would be working with.

At the time her eight-member group was already producing fish crackers as they had learned how to do so from a previous project implemented by the Women's Network. However although they knew how to make the product, they had little idea about marketing.

Before working with RFLP, Mama Ina and her family depended on the small income of her husband, a church caretaker, and whatever she would make from selling fish crackers.

Following RFLP's support Mama Ina and the other members of the group have been able to improve the quality and packaging of their product, and have also started to develop new products. As a result they have finally been able to save some money too.

The core group of implementers helped build the capacity of the group through training on advanced product improvement and financial management. They strengthened the group by teaching them leadership skills. Meanwhile, Mama Ina

also travelled on a field visit to Surabaya and Bali along with other members of RFLP supported groups where she learned how to make new products. When she returned Mama Ina wasted no time in putting her skills to use and now the group is selling different types of fish crackers and dried anchovies.



Figure 14 - Mama Ina holding her household industry certificate

Products are currently sold from display shelves in the members' own houses as well as the houses of other people. The group is currently able to sell everything they produce, but now have plans to scale up production and market their products through larger-scale channels such as supermarkets. They also need to design a new label with the Halal certification, which they recently achieved. This was due to their own initiative, and their own contributions (they saved a little bit of money from the Daily Subsistence Allowance paid by RFLP to cover their field visit to Surabaya). RFLP staff coordinated the process getting in contact with the MUI (Majelis Ulama Indonesia) experts.

Part of the money the group makes is saved to fund its operations. The rest goes towards school tuition and clothes for the children, while Mama Ina is now also saving money for the future.

Mama Ina considers that the group faces both internal and external challenges. Internal ones include how to keep group members motivated. However this is less of a problem now that the group is seeing positive results. What poses a greater challenge is the perception of people in Kupang that local products are not as good as those brought in from outside. The group is therefore trying to promote its brand locally, making their neighbours and other people in the province more interested in Kupang products.

LESSONS LEARNED

After three years of RFLP implementation of post-harvest and marketing activities in Indonesia a number of important lessons have been learned. Key amongst these are:

Approach

- **Stay focused.** If the project is too big and too ambitious, resources and inputs will be spread too thinly and impact(s) reduced. If project communities are too numerous or widely dispersed (e.g. in NTT covering

different islands or in areas with very poor road access) it will be impractical to provide the level of on-going support necessary for project objectives to be achieved.

- **Beneficiary selection.** Much of the success of RFLP groups has been due to their 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.
- **Following work plans too strictly may be detrimental.** Field staff are more aware of what is happening on the ground, and know best what may work or may not. Flexibility at the field level is therefore vitally important.
- **Mentoring others.** Experience in post-harvest and processing is very important, but equally, if not more important, is the ability to share that experience with others. In the case of RFLP Indonesia, the motivation and personal commitment of the National Consultant to share his knowledge and to mentor others made a significant and positive difference.
- **The approach needs to encompass the entire value and market chain:** Support needs to be provided all along the value/market chain. It is no good improving product quality, if the packaging remains poor, or if there is no market (or skills) to sell the products.

Marketing and production

- **Do not underestimate the importance of marketing.** Marketing appears to be an area that is often overlooked. Having better quality products does not necessarily mean that there will be consumers willing to buy the new products. RFLP showed how important it is to address market needs. This knowledge must reach communities, in addition to government and NGOs.
- **Study the markets.** The production of new products and getting them to market takes considerable time, effort and technical assistance. Time and resources are needed to design and plan activities and to provide long-term technical expertise.
- **Lack of access to capital remains a major obstacle.** Communities lack access to capital and this often prevents them undertaking any new activity, buying tools and equipment or scaling up production. Emphasis should be placed on enhancing financial literacy, building community savings groups and enhancing access to micro-finance.
- **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.

Capacity building

- **Building local capacity.** The building of local mentoring capacity (government staff, NGOs, etc.) has been integral to ensuring the success of RFLP's actions and will help facilitate sustainability and replication. As much emphasis should be placed on building this capacity, through the provision of TOT training to develop a cadre of key local trainers, as it is on supporting communities. The TOT graduates will continue to deliver post-harvest and marketing training and support to coastal communities beyond the life of RFLP.
- **Learning by doing.** The core group of implementers was able to put their new skills into practice early on. Initial engagements with communities were fairly simple in order to help the core group gain confidence. This process continued as the core group learned, and then shared with communities, more complex skills. Hands on training and taking part in study visits where they worked with other producer groups gave community members the practical experience and confidence to carry out improvements to their own products.
- **Prior expertise is not always necessary.** Some members of the core implementers group did not have a fisheries background, while many had never carried out participatory type consultations or training before. However with on-going support and the chance to put quickly learned skills into practice, their capacity and confidence was built.
- **Training needs to be followed up.** Technical assistance should be provided after the training, especially in the early stages, to support communities to apply what they have learned during training and/or to find solutions to any difficulties they may encounter.
- **Engage local capacity once built.** Once trained, the core group of implementers was actively involved in RFLP actions and received on-going mentoring to help them put their skills to use and to build their confidence in working with communities. It is vital that this on-going support and engagement takes place and that facilitators or trainers are not just 'left to it'.

Cooperation

- **Cooperation is necessary.** It is very important to build partnerships and look for synergies from the beginning of the project, with all the relevant stakeholders, so as to create trust and willingness to collaborate.
- **Have effective communication channels.** Although reporting on activity implementation is important, it is also very time consuming. It is

important to have a clear communication structure between the different levels of management to allow for the flow of information without over-reporting.

- **Involve NGOs and educational institutions in capacity building (not only government staff).** Involving staff from NGOs and education institutions in addition to government offices, helped inject new skills sets and to widen the base of those with the ability to support communities.
- **Look for real signs of support.** Support from stakeholders has been the key to the progress RFLP has made. For example, DKP committed a number of its staff to be involved with RFLP activities.
- **Be in line with government priorities.** If project activities are aligned with government policy and priorities, involvement of staff will be more effective. A formal agreement with the government as well as high level support from government officials will help to facilitate this.

Tools and equipment

- **Infrastructure should not be improved unless management plans are in place.** The need to improve Oeba fish-landing site was evident. However it was equally clear that there were conflicts over management of the facility. If these had not been considered any attempt to improve the infrastructure would have been unsuccessful.
- **Tools and equipment must be fit for purpose and provided on time.** Materials that were not provided on time, or which were unfit for purpose caused frustration among project staff and beneficiaries. Thorough planning of activities, as well as good consultation and partnerships between stakeholders is necessary to minimize these risks.
- **Do not “Stop and drop”.** For example, when providing equipment, there is also a need to provide training and instructions on how to use and to maintain. Do not assume people will know how to use donated equipment.
- **Buy locally.** Instead of buying cool boxes from elsewhere RFLP worked with the ILO to produce them locally, providing young people with vocational skills, jobs and supporting the local economy.

Looking ahead

- **Align projects with government programs, and build the capacity of different government departments.** This is especially relevant during the Exit phase, so there can be a smooth transition and transfer of responsibilities as the project nears its end. The capacity building

component should be considered as a day-by-day improving strategy, and not as a stand-alone training.

- **Think early on who will take the lead at the end.** A good example of the raised awareness of the institutions was the development of the road map for seaweed development in the province. The initial business meetings were promoted by the RFLP, but as RFLP nears closure the full coordination of this initiative has been taken up by the SPADU office, working with different stakeholder organizations.