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

GCP/RAS/237/SPA

# Indonesia

## A visual guide of key baseline survey findings

# About RFLP

The Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP) sets out to strengthen capacity among participating small-scale fishing communities and their supporting institutions in Cambodia, Indonesia, the Philippines, Sri Lanka, Timor-Leste and Viet Nam. By doing so, RFLP seeks to improve the livelihoods of fishers and their families while fostering more sustainable fisheries resources management practices.

Funded by the Kingdom of Spain, the four-year (2009 - 2013) RFLP is implemented by the Food and Agriculture Organization of the United Nations (FAO) working in close collaboration with national authorities in participating countries.

RFLP focuses on a number of key areas as follows:

- Strengthening **co-management** mechanisms for sustainable utilization of fishery resources
- Improving **safety at sea** and reducing vulnerability for fishers and communities
- Improving the quality of fishery **post harvest** products and market chains
- Strengthening and diversifying **livelihood** income opportunities for fisher families
- Facilitating better access to **micro-finance** services
- Sharing knowledge and lessons learned both nationally and regionally

# RFLP in Indonesia

The baseline survey was conducted in Nusa Tenggara Timur (NTT), in four areas:


## The Indonesia baseline survey

RFLP field activities in Indonesia are undertaken in the Province of Nusa Tenggara Timur (NTT) and specifically in four out of 20 regencies, namely Kupang District, Kupang Municipality, Alor District and Rote Ndao District. The RFLP Project Coordination Office is located in Kupang and works closely with the Directorate General of Capture Fisheries of the Ministry of Marine Affairs and Fisheries (MMAF) which is the implementing agency.

Fieldwork for the RFLP Indonesia baseline survey was carried out during late 2010 and early 2011 with 272 households sampled across the target areas.

The full version of the baseline survey can be downloaded from: www.rflp.org

# Fisheries background

## Nusa Tenggara Timur fisher household distribution


**Kupang municipality**
- Number of fisher households: 257
- RFLP respondent households: 13

**Kupang district**
- Number of fisher households: 1,111
- RFLP respondent households: 60

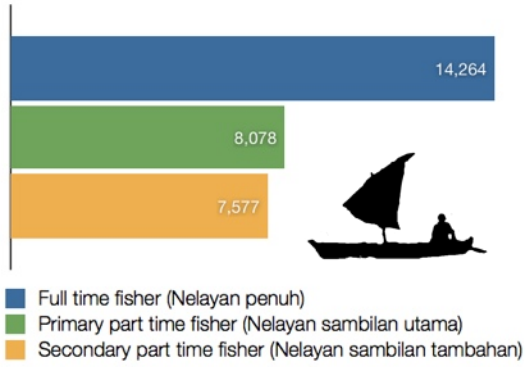
**Alor**
- Number of fisher households: 1,166
- RFLP respondent households: 64

**Rote Ndao**
- Number of fisher households: 2,444
- RFLP respondent households: 135

**Total fisher households:** 4,978

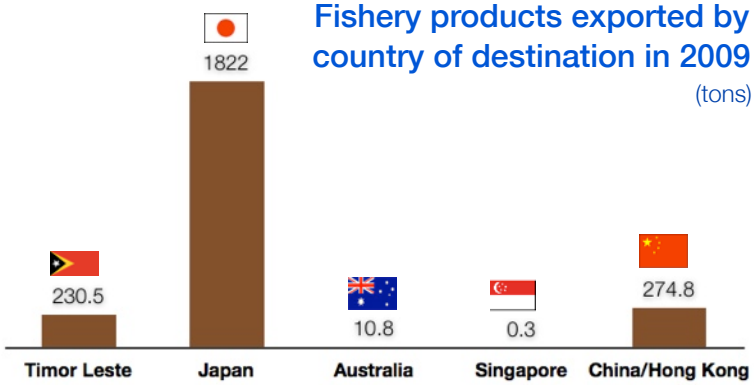
**RFLP households sampled:** 272

### Number of fishers by time allocation in all RFLP areas




### Fishery products exported by country of destination in 2009

(tons)

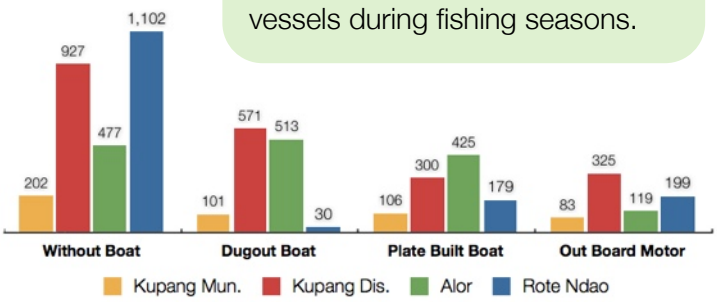



**Total:** 2,339 tons

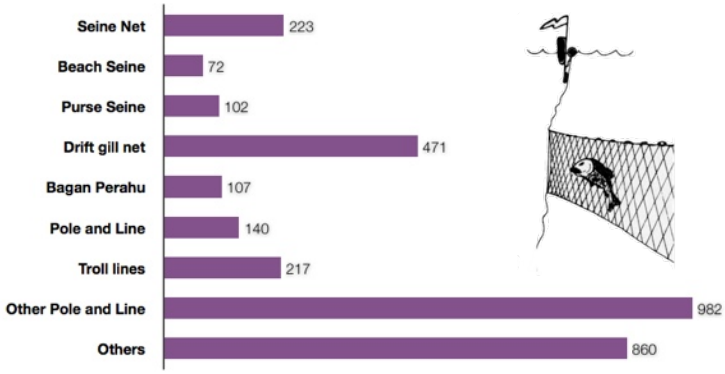
The largest number of fishers are found in **Alor**: 8,178 full time fishers; 4,080 primary part time fishers, and 2,805 secondary part time fishers.

### Number of fishing vessels and type

Most fishers do not posses their own fishing boats but borrow vessels during fishing seasons.



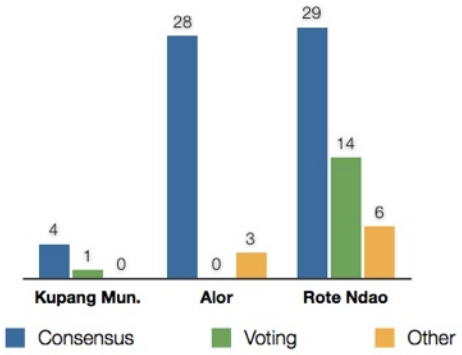

### Total number of fishing gear types in NTT study areas



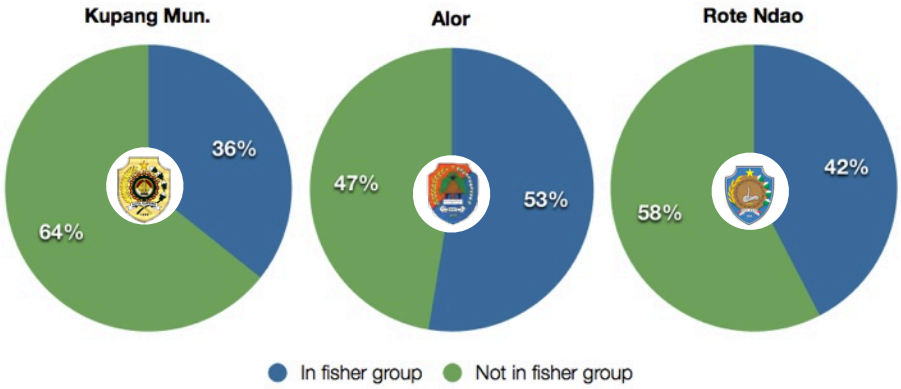
# Co-management

Fisher groups (*kelompok nelayan*) are the main actors in Indonesian coastal communities and are important initiators of co-management. Fisher group initiation has had only limited success in NTT with group consensus (*musyawarah*) the main mode of fisheries management.

**Decision making mechanism for fishers and fisher groups** (No. of households)



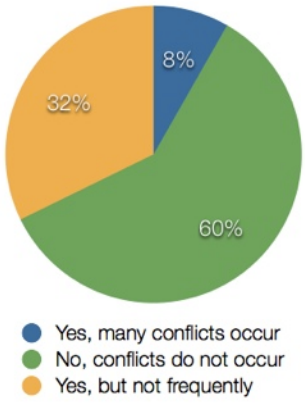

**Proportion of respondent fishers in fisher groups**




## Number of fisher groups and years of existence

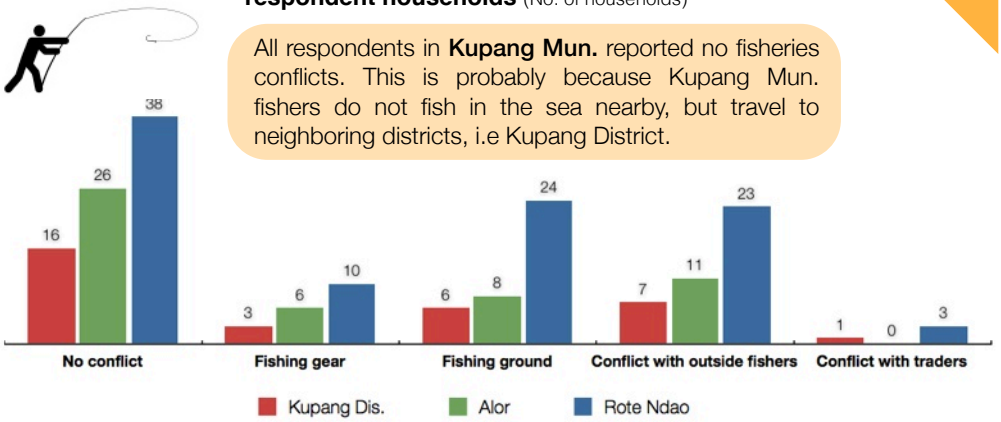

Most fishers agree that fishing conflicts do not frequently happen but when they occur, it is often related to fishing grounds and conflicts with fishers from outside communities.

**Average perceptions on fishing conflicts and occurrence**



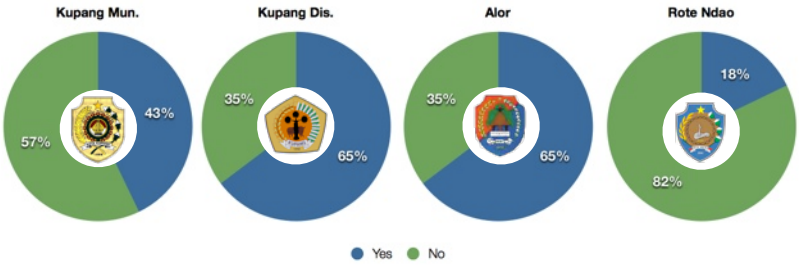

**Type of fishing conflicts/incidents and frequency reported by respondent households** (No. of households)

All respondents in **Kupang Mun.** reported no fisheries conflicts. This is probably because Kupang Mun. fishers do not fish in the sea nearby, but travel to neighboring districts, i.e Kupang District.



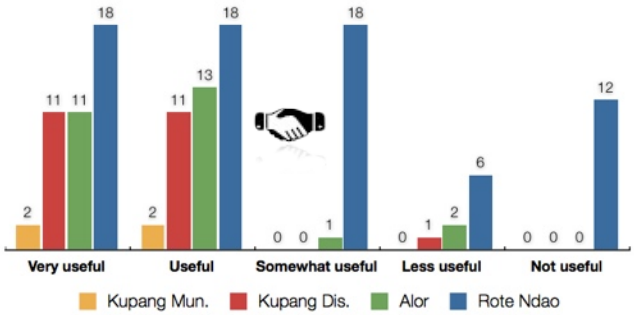
Fishers view the government as a significant player in coastal management but households receving fisheries extension support varied through the study areas as did perceptions of it's usefulness.

**Households receiving fisheries extension support**




**Perceived usefulness of extension support**

(No. of households)



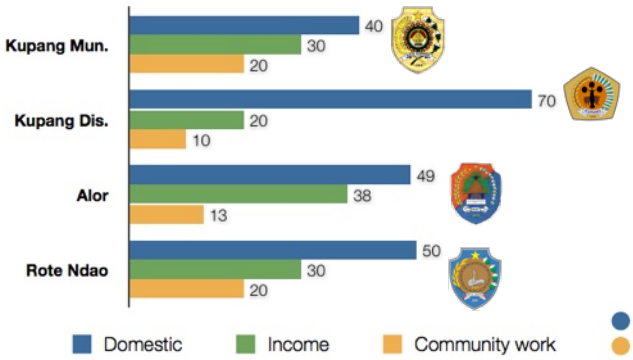

**Rote Ndao fishers declare that government support to fisher households is diverse and included:**

- ☑ training support
- ☑ provision of fisheries infrastructure/resources
- ☑ provision of business support
- ☑ regulation and protection of fisheries

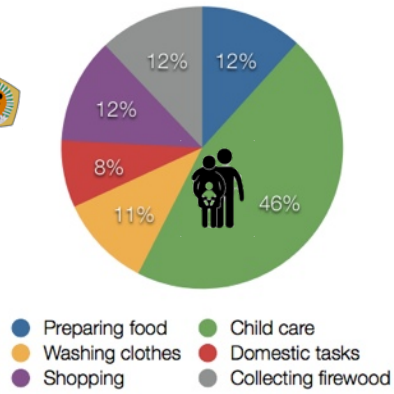
However, **62%** of Rote Ndao respondents did not receive government fisheries extension service support.

Women usually play supporting roles in fisheries and its management. The survey reveals that women in all the study areas spend most of their time on domestic activities rather than on generating income or community work.

**Type of activities women engaged in (%)**




**Average tasks performed by women**




## Traditional knowledge

All communities have forms of traditional knowledge with **Rote Ndao** most rich in traditional customs. These include:

- traditional fishing methods
- blessing ceremonies/social rituals to the sea
- prohibiting cutting of mangroves
- prohibiting the use of destructive fishing gears

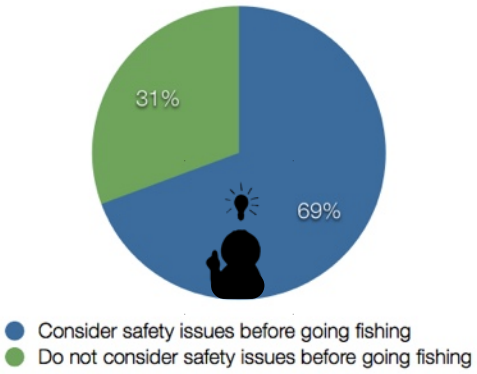
## Rural vs. urban

Women in urban Kupang Municipality undertook more domestic work than the women in rural Alor, Kupang District, and Rote Ndao who had more assistance from their husbands and/or other household members. This is mainly because the kinship system in rural areas is stronger than in urban areas. However, social and cultural constraints prevent women from being more heavily involved in fisheries meetings and management.

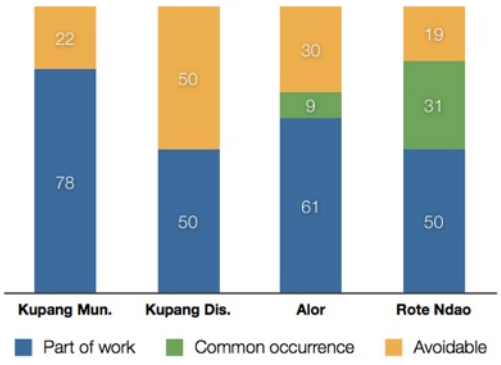
# Safety at Sea

Safety is not a major consideration when planning fishing operations and most vessels have minimal safety equipment on board when fishing. Despite the risks, fishers attempt to go fishing every day.

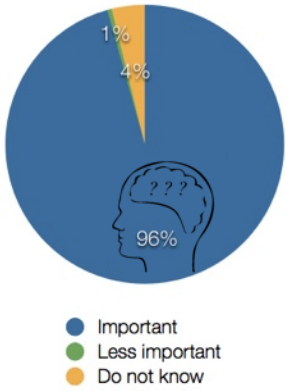
**Average of fishers that consider safety at sea issues before fishing**




**Fisher perception on safety at sea incidents (%)**

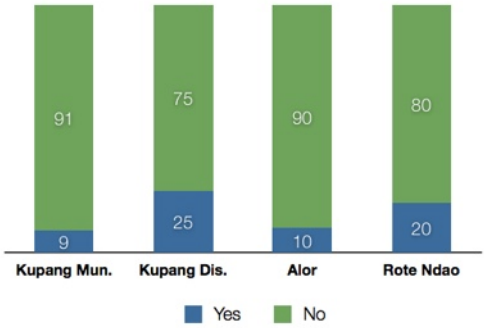



**Average perception on the importance of safety at sea**

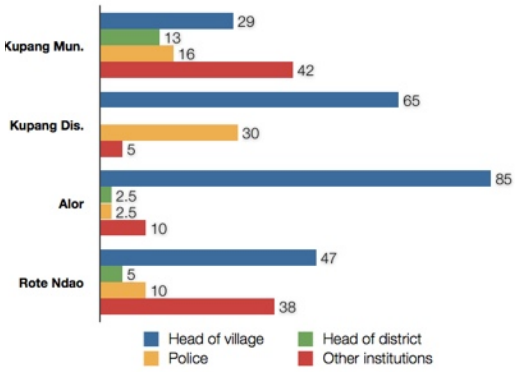



Few fishers have access to outside sources of information on safety at sea. They are mainly informed by other community members.

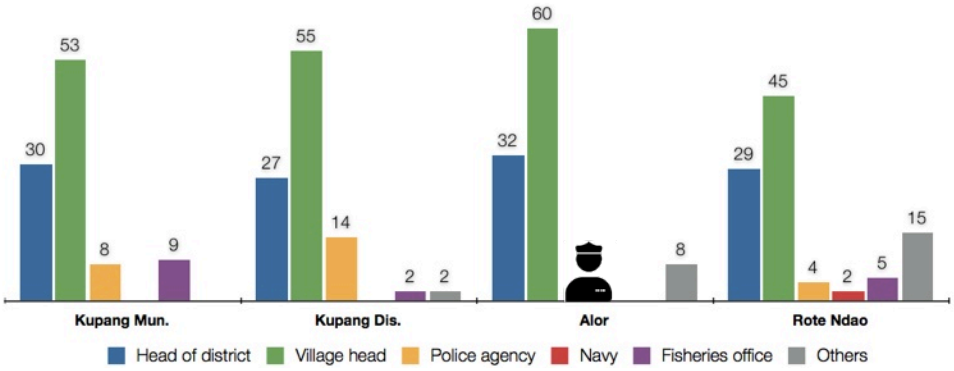
**Percentage of fishers that access safety at sea information (%)**




**Institutes that fishers report safety at sea incidents to (%)**




**Perception on the priority of who to report incidents to (%)**




## Fishers reluctance to report to formal institutions

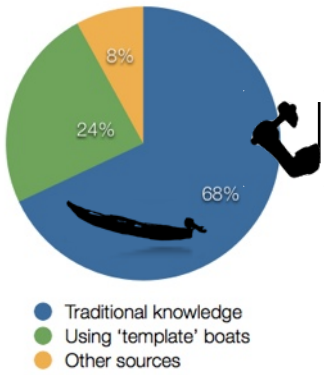
Fishers are reluctant to report accidents at sea to formal institutions such as the police, the navy or the fisheries agency. If an accident occurs most fishers will notify and report to the village head in the first instance, followed by the district head and other institutions as the last priority.

**Sources of information include:**

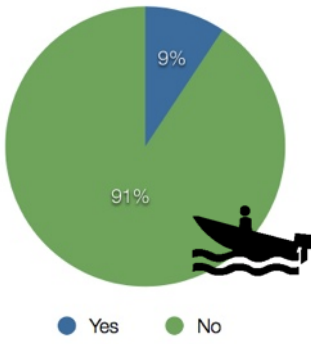
- head of village
- local radio
- television
- local fishery agency
- meteorology
- climatology bureau

## Most fishers do not considered safety regulations when constructing their fishing boats.

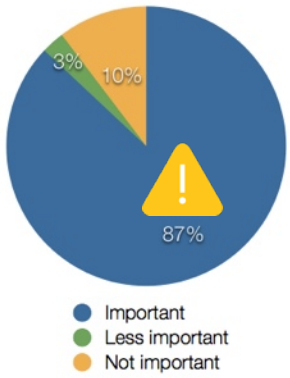
**Source of boat building knowledge**




**Fishers that follow basic design regulations when building boats**




**Average of the importance of reporting incidents**

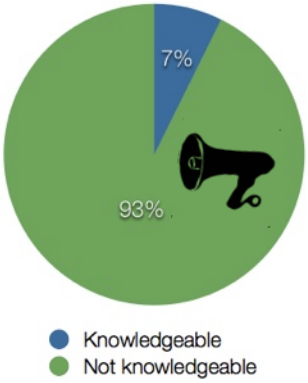



## Reporting systems

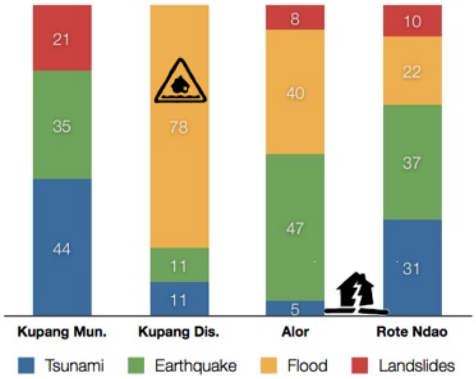
In Indonesia accident reporting for other maritime sectors such as passenger ships, tankers or commercial vessels exists and are implemented. No such system exists for small scale fishing vessels.

## Despite being cautious of the different types of natural disasters for each study area, most communities are not knowledgable about early warning systems.

**Average of fishers knowledgeable about early warning systems**




**Fishers' perception on the most common disasters in their district (%)**

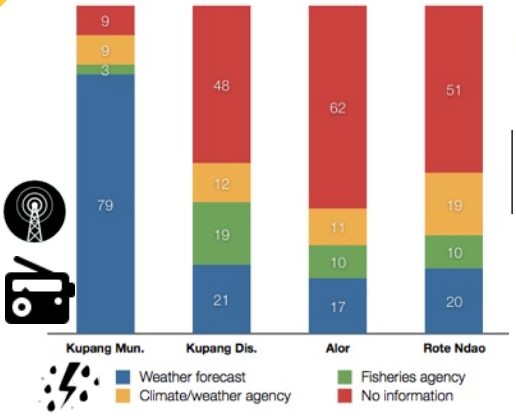



### Women convincing men

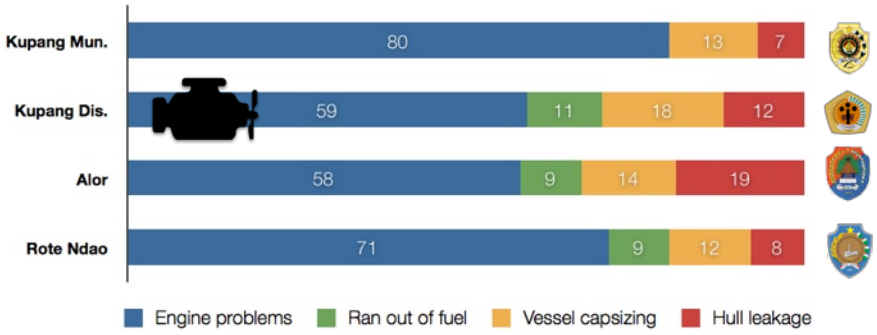
In all areas there was little evidence that women are involved in fishing operations at sea. Most women have difficulty in convincing men to take and wear safety equipment (e.g. life jackets) and to pay attention to the weather before going out to sea.

## The most common problem experienced by fishers at sea is engine failure. The declared main reason why engines fail at sea is due to lack of routine engine maintenance.

**Main source of weather alerts (%)**

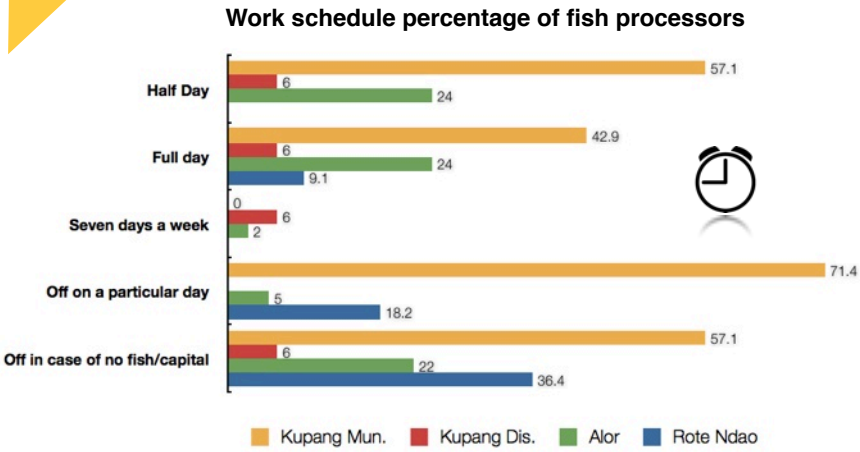



**Most common safety at sea incident types (%)**



# Post Harvest and Marketing

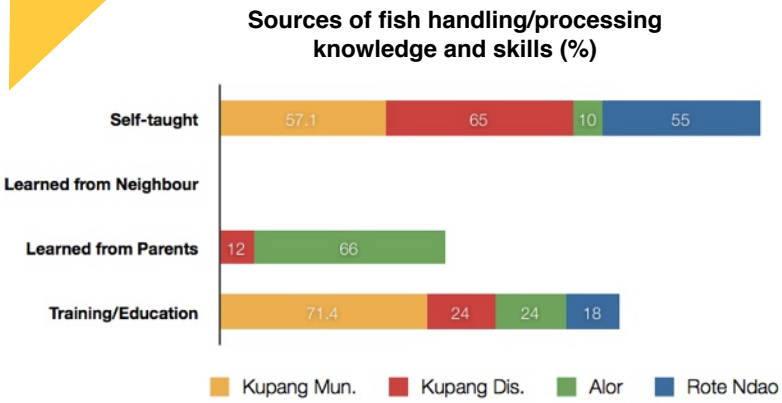
Post harvest products (mainly salted, dried or roasted fish) are normally produced when there is a surplus of fresh fish unsold in local or regional markets. Processing as an activity has only limited importance and provides small scale limited/seasonal employment.




Post harvest training on product diversification included goods such as:

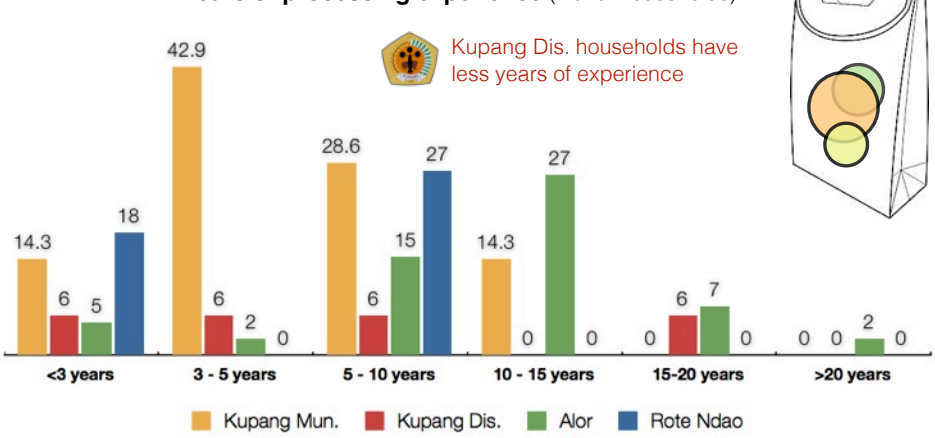
- *dodol* (seaweed jelly)
- seaweed sweets/syrup
- shredded fish jerky/nuggets
- meatballs
- fish crackers
- fruit products (juice, jelly, and jam)

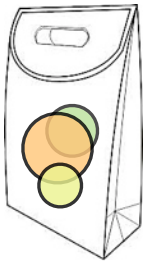
Most fisher households acquire post harvest knowledge from self-taught means.




## Fresh fish preference

Most consumers are used to consuming fresh fish and as a result processed fish is rarely given attention. However, some fishers understand how fish supply of certain species fluctuate in different seasons and markets.



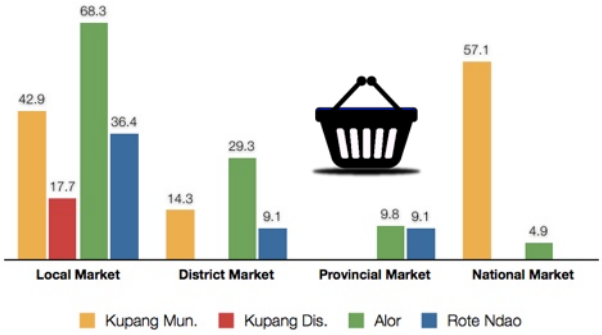



## Product packaging

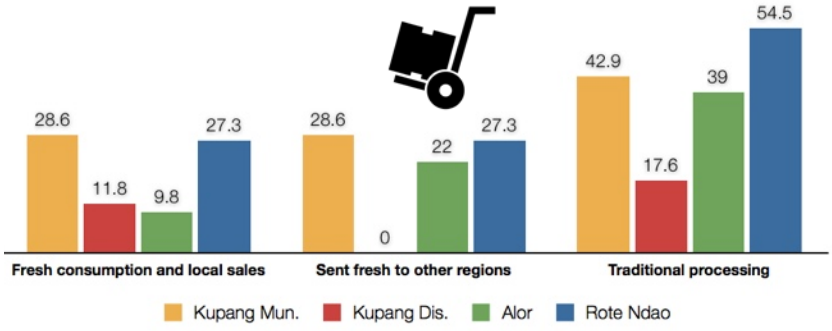
The role of packaging to improve the appearance of fish products is beginning to be realized by the respondents as part of product promotion and safety. The development of processor interest in product diversification and value addition was probably being stimulated by increasing market demand from tourism activities.

## Most landed catch is traded in local markets but many Alor and Rote Ndao catches go to Kupang Municipality's more active markets.

**Market destination of processed aquatic products according to fishers (%)**




**Forms of traded fish undertaken by fishers (%)**

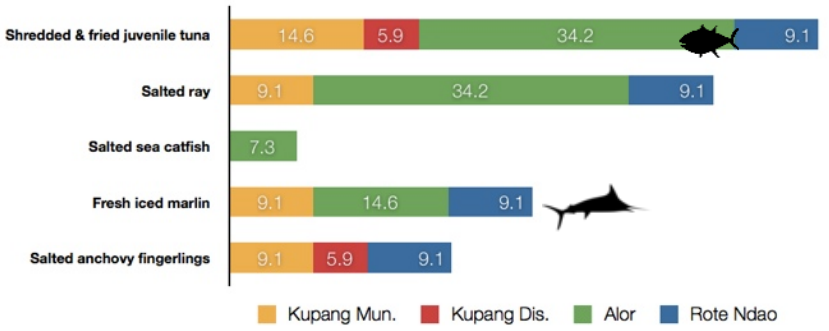



**Bodi tepa**

*Bodi tepa* (middle persons) buy fish from fishers and sell the fish on their behalf. *Bodi tepa* must have their own boat to transport fish bought from or consigned by fishers to sell on their behalf at the market. The relationships between fishers and *bodi tepa* are unique because many fishers also take loans from *bodi tepas* to cover fishing costs. Most fishers are obligated to sell their catch to the same *bodi tepa* from whom they take loans. The exception to this is when fishers have large catches which their *bodi tepa* cannot purchase entirely, so the remainder can be sold to another *bodi tepa*.

## All respondents declare that the quality of processed aquatic products from their area is either good/excellent quality and made from quality raw materials.

**Perception that post-harvest product was of high quality (%)**



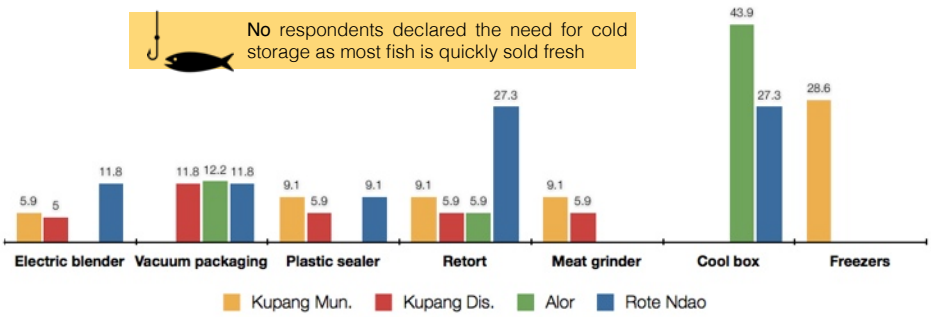

## Outside markets

Some higher quality fish products such as salted/dried fish are displayed and sold at various hotels or food stores to attract tourists. Processing of marlin and *togkul* (tuna) into loins for export also pays a better price than selling the fish directly at local markets.

## Various equipment needs arise for different districts with cool boxes a more significant issue for more rural Alor and Rote Ndao districts.

**Fish processing facilities needed by respondents (%)**

No respondents declared the need for cold storage as most fish is quickly sold fresh

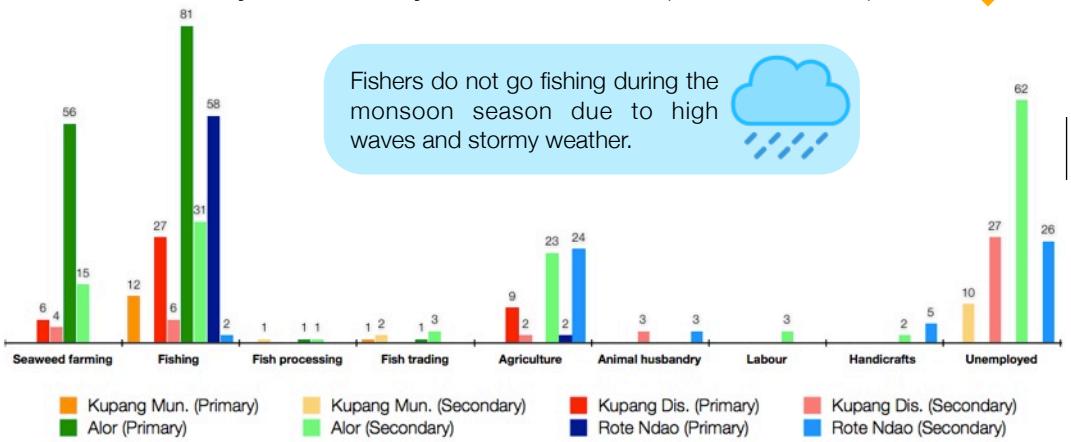



Alor district has **one** ice plant which can produce 408 blocks of ice daily. Most of the ice is used for fish handling (onboard and in ports), transportation, processing, and marketing.

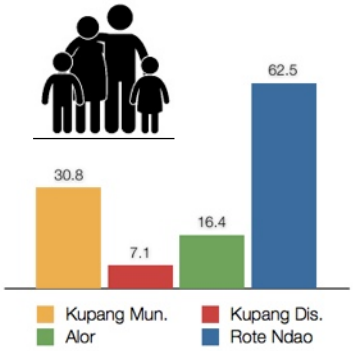
# Livelihoods

Fishing provides the primary or additional source of income as almost all respondent households have occupations directly and indirectly related to coastal resources. Other livelihood options included seaweed farming, handicrafts and labour.

**Primary and secondary means of livelihood** (No. of households)



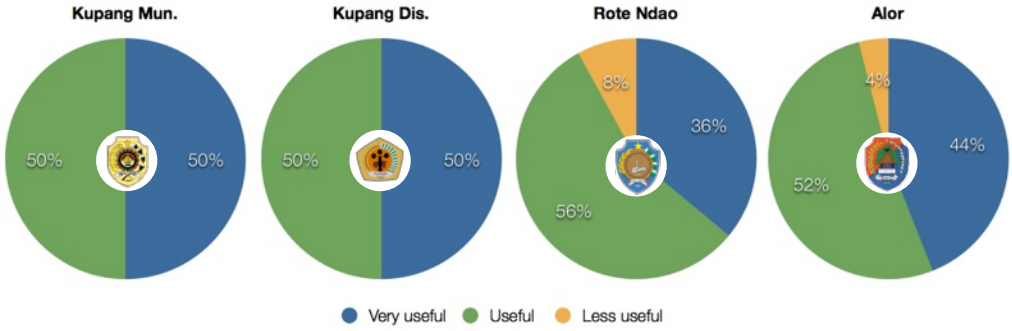

**Employed family members in households (%)**



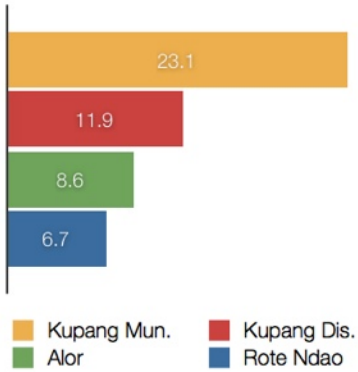

Seaweed culture takes around 45 days and is a common activity involving the entire household. During the rainy season (November - February) fishers also work as farmers cultivating cassava, corn, peanuts, and beans. Fishers also rear cows, pigs, goats, and chickens in their backyards and gardens.

Households have higher monthly income in locations where alternative options are available (e.g. Kupang Mun.). There is great seasonal and location specific variability in income levels of different fisher households within coastal fishing communities.

**Respondents' satisfaction based on benefits from livelihoods enhancement and diversification programmes**



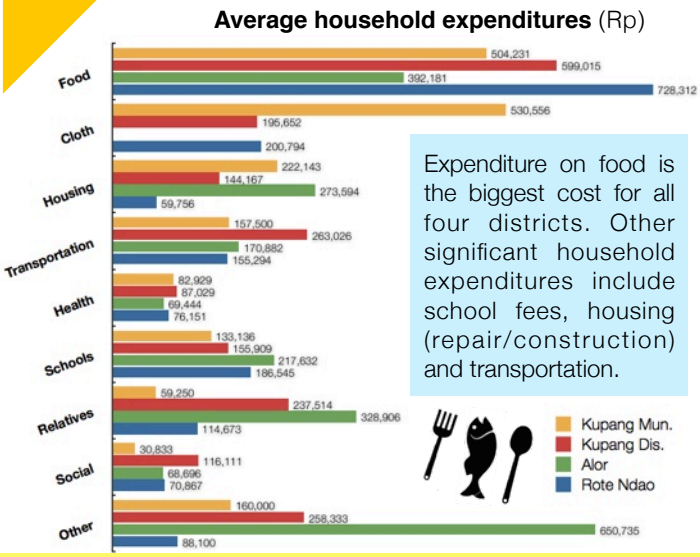

**Respondents satisfied with the current level of household prosperity (%)**




The main constraint in livelihood diversification was **limited access to capital**. Other obstacles are limited skills and limited capacity to identify/find other economic opportunities.

Other common livelihoods alternatives are agriculture based (fruits/vegetables), seaweed farming, fish processing/trading, animal husbandry, labour, and handicrafts. When fishers had insufficient capital for fishing, they used income from other household activities to pay for fishing operation costs.

Household incomes and the ability of households to save money is seen as the main enabling factor for fisher household diversification. Other significant factors include enabling government policy/ legislation and the availability of micro-finance services.



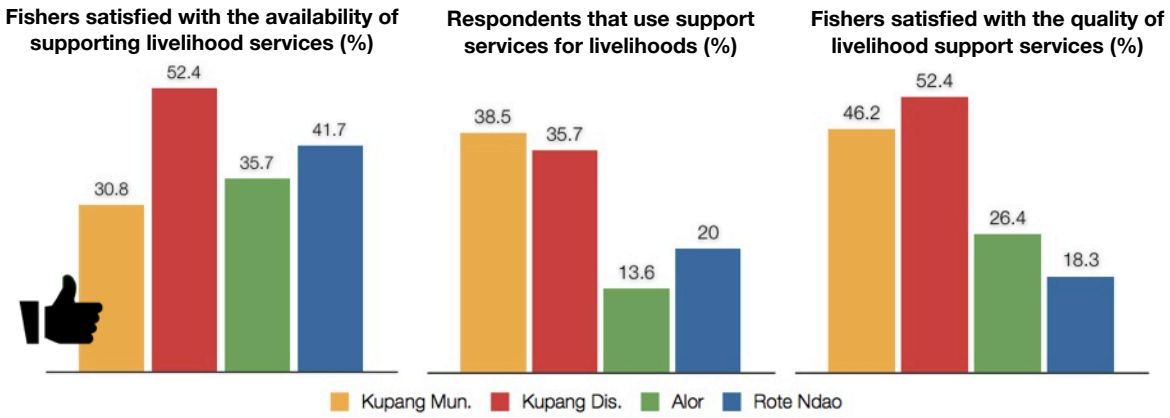

Expenditure on food is the biggest cost for all four districts. Other significant household expenditures include school fees, housing (repair/construction) and transportation.

When dissatisfied, fisher households seek other sources of income (e.g. fish trading, seaweed culture, farming, and animal husbandry.) However, most of these alternative livelihoods are reliant on natural resources while the availability of supporting services for livelihoods enhancement and diversification are limited. **Less than one third** of all the respondents were satisfied with the quality of the supporting services in livelihood diversification.

20%

...of the respondent households replied to having accessed forms of extension services for livelihood diversification over the past three years.

Most fisher households are not satisfied with the availability and quality of livelihood enhancement, diversification and existing support services. Inappropriate targeting of donated fishing gear aid helps drive fisher dissatisfaction.




Women in coastal communities have an important role in livelihoods enhancement and are involved in a variety of livelihoods activities in coastal communities such as the cultivation of seaweed.

Few women are actively engaged in actual fishing at sea, though one exception is on the islands of **Pulau Pangker** and **Kage** in Alor. There wives of fishermen dive to spear fish. The catch is then cleaved and sold by the husband. Elsewhere, the typical division of labour has men catching fish and women primarily selling and processing the catch.

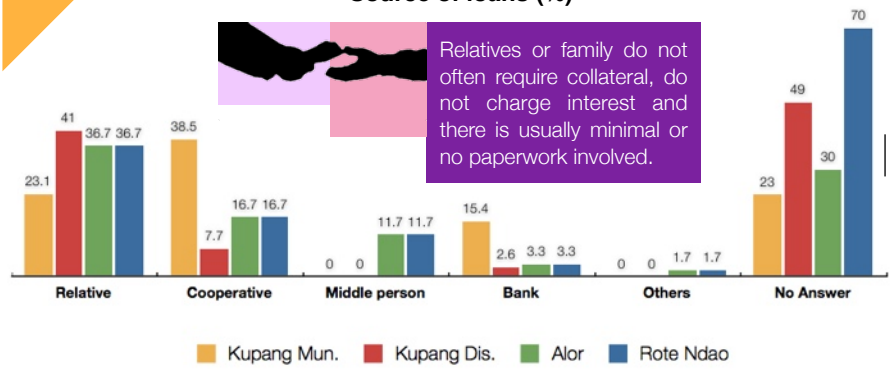
*(Tridacna squamosa)*

In Kupang Dis. a salt production and salting method unique to Indonesia is conducted by the women. Salt is produced by storing sea water in giant marine clam shells. As the sea water evapourates under the sun, salt is produced and then applied to the catch.

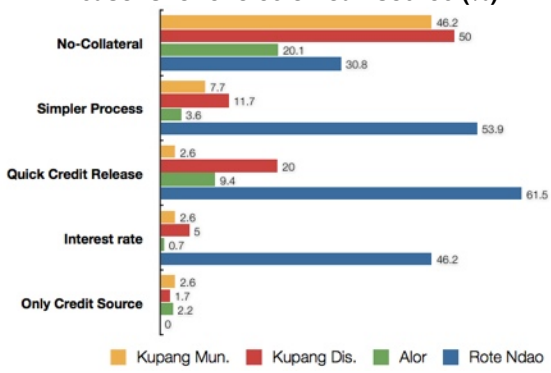
# Micro-finance

The need for collateral in accessing loans is the biggest constraint preventing fisher households from accessing formal credit. As a result very few fisher households are able to access bank credit services and opt for other micro-finance services.

**Source of loans (%)**

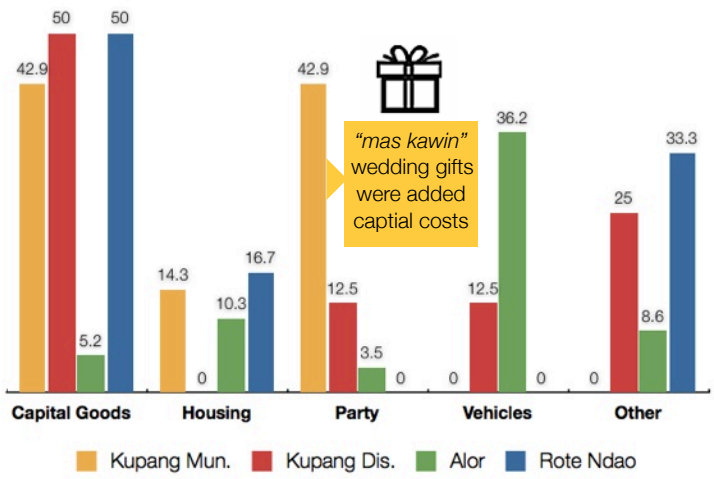



**Reasons for choice of loan source (%)**




Aside from capital goods, many households save money and access loans for events such as weddings, birthdays, the celebration of high crop/fish yields and funerals.

**Uses of accessed loans (%)**



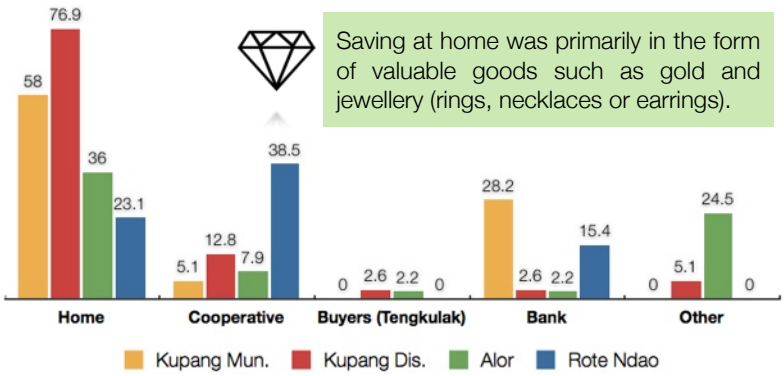

**Informal institutions include:**

- Money-lenders (personal)
- Buyers (middle-traders; many of whom are men)
- Rotational savings groups (*Arisan*)

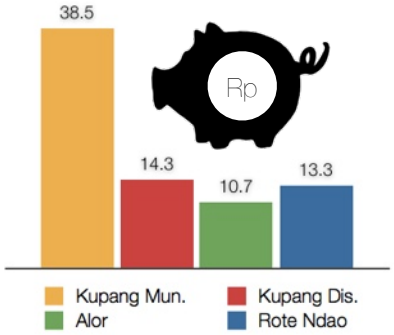
**Formal institutions include:**

- Bank (e.g. BRI)
- Cooperatives

**Preferred savings type for household economic surplus (%)**

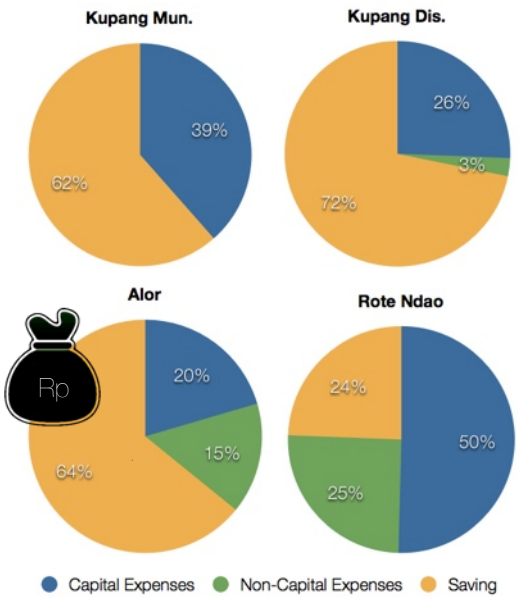



**Percentage of respondents with savings (%)**

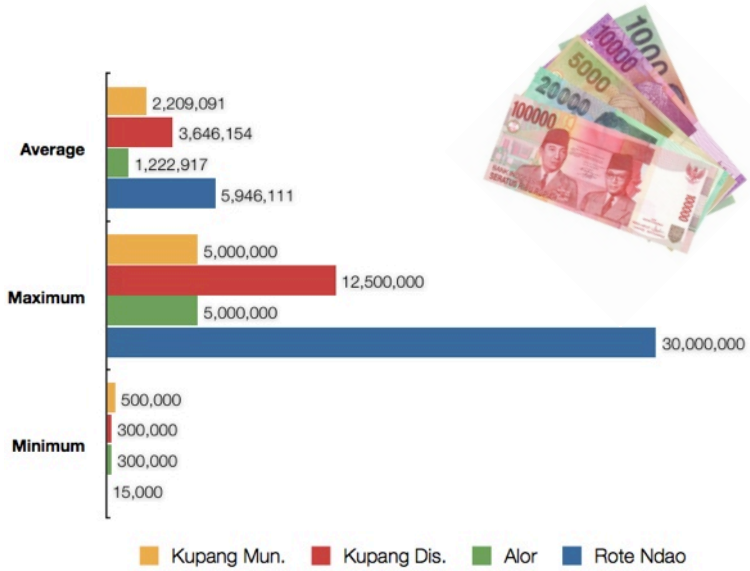


Saving rates vary greatly between survey areas. When saving money most respondents prefer accessing informal financial institutions introduced by non-government plans such as religious institutions and private organizations.

**Use of household economic surplus**

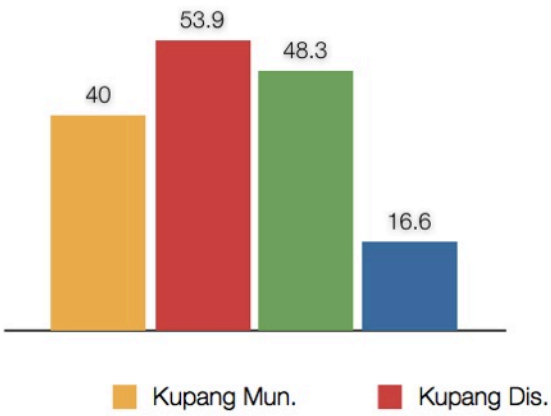



**Loan characteristics** (Rp)

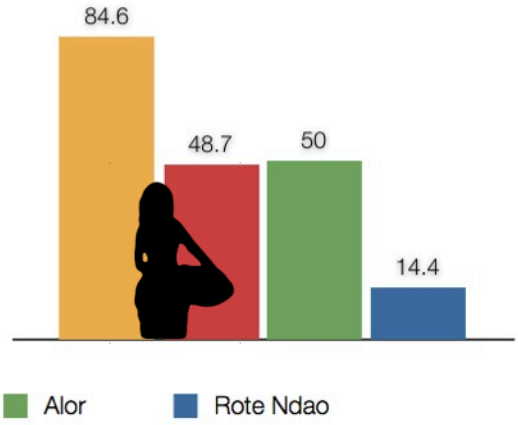



Women are heavily responsible for saving household capital and initiating loans.

**Housewives eligibility in accessing credit services (%)**




**Respondent perception on the need for a specific credit programme for women (%)**





**June** and **August** is the time for the new school semester when many households have to pay schooling costs (tuition fees, books and uniforms). During these months household expenditure is higher and many households take on loans.

Most housewives save money in the form of **jewelry**. Jewelry is an asset owned by the wife who has full right to its use. When cash is needed during low fishing seasons or to pay for costs such as school fees jewelry is pawned to cover the costs.

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