



ARTESMAR® Fishery Improvement Program for Artisanal Small-Scale Fisheries

MONITORING REPORT

Yellowfin Tuna (*Thunnus albacares*)

Handline /Single Hook
Philippines



Document Version: 1.6.2014

Replaces Version of: -

ARTESMAR® is a fishery engagement and improvement program focusing on artisanal small-scale inland and marine fisheries worldwide. High catch selectivity and low impacts on aquatic habitats are important merits of many small-scale fisheries, and ARTESMAR® aims to recognize these merits on international markets. ARTESMAR® offers a framework for fishery improvement by using market-incentivized processes and socioeconomic benefits as drivers for more sustainable business and fishing practices.

This document describes candidate fisheries that seek participation in the ARTESMAR® fishery improvement initiative and summarizes the information and data available in reference to the ARTESMAR® “Criteria of Eligibility”. The technical fishery profiles then serves as basis for the desk-based approval process by independent third-party bodies in order to confirm the fishery’s eligibility for the participation in the ARTESMAR® program.

© All rights reserved. Blueyou Consulting LTD / Zürich Switzerland. June 2013

FIP SUMMARY	3
FIP INDICATORS	3
IMPROVEMENT STATUS	3
BACKGROUND	4
WESTERN CENTRAL PACIFIC TUNA FISHERIES AND THE ARTISANAL HANDLINE FLEET	4
SUSTAINABILITY OF ARTISANAL HANDLINE FLEET	4
SCOPE AND STRUCTURE OF THE ARTESMAR® FIP	6
IMPROVEMENT NEEDS & OBJECTIVES	7
PROGRESS SUMMARY	8
2014	8
2015	8
SITE INTERACTION LOG	9
FISHERY DATA BASE (FDB)	9

FIP Summary

FIP indicators

FIP Stage according to CASS

To be assessed

FIP Rating according to SFP rating system

To be assessed

FIP Rating according to MSC benchmarking tool

Initial: 0.55

Current: 0.55

Fishery Location:

Philippines, for map see [Yellowfin Tuna – Western and Central Pacific](#)

FIP Contact

[Contact Blueyou Consulting](#)

FIP Participants

Meliomar Inc.

BFAR

Sustainability Information

See summary on sustainability information by [Fishsource](#), WWF or [Seafood Watch](#) for a broader assessment for the type of fishery, or for a more fishery-specific assessment consult the [ARTESMAR® fishery profile](#)

Date Publicly Announced

September 2014, [Undercurrent news](#)

Improvement status

Improvement plan

See updated [ARTESMAR® Improvement plan](#) for the artisanal handline tuna fishery in the Philippines

Initial Improvement Recommendations

- Implement vessel registration and FCR for ARTESMAR® suppliers in three pilot sites - DONE
- Design CDS and traceability system from vessel to export and implement it for all ARTESMAR® suppliers - DONE
- Design database for capturing all FCR, CDS and traceability information and implement it for all ARTESMAR® suppliers - DONE
- Knowledge transfer to fishermen for better handling to improve quality, and thus incomes through better pricing – WORK IN PROGRESS
- Improve cost-benefit control of fishery stakeholders – WORK IN PROGRESS

Current Improvement Recommendations

- Establish vessel registration scheme with BFAR to be applied nationwide – WORK IN PROGRESS
- Extend FCR implementation from pilot sites to other ARTESMAR® suppliers – WORK IN PROGRESS
- Knowledge transfer to fishermen for better handling to improve quality, and thus incomes through better pricing – WORK IN PROGRESS
- Improve cost-benefit control of fishery stakeholders – WORK IN PROGRESS
- Define management structures with BFAR to interpret FCR information and create mechanisms for intervention – WORK IN PROGRESS
- Organize fishery stakeholders in communities, optimize economics and capacities, and participate in management decisions – WORK IN PROGRESS

Background

Western Central Pacific Tuna fisheries and the artisanal handline fleet

The tuna fisheries exploiting the western central Pacific tuna stocks are the largest of its kind, representing an annual catch of skipjack (1.6 million t), yellowfin tuna (500'000 t) and bigeye (160'000 t)¹. Bluefin and albacore tuna only represent marginal catches in this area because they are predominantly distributed in temperate rather than tropical waters. The skipjack and yellowfin stocks are estimated to be in good health, whereas bigeye is estimated overfished. While skipjack is smaller and usually serves the market of canned tuna, yellowfin, bigeye and bluefin tuna are the large tuna species that serve the markets of raw tuna products e.g. in the form of sushi. Hence, among the tuna serving these high-end markets, only yellowfin can be presumed to be in good health.

The fishery exploiting yellowfin tuna mainly consists of industrial purse seiners that catch about 65% and longliners that take 20% of the catch. Of the total 500'000 t estimated to be caught annually, the handline fishery for large tunas only represents a marginal cause of mortality, catching an estimated 20'000 t annually, or <5% of the total yellowfin catch. This fishery occurs in the Philippines and Indonesia and is quite unique, as the only similar fishery to it is in the Maldives (see Fig. 1). Despite its low impact on exploited stocks, the fishery has a high social impact, representing at least 10'000 artisanal fishermen.

The handline tuna fishery occurs on all Philippines islands and, thanks to the gear used and fishing method, is highly selective. Large yellowfin tuna are caught using a circle hook baited with squid or small pelagic fish that is set at a depth around 100 m, where large tuna are found. From the available information on catch reports, 88% of the landings consist of yellowfin tuna in terms of numbers (or 96% in terms of weight). The fishery comprises a number of small-scale outrigger vessels made of wood and nylon of sizes ranging from 3-20 m length, with a majority around 6-10 m length, and consists of crews between 1 and 8 people that would stay at sea for 1-7 days. The smaller boats usually operate within the municipal waters 15 km from the shore and return daily, but larger vessels might fish throughout the EEZ and stay at sea for up to one week, the area of operation often being determined by the position of "payaos", the FADs made of palm leaves. See the [fishery profile](#) for more details on the fishery.



Figure 1: Typical small-scale handliner for tuna in the Philippines

Sustainability of artisanal handline fleet

The yellowfin tuna stock is rated as fully exploited according to the most recent fishery assessment by the WCPFC, i.e. the stock biomass is estimated to be around B_{MSY} . The assessment model used is sensitive to unknown parameters (e.g. steepness of recruitment) and the results are thus subject to uncertainty like in any other modeling framework, but, since the estimated removed biomass has been similar over the past few years, there is no immediate concern about this stock. The assessment refers to the Western Central Pacific tuna stock as a whole, of which the small-scale handliners represent around 3-4% of the catch.

The small-scale nature of the fishery and the gear used results in minimal environmental impacts: Hook and line generates almost no bycatch and does not affect the seafloor habitat.

Fishery management is almost completely absent in practice, but legislation does exist with respect to small-scale fisheries. Vessels and fisherfolk are usually not registered, catches and landings are not reported, and there are no standardized processes in place that facilitate the transfer of information between the different municipalities at the national level. The available information on the activity of this fishery comes from export figures, but the data is usually forged at the moment of export to be in line with the shipment order and is thus not accurate.

¹ <http://www.spc.int/oceanfish/en/ofpsection/sam/sam>

In summary, although fisheries management needs improvement, the fishery obtains a positive rating according to most sustainability classification methodologies, mainly due to its low environmental impacts and its currently positive stock assessment. For instance, it is rated as “Best Choice” by Seafood Watch² and as sustainable by WWF³, the main rating methodologies consulted by commercial actors in the US and Europe, respectively.

With respect to MSC certification, the fishery scores low mainly on P3, and partly on P1. Some issues of P1 are outside the scope of this project, because the fishery only represents <5% of total captures and can therefore not influence stock status of the WCPO stock or the overall harvest strategy (Fig. 2). The project aims, however, to install HCRs, report fishing trips and catches, and make this information publicly available for the small-scale handline tuna fishery. To improve fisheries management, it is required to determine the fisheries’ long-term and specific objectives in a fisheries management plan (FMP) on one hand, and to enforce existing laws and fishing rules on the other. Furthermore, processes must be put in place to evaluate management performance. ARTESMAR® aims to build up the data reporting and traceability systems to meet non-IUU conditions in the internal supply chains and then to extend these to the fishery on a national level with public authorities, so not much progress is expected on the national level in the years 1-3 of the project since the improvements only apply to the ARTESMAR®-specific supply chains (see next section). It is expected that the developed system can then be extended in collaboration with BFAR and other exporters in years 3-5 of the project (Fig. 3).

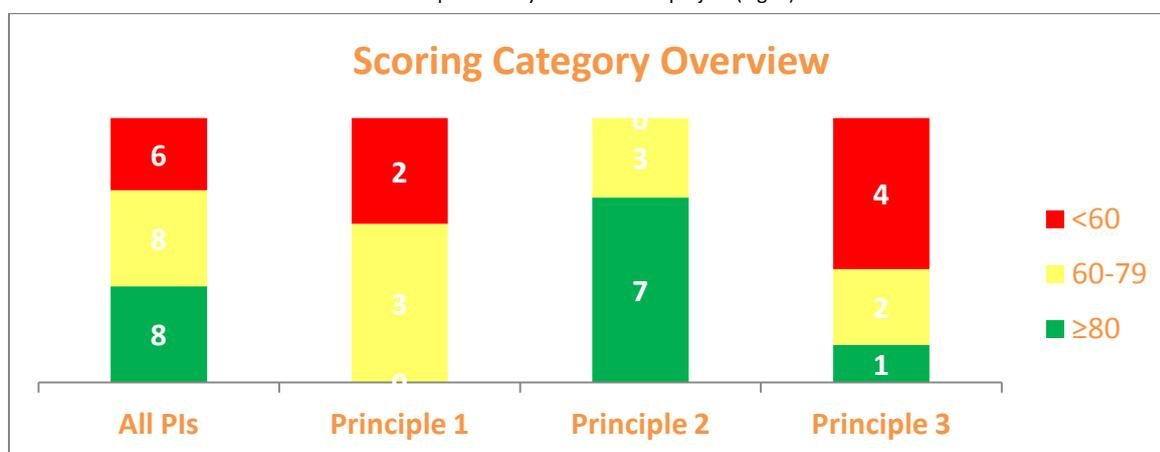


Figure 2: Distribution of scores among the 3 MSC principles according to the MSC BMT.

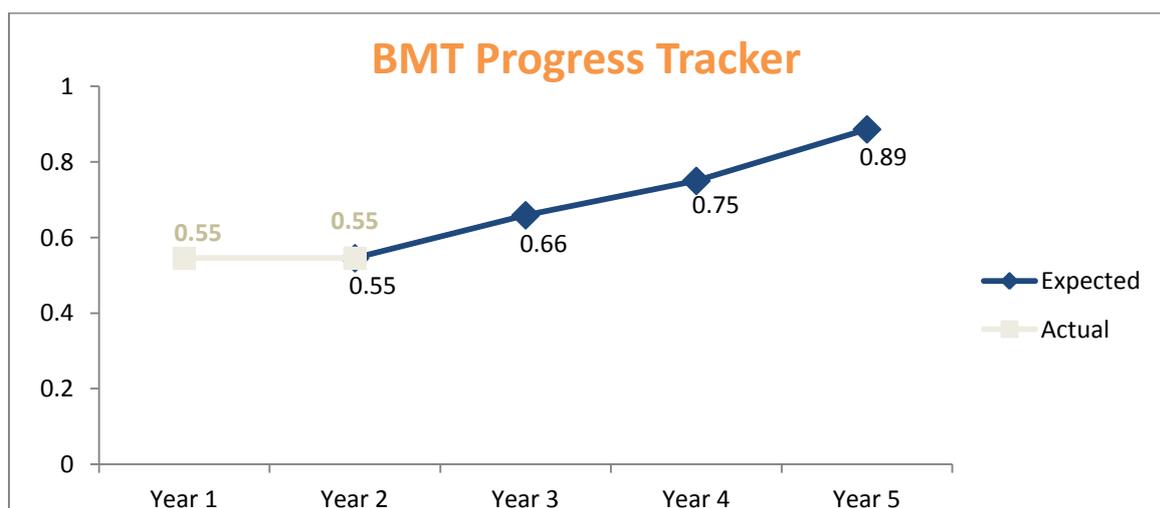


Figure 3: Planned and realized progress indicator according to the MSC BMT.

² <http://www.seafoodwatch.org/seafood-recommendations/groups/tuna>

³ http://wwf.panda.org/how_you_can_help/live_green/out_shopping/seafood_guides/

The MSC BMT applied refers to a UoC defined as the yellowfin handline tuna fishery of the Philippines as a whole. If the UoC was restricted to include only to the part of the fishery feeding into the ARTESMAR® supply chain, the MSC BMT assessment would already score more positively on P1 and P3 and result in a final score of 0.66 (instead of 0.55, if considering the fishery on a national level).

Scope and Structure of the ARTESMAR® FIP

The ARTESMAR® FIP aims to improve the small-scale handline fishery for tuna using a stepwise approach. In the first step, the fishery should become compliant with legal requirements and non-IUU conditions. In a second step, management structures and processes should be built up that would make the fishery eligible for MSC certification. ARTESMAR® is a transparent framework for the fishery improvement of small-scale fleets with a set of criteria of eligibility, improvement, and Chain of Custody (CoC), which are verified by a third party. After the eligibility of a fishery is confirmed – being mainly based on the high catch selectivity and some basic resilience of the exploited species to fishing⁴ – a fishery-specific improvement plan is designed to meet the improvement criteria over a defined time scale⁵. The CoC is verified in parallel with the eligibility, from which time the product can be sold under the ARTESMAR® brand, to guarantee that the product is exclusively sourced from fishery under assessment. This is an important part to ensure the credibility of a FIP and ARTESMAR® is currently the only FIP framework applying this approach. FIPs making claims on improvements would be considered invalid if traceability to the respective project sites cannot be guaranteed. See the ARTESMAR® brochure for more details about the scope and structure of ARTESMAR®.

Since a preceding PPP project seeking influence with public institutions failed to have an impact at the local fishery level and as commercial project partners did not adhere to agreements on sourcing areas, practices, traceability and food safety requirements, the processing and export plant Meliomar Inc. was founded to implement the FIP objectives. Meliomar Inc. now acts as the main local implementer of the first step of the FIP objectives, to make the fishery supplying Meliomar compliant with non-IUU conditions. Meliomar represents catches from approximately 3'000 fishermen by sourcing from this fishery from about 10 different areas in the Philippines: Mindoro occidental (Sablayan and Mamburao), Palawan (Puerto Princesa), Antique (San José, San Joaquin, Libertad), Negros (Bayawan, Sipalay, Hinoba-an, Santa Catalina, Siaton), Albay (Tabaco, Tiwi), Quezon (Infanta), Batangas (Balayan), Zamboanga (Zamboanga city), see Fig. 4. ARTESMAR® is a market-driven initiative using the leverage of commercial actors to implement improvement to comply with legal requirements. The impact of this initiative is currently limited to its sourcing capacity; hence these improvements only apply to the vessels and fishery operators supplying Meliomar, which represents a minor fraction of the fishery.

However, if the improvements lead to win-win situations of all stakeholders, it can be expected that good practices will be copied and applied in other supply chains outside of ARTESMAR®. Furthermore, the application of developed models can be extended to the fishery on the national level. For the second improvement step of building up management structures and mechanisms, the involvement of public institutions, mainly the Bureau of Fisheries and Aquatic Resources (BFAR), is indispensable.

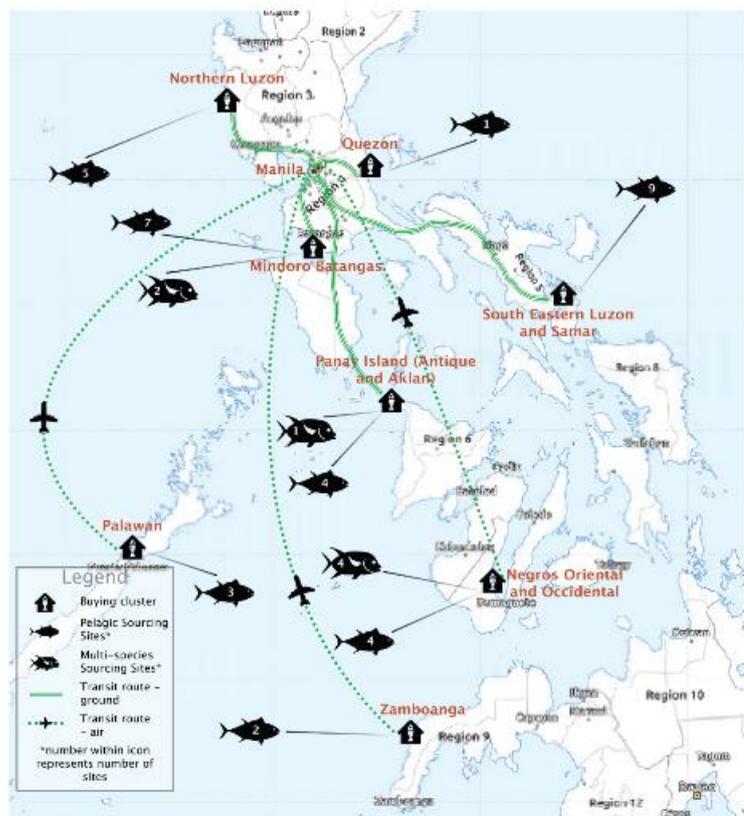


Figure 4: ARTESMAR Supply Chain Map

⁴ http://www.blueyou.ch/dropbox/Artesmar_Criteria_of_Eligibility_and_Fishery_Improvement_-_V_Jun_2014.pdf

⁵ http://www.blueyou.ch/page/Programmes/Artesmar_Downloads

Improvement Needs & Objectives

The immediate improvement needs are mainly on the fishery management side in order to no longer correspond to an IUU fishery: vessels must be registered and licensed, the catch must be reported with the required Fish Catch Report (FCR), and the fish should be traceable. A Catch Documentation Scheme (CDS) that could be applied nationwide needs to be developed, tracking fish from the moment of capture (or landing) until the moment of export or sale to the final consumer. This is an intricate task due to the many participating fishermen and vessels and complicated personal and commercial relationships between them. Therefore, attempts to do so have failed so far. Currently in the EU, FCRs are required only at the moment of export, but, as previously explained, with no CDS and traceability in place, exporters do not present accurate data. Furthermore, management structures in which all relevant stakeholders participate in decision making in addition to a mechanism to control fishing effort, based on available stock assessments must be established. The developed CDS could then be standardized and imposed on all tuna handline fisheries in the country.

Another major improvement need refers to the economic efficiency of the fishery. Since the quality of tuna is highly correlated to post-capture handling, the tuna are graded upon landing, whereas exporters either buy the better quality grades or adapt the pricing depending on the proportion of good grades in the catch. The better grades are subsequently exported, while the lower grades are sold in the local market for lower prices. Although the different grades attain different prices in the final markets, tuna is commonly traded for fixed prices at the level of the fishery operators. Since the local stakeholders are not sufficiently aware of these quality issues and do not have the associated knowledge for mitigation, there are no incentives for quality improvement and the lower quality grades dominate in the landed catch. With sound incentives and knowledge for producing good quality, the situation could reverse itself and the proportion of good grades could become dominate. The resulting higher raw material value could then significantly increase the income of fishermen and communities by about 20-30%. Complicated trade structures with several middlemen between the fishery operator and exporter or final local market further impact the economic efficiency of the fishery. Therefore, there is a need for improvement of infrastructure, handling procedures, general logistics and simplified trade relations in order to leverage the socio-economic condition of the fishery.

The fishery improvement components can thus be classified into the following three major components:

- 1) Compliance with non-IUU conditions within the ARTESMAR® supply chain
 - Implement vessel registration scheme for vessel registration and licensing by LGU within ARTESMAR® supply chains
 - Implement Catch Documentation with Fish Catch Reports (FCRs) to derive volumes by species, fishing effort, tuna quality and reference point for management decisions
 - Implement full traceability to the vessel from landing to export
- 2) Build management structures in collaboration with BFAR and LGUs and extend developed models
 - Define management plan for the small-scale fisheries
 - Implement vessel registration scheme nationwide for vessel registration and licensing by LGU
 - Implement CDS and traceability system nationwide
 - Define data collection system; define reference point and mechanisms for intervention to control fishing effort, if the reference points are exceeded
 - Organize fishermen in cooperatives for participation in management decisions
- 3) Optimize economics of the small-scale tuna fishery
 - Improve cost benefit control of fishery stakeholders
 - Improve handling during fishing operation, storage and transport to lead to improved incomes through better quality and associated higher pricing
 - Optimize economics and capacities in communities e.g. through taxation system

See [improvement plan](#) for more details on improvement needs and objectives.

Progress summary

2014

The ARTESMAR® FIP was publically announced in a press release in September 2014, which was published by industry media including Undercurrent News. The resources in the first year of the project were mainly used to establish the company and international supply chains, develop and implement an internal traceability system in electronic format, and develop a system to record fishing trips and captures in the ARTESMAR® sites. A MS Access database was developed to automatically import all fish landings and supply chain data from Excel files. For catch reporting the Fish Catch Report (FCR) developed by BFAR was used. Implementation of the FCR started in August 2014 in three pilot sites: Puerto Princesa (Palawan), Tabaco (Albay) and Sablayan (Mindoro occidental). BFAR officials are supposed to verify the FCRs, but due to a fundamental lack of resources and capacity on their end this is not realistic. In practice, the only workable approach appears to be for fishery operators to fill in and verify the FCRs themselves together with the buyer, however, bringing this to the level of the fishermen is difficult due to conditions on board and illiteracy. To convince the fishery operators to use the FCRs, a financial bookkeeping tool was developed that helps to calculate costs and benefits based on the FCR, fishing trip costs and current market prices. Meliomar has hired one staff in each of the pilot sites to implement the FCR, but progress has been slow with respect to the transition fishery operators filling out the FCRs themselves. Although the FCRs would provide them with better control of costs and profits with less effort, they usually continue to use logbooks and are reluctant to use any other tool, possibly because the cost-benefit calculation is perhaps difficult to understand due to the lack of knowledge and computers. Meliomar staff cannot always be present when landings occur in remote places, so, the responsibility of completing FCRs must be assumed by the fishery operators. Despite challenges, FCR data was produced in the pilot sites at the end of 2014 and should be representative of the catch composition. This data could be extrapolated to get an idea of the total catch of this fishery, but the data needed for this extrapolation is currently insufficient.

The supply chain data for traceability purposes is much more complex and consists of 10 different Excel forms along the local supply chain until the moment of shipping, with the individual tuna tag code serving as the primary key in the final database format.

Several workshops on vessel registration, data requirements and quality improvement were held with ARTESMAR® suppliers (see site interaction log). In the quality workshops, the tuna grading was explained to interested fishermen by cutting open some as samples. Furthermore, laminated manuals for handling on board for optimizing quality were provided, consisting of 1) clubbing, 2) removing of brain and destroying the spinal cord (jap. "taniguchi"), 3) proper bleeding and 4) washing and proper icing.

Meetings with BFAR and LGUs were held to optimize procedures of vessel registration and FCR implementation, so far without concrete collaborative outcomes, however.

2015

With its leverage on fishery operators, Meliomar implemented a transparent traceability system and requires the use of the Fish Catch Report, bolstering the number of registered and licensed vessels, which are the first conditions to be compliant with non-IUU conditions.

As of January 2015, the CDS was fully implemented in ARTESMAR® supply chains, data on landings (FCR) and supply chain data were stored in the access database and made publicly available. Procedures were extended and, at the end of 2015, FCRs from the Provinces of Negros and Antique were also made available. So far collected data confirmed the high selectivity for yellowfin tuna, representing 88% of the catch in terms of numbers and 96% in terms of weight (Fig. 3). The average LPUE of the fleet was determined to be around 60 kg of yellowfin tuna per fishing day (over all areas).

The available landing data can be downloaded in the ARTESMAR® download section⁵. Relationships with BFAR were consolidated and a MoU on joint efforts in the areas of vessel registration, catch documentation and traceability is underway. Meliomar did some scoping to extend the model to other sites and collaborate with sites where other national or international organizations have activities working in the same area, such as RARE's Fish4Ever program⁶ or focal areas of ECOFISH by USAID⁷. Meliomar also started to organize a Sustainable

⁵ <http://www.fishforever.org/where/philippines/#.Vlc6dXYvdD8>

⁷ <https://www.usaid.gov/philippines/energy-and-environment/ecofish>

Seafood Week with several local NGOs, Hotels, and Restaurants to raise awareness about sustainability issues and local solutions in the high-end gastronomy sector of Metro Manila.

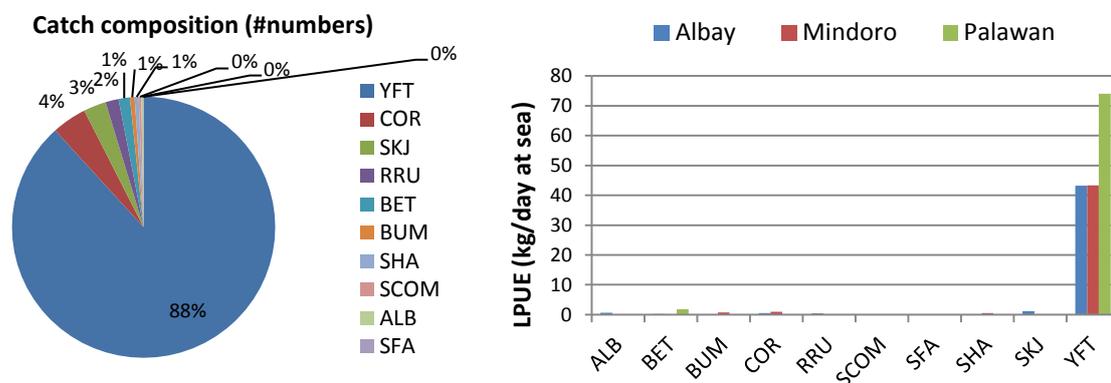


Figure 5: Catch composition (left) and Landing per Unit Effort (LPUE, right) from FCR data of the three pilot sites.

Additionally, workshops on quality improvement were held to make the grading understandable to fishermen and provide manuals for improving handling practices to reach a higher portion of good quality grades in the landings. Meliomar has been buying only the good grades to incentivize quality improvement by buying only the better grades for a better price. However, since the better grades might only represent a minor fraction of the total catch, the leverage of Meliomar on the fishery operators has often been limited. Few operators that implemented quality improvement action significantly increase their share of good quality tuna grades. By selling higher shares of good quality for higher prices to Meliomar has resulted in an increase of their income and buying higher shares of the operators' landings has increased Meliomars influence on the landing sites.

Site interaction log

Table on site interaction of Blueyou and Melimar Manila staff (see Excel file [Site interaction log.xlsx](#)). Note the efforts on site coordinators occur on a daily basis and cannot really be reflected here.

Fishery Data Base (FDB)

This is a MS access data base containing the FCR data from the three pilot sites of Albay, Palawan and Mindoro over 1 year (see Access file [ARTESMAR FDB.accdb](#)). It includes details on the fishing vessel (registration and license), the fishing trips, numbers of days at sea, catch composition in terms of weight and approximate numbers.