

## Kiribati – Fish smarter, fish safer, fish better

*In Kiribati, most urban fishers have evolved from using traditional canoes to using outboard powered open boats to pursue oceanic pelagic species. These fishers troll running schools, pursue flying fish or carry out midwater fishing using methods such as Kabara (midwater chum fishing) and Karaiti (spreader rod fishing). In any case, their operations are confined to day trips or several hours of night fishing. An increase in operational costs over the last few years has made it difficult for many small-scale commercial fishers to return with a payload. Uncharacteristically bad weather, at times when good weather should be the norm, has created down-times that also reduced fishers' income.*



Fully equipped open boat ready for an overnight fishing trip.

To deal with their predicament, the fishers have had to fish smarter and plan their fishing trips better but their opportunities have still remained limited to the outcome of day trips and short night trips, mainly because of the type of fishing vessels they use. Previously, these fishers did roadside or 'house-to-house' sales to derive an income. Since the establishment of Kiribati Fish Limited (KFL) in Tarawa, fishers have the option of selling quality fish to KFL, which will then loin it and export it overseas. However, to produce quality fish they need ice and bait, which are additional expenses that put another strain on the returns from day trips. To address this issue and reduce their operational costs, fishers have realised that they have to be able to stay out in their fishing grounds for longer periods of times, until the catch makes the whole fishing trip financially worthwhile.

In August 2014, the Pacific Community (SPC) – with funding from New Zealand Ministry of Foreign Affairs and Trade (MFAT) and technical support from KFL – ran a training programme on fish aggregating devices

(FADs)/midwater fishing methods to teach local fishers how to catch and provide quality tuna for export. Nine local fishers, two Fisheries Division staff members and two Maritime Training College (MTC) fisheries staff members were trained. Open boats were used for the practical fishing, which included vertical longline fishing, midwater handling, trolling and drift-line fishing. At the end of the training programme, it was confirmed that these boats were not suitable for extended fishing trips. There just wasn't enough working space for a team of three, the fishing gear, ice, bait and a fish storage bin; fish couldn't be processed appropriately, and all aspects of small craft safety were greatly compromised. Furthermore, spending consecutive days at sea requires that the crew can find shelter for periods of rest, which was impossible on these open boats.

In light of this, these fishers had to make the most of any opportunities that came their way. Most of them resumed their day operations doing trolling, midwater handling for tuna, and fishing for flying fish. The impasse here was



KFL's 11.9 m tuna longliner on dry land, undergoing repairs.



FAO-designed 10.5 m boat built in Fiji for KFL.

the lack of suitable and affordable fishing vessels, available locally, that could be used for extended fishing trips. Their situation was to operate open boats or become part of the crew of the tuna longliners that supported KFL's operations; there was no 'in-between' solution for them.

Since 2013, the concept of producing a suitable fishing vessel to fill the gap was pursued. KFL first launched an 11.9 m tuna longline fishing catamaran – a KIR 24 design, built at Abatao boatyard, Tarawa. While this vessel sufficed as a small-scale tuna longliner to supplement KFL's operations, its price and the advanced boating skills it required made it out of range for open boat fishers.

KFL then brought in a smaller 10.5 m mono-hull boat from Fiji. This boat was an FAO design that had been introduced to the Pacific Islands region in the 1980s and early 1990s.

## The KIR 26 trimaran

In April 2016, a new 10.5 m trimaran was launched at Abatao boatyard. The boat, a KIR 26, had been designed by Oyvind Gulbransen and the construction overseen by the boatyard owner, Michael Savins. The boat building was commissioned and funded by the New Zealand Aid



KIR 26 design fishing vessel, a 10.5 m trimaran.

Programme as part of their initiatives to improve the lives of the people of Kiribati. The plan was to run this vessel over a trial period to establish its economic viability and suitability as an offshore vessel for small-scale fishers. The Kiribati Ministry of Fisheries and Marine Resources Development (MFMRD) were designated owners of the vessel with provision that the vessel would be operated by KFL under commercial practices. There was also a provision that the Kiribati Maritime Training Centre's Fisheries Division would have access to the vessel to train their students provided their training schedule was produced in good time to allow KFL to align this with their programme for the vessel.

SPC's Nearshore Fisheries Development Section provided assistance to trial out the vessel on its maiden trip and made recommendations for its inception to commercial offshore fishing.

This vessel can comfortably accommodate four persons and has a spacious working deck. It is expected that with an expert crew it will only require three persons to operate. It was equipped with a radar, GPS, VHF radio, SSB radio, and a fixed steering compass. The vessel was also outfitted with the appropriate safety equipment standard for vessels engaged in offshore activities. These included an Emergency Position Indicating Radio Beacon (EPIRB), appropriate lifejackets for crew members (plus spares), a six-person liferaft, a standard flare required for small crafts, an SPC-recommended safety grab bag, and a standard first aid kit for small crafts.

The vessel was issued a Seagoing Certificate by the Kiribati Marine Department after passing their mandatory ship survey for coastal vessels.



Top left: Metal handreel to facilitate trolling and midwater fishing. Top right: A chum bait canister hanging beside the handreel ready for use. Bottom left: Kuralon rope as mainline. Bottom right: Spray system installed for dangler fishing.

Before the trials began the vessel was equipped to carry out the following fishing methods.

- Horizontal longline fishing using 4 mm Kuralon rope as mainline and a rope hauler to haul the line in. The mainline was stored in the outrigger hulls.
- Vertical longline fishing.
- Dangler fishing for tuna.
- Trolling for pelagic fish.
- Midwater scatter bait (chum/*kabwara*) fishing.
- Midwater spreader rod jigging (*karaiti*).
- Hang-net fishing for small pelagic species.
- Squid jigging.
- Deep bottom fishing (not recommended for the export market because of the fragility of fish stocks; but the three handreels installed on the vessel for midwater fishing and trolling can also be used for deep bottom fishing).

## Outcome of the maiden trial

After the first sea trial, it was confirmed that the vessel could fish in reasonably rough seas and would excel in slight to moderate seas. If it was to be caught out in bad weather, it could abort the trip and return safely to base or head for a sheltered area without any cause for panic. Overall, the boat could adequately perform the tasks required of it and revealed itself as a good fishing vessel for its size. It has a 1.5 tonne hold capacity, but subsequent fishing trips should give an indication of the ideal hold capacity when targeting high quality fish.

## Longline system

The hand-hauled rope longline system was installed to limit costs and free up deck space. The system worked

reasonably well but there was still room for improvement to speed up the operation and reduce the workload. The immediate adjustment would be to coil the mainline in bags then stow the bags in the storage hold. This would free up one crew member who could attend to handling and processing the catch.

A small hydraulic reel would greatly facilitate line hauling, but this would increase the overall cost of the boat and occupy deck space. However, a potential boat owner has the option to choose the system they prefer, as the KIR 26 design has sufficient space to install a small hydraulic longline reel.

## Is there a chance to succeed with this type of vessel?

The debate over the optimum vessel size for commercial tuna longlining is not new in the Pacific region.<sup>1</sup> However, the financial means and operational context of the prospective vessel user should be a prime consideration before providing capital or technical support to domestic tuna longliner development. From SPC's perspective, large commercial fishing companies that normally have backing to support them financially would preferably require government and donor support in the form of trade initiatives and legal concessions. Individual small-scale fishers, on the other hand, lack the financial power to invest in large and expensive vessels – but should they be condemned to remain in the situation they are in with the inability to engage in safe, extended offshore fishing due to an inadequate although affordable vessel design?

The New Zealand-funded Kiribati Sustainable Coastal Fisheries Project (KSCFP) is providing a unique opportunity to test a new longline vessel design that allows op-

erators to stay for two to three days at sea to chase tuna that is further offshore than those that they can currently access by using their trolling skiff. The KIR 26 trimaran mini-longliner that was commissioned by SPC under the KSCFP project is now being run commercially through a partnership between MFMRD, KFL and SPC. The catch and effort and financial data of the resulting fishing operation will be analysed later in 2017 together with similar data from KFL's other small (FAO mono-hull design) and medium-size (KIR 24 design) longliners. It is hoped that sufficient data will be available for an economic analysis that will aim at identifying the best vessel option for the I-Kiribati open-boat fishers who are willing to progress, engage in commercial longlining and make use of KFL's marketing opportunities.

Operating a small tuna longliner on extended fishing trips is hard work. Experienced fishers could be enticed to pursue the trade if they got good returns from their fishing effort, but first they need a proper boat to fish from and a good market to supply fish to. The concept is simple, yet it seems to be a difficult undertaking to implement and sustain development at this level.

Will the small-scale commercial fishers in Kiribati ever be given the opportunity to fish smarter, fish safer, and fish better from cabined boats? The Kiribati Sustainable Coastal Fisheries Project will hopefully provide an answer.

All images in this article by William Sokimi

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<sup>1</sup> See, for example: [http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/FishNews/79/FishNews79\\_22\\_Beverly.pdf](http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/FishNews/79/FishNews79_22_Beverly.pdf)