

Establishing a national FAD programme

One of the most successful initiatives in the Pacific Islands region, which began in the early 1980s, has been the introduction of fish aggregating devices (FADs) to aid in the development of small-scale tuna fisheries (Gillett et al. 2019). FADs, however, have often been deployed on an ad hoc basis, when funding, mostly from foreign aid, has been made available. The long-term success in developing the region's small-scale fisheries depends on strong and sustainable FAD programmes, which are needed in most Pacific Island countries. In this article, we detail the main requirements to establish sustainable national FAD programmes.

Current approach to FAD work in the region

Only a few countries in the region have a national FAD programme. Several countries have partial FAD programmes that meet their requirements while other countries have intermittent and unstructured approaches to dealing with the use of FADs to increase fishers' access to tuna and tuna-like species for food security and livelihoods. The common FAD work undertaken by Pacific Island countries and territories (PICTs) is based on the following scenarios:

- No national FAD programme in place. Deployment of FADs is an irregular activity undertaken by the national fisheries department (when funds are made available) in response to requests from fishing communities for FADs.
- FADs are deployed on an ad hoc basis, depending on requests from communities or according to the national fisheries agency's campaign. Funds for these FAD deployments are diverted from other programmes, or opportunistic expenditures.
- Installation of FADs is included in a country's action plan for the coming year. Orders are placed for FAD materials to address requests when received from communities; and/or FADs are earmarked for communities in advance and FAD materials are ordered specifically for those communities to address their immediate requirements. There are usually no long-term plans to install FADs, or to replace FADs when they are lost.
- The Pacific Community (SPC) or regional non-governmental organisations (NGOs) have funds to assist countries with their FAD work to meet certain objectives such as:
 - ⊗ A possible solution to divert fishing pressure from coral reefs.
 - ⊗ An alternative activity to supplement the catches of fishers who are excluded from fishing in marine protected areas.
 - ⊗ A way to alleviate post-disaster stress by increasing access to tuna and tuna-like species for food security while newly planted crops mature.
- Requests for SPC's assistance with FAD work are generally for the following reasons:
 - ⊗ Training new staff to construct and deploy FADs.
 - ⊗ Refresher courses for staff previously trained because staff have lost confidence in rigging and deploying FADs.
 - ⊗ The private sector (game fishers) requests FAD assistance but the fisheries department does not have the capacity to provide this assistance, or it is not part of their mandate.
 - ⊗ Installation of FADs as part of collaborative projects between NGOs, PICTs and SPC.
 - ⊗ Trial of new FAD designs.
- Funding support provided by SPC and NGOs to address requests from PICTs for FADs is mainly to:
 - ⊗ assist a particular PICT that has a structured project focused on small-scale fishing development;
 - ⊗ assist PICTs implementing marine protected areas where FADs are installed as an alternative fishing ground;
 - ⊗ facilitate the alleviation of fishing pressure on reef stocks in overfished areas; and
 - ⊗ provide post-disaster assistance to help small-scale fishers provide nutritious food for communities during times of food shortages while new crops mature, and so fishers can continue their fishing operations offshore around FADs and away from areas where coral reefs have been badly damaged.

Lessons learned

Although there are insufficient data to corroborate the effectiveness of FADs and their impact on the supply of fish for coastal communities generally, several case studies (e.g. Albert et al. 2014; Albert et al. 2015; Bell et al. 2015a and 2015b; Gillett 2018; Sharp 2011) have revealed that FADs are effective in reducing the cost of fishing operations, result in increased catches, and improve safety by providing a focal point for fishing.

Despite the scarcity of data, fishers region-wide overwhelmingly vouch for FADs as a beneficial tool; national fisheries managers also acknowledge that FADs are important for the development of small-scale fisheries. FADs are also recognised as an important way of diversifying and transferring fishing effort in situations where coastal fish stocks have been overfished and where marine protected areas have been established.

The array of ways in which assistance is provided to PICTs by SPC and NGOs for the installation of FADs is, however, far from ideal. In particular, these approaches do not sustain the use of FADs by small-scale fishers. Development and implementation of country-driven, long-term FAD programmes is the solution.

The way forward

The development of effective national FAD programmes will depend on:

- Establishing a specialised section within the national fisheries agency to design and implement all national FAD work. The section can be a stand-alone unit or part of another section.
- Clear “standing orders” to define the duties and operating procedures for the specialised FAD section.
- Allocating a sufficient budget to encompass the full requirements of the national FAD programme (as listed below).
- Shore-based infrastructure, with sufficient space for rigging FADs both near the central fisheries office and at provincial fisheries offices, dedicated office space and use of planning rooms, and secure storage areas for new FAD materials and for constructed FADs ready to deploy.
- Protocols for the procurement and storage of FAD materials, including auditing procedures that ensure there is always a stock of FAD materials within the country at strategic locations to replace lost FADs.
- A specialised FAD team, capable of providing national coverage for FAD services, with the team comprising a team leader and trained technicians.
- Ongoing established training programmes for fisheries officers and fishers in the deployment of FADs, and in safe and effective FAD-fishing methods.
- Office equipment, rigging and construction tools, high-definition deepwater echo sounder (capable of readings of up to 3000 m depth or more), powered deployment vessel or dumb barge (capable of carrying 3-tonne loads), powered boat for FAD site surveys and for towing barge if the barge option is preferred, crane truck with minimum safe working load of 3 tonnes, forklift, safety clothing and equipment as identified.



Storage space for FAD materials (top), specialised FAD staff (middle), and FAD components assembled and ready to be deployed to quickly replace lost FADs (bottom) are some of the elements needed for an effective national FAD programme. (images: William Sokimi, SPC)

- Data collection that is based on the use of recognised systems to record catch, effort and socioeconomic data to determine the impact of FADs.
- Periodically trialling new FAD systems in order to continually improve the longevity of FADs, reduce costs, mitigate any environmental impacts of FADs, and identify the optimum number of FADs needed to meet national needs.
- Consult with stakeholders to establish an acceptable “code of conduct” for the mutual use of FADs by multiple user groups where needed.

- Implement an ongoing public awareness programme to make the public aware of the benefits of FADs for food security and livelihoods, FAD placements, FAD break-offs, cautions, and the performance of particular FADs during the season.

Sustainable financing

The benefits of FADs as part of the national infrastructure for food security warrants the inclusion of national FAD programmes in recurrent budget expenditures; otherwise *ad hoc*, or stop–start, support for FADs will continue and the nutrition of coastal communities will suffer.

PICTs are strongly encouraged to identify the most practical sources of sustainable financing, which might include the use of fishing licence revenues, depending on the national context.

Assistance to establish and operate a national FAD programme can be requested from development agencies, although PICTs should be ready to make the various essential investments listed above using recurrent budget expenditures if funds from donors are unavailable within a specified time frame.

Key messages

Key messages are summarised in two policy briefs produced by SPC (Pacific Community 2012 and 2017), and include:

- Sustainable FAD programmes should be an essential part of investments in national infrastructure and strategies for the food security of coastal communities.
- Although financial and technical support can be sought from donors and/or regional technical organisations and NGOs, a recurrent source of national funding should be earmarked for sustaining FAD programmes.
- Monitoring catches that are made from around FADs, and their impacts on food security, is required in order to demonstrate their value and convince stakeholders that FADs are a good investment for their respective countries.
- End-user engagement will help to secure the support of communities for national FAD programmes, and the co-management required to make these programmes a success.

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