

Fisheries centers have been used to promote the commercialization of fisheries in rural areas and outer islands in the Pacific. Known variously as community fishing centers, coastal fisheries stations, fish bases, and rural fisheries service centers, these centers provide services such as ice making, mechanical repair, a collection points for fish transport to markets, and a base for fisheries extension activities. The centers have also had secondary objectives of improving cash incomes, slowing rural urban drift, and diet enhancement.

In many countries, the centers are often the largest government expenditure in the fisheries sector and/or consume a substantial portion of overseas aid. In addition, so much rural fisheries development of the region is predicated on the centers, and many are planned for the future. SPC views the commercial success of rural fisheries centers, with either private sector or fishermen's associations/cooperatives management, as fundamental to having small scale commercial fisheries play a positive role in the rural economy.² Lessons from establishing and operating fisheries centers could guide future initiatives.

Country Involvement with Fisheries Centers

Somewhere around 150 fisheries centers have been established in Pacific Island countries in the past few decades.

Cook Islands

Fisheries centers were established on Palmerston Island in early 1970s, on Penrhyn in 1982, and on Rakahanga and Manihiki in early to mid-1980s. Most centers were closed within a couple of years due to poor maintenance of machinery, low catches and transport problems to get the catch to market.³

Fiji Islands

There are currently five rural fisheries service centers (Wainikoro, Levuka, Kavala, Vanuabalavu and Lekeba) and a major component of the Department of Fisheries strategy for rural fisheries development in the next decade is the use of rural fisheries service centers.⁴ There was an earlier wave of fisheries centers in the early 1970s.

Kiribati

Several aid-funded projects have attempted over the last 30 years to set up fisheries centers on outer islands. A number of these centers have closed for lack of business

management skills, maintenance capacity and commitment by local communities and government agencies. Four out of six established in the 1990s with EU aid were still operating in 2007. Japanese aid, established centers at Beru, Onotoa, Tamana and Arorae in the 1990s.⁵ They have continued to maintain and replace generators and ice machines as needed.

Marshall Islands

Outer atoll fish bases were established at Arno, Likiep, Ailinlaplap, Namu, Aur, Maloelap, and Jaluit using Japanese and government funds.⁶

Papua New Guinea

One of the largest publicly-funded fisheries development activities in the 1980s established about 13 fisheries centers, each equipped with ice-making (5 ton/day), freezing (1 ton/day), and cold storage (20-30 ton) facilities.⁷ These operated ten large fish transport vessels and at least 50 smaller collection boats. By 2005 all but one station was closed.

Solomon Islands

A total of 30 fisheries centers and sub-centers were established in the provinces under technical assistance from Japan, U.S, EU,

1 Based on an initial draft by Robert Gillett drawing on the experiences of S. Sauni, L. Chapman, W. Sokimi, M. Batty, A. Vunisea, S. Sesewa, R. Lindley, G. Preston, E. Ledua, M. McCoy, W. Holden, T. Adams, S. Petaia, M. Brownjohn, S. Diffey, K. Passfield, J. Kinch, H. Walton, R. Stone, and M. Savins. Photographs are courtesy of R. Lindley, L. Chapman, M. Batty and M. Savins.

2 Secretariat of the Pacific Community. 2004. Training Section. Fisheries Newsletter #110 (July-September 2004). Noumea.

3 Chapman, L. 2004. Nearshore Domestic Fisheries Development in Pacific Island Countries and Territories. Secretariat of the Pacific Community, Noumea.

4 Department of Fisheries. 2009. Annual Report 2009 Fiji Islands Ministry of Fisheries and Forests, Suva.

5 Asian Development Bank. 2008. Kiribati: Managing Development Risk. Manila.

6 McCoy, M. and K. Hart. 2002. Community-Based Coastal Marine Resources Development in the Republic of the Marshall Islands. TA 3522-RMI, Asian Development Bank, Manila.

7 Preston, G. 1996. Evaluation of the Potential for Commercialisation of Small-Scale Fisheries. TCP/PNG/6611, Food and Agriculture Organization of the United Nations, Rome.

Canada and the Nature Conservancy.⁸ These centers, generally equipped with ice-making and/or cold storage plants, were intended to serve as market outlets for fish caught by rural fishermen, sell fishing gear and provide training in new fishing techniques and improved catch handling. Most of the centers fell into disrepair as soon as the aid funding ceased, mostly in the early 1990s.

Tonga

The general scheme for outer islands fisheries development is based on a model of having fisheries centers that provide numerous fisheries related functions including the provision of ice to fishers. Several centers have been established, including three in Ha'apai, using funding from Australia and Japan.⁹

Tuvalu

Community fishing centers have been established on each outer island, starting with Vaitupu (Japan funded, about \$1.4 million), and then Nanumea and Nukufetau with funding from Australia.¹⁰

Vanuatu

Eleven EU-funded rural fisheries centers with ice making facilities were established under the Village Fisheries Development Project in the 1980s and were revived in the early 1990s.¹¹ These were privatized in the mid 1990s. Since 2003, 7 additional fisheries centers have been established.

Experiences

A review of four stations in Papua New Guinea (Lorengau, Kimbe, Tufi and



Semeghe Centre, Solomon Islands

Kupiano) concluded that they were over-capitalised, under-utilised, economically non-viable, providing only minimal benefits to village communities and incurring excessively high production and marketing costs in handling frozen fish.[footnote 7] Principal difficulties associated with the stations were identified as:

- Modest landings due to motivational constraints associated with villages having conflicting agricultural and social obligations and disruption in collection schedules because of vessel breakdowns.
- High fixed costs of station operation, particularly in regard to energy requirements, because of the scale of freezing and frozen storage capacity and over-large collection vessels relative to the low throughput;

- Expensive and complex distribution systems for frozen products derived from isolated areas;
- Insufficient emphasis on the needs of the urban markets, which demonstrate a clear preference for fresh rather than frozen product.

The Japanese-funded Fish Base at Buoj, Ailinlaplap, in the Marshall Islands was opened in 1994 at a total cost of over \$2 million. The primary purpose was to supply fresh reef fish at low cost to residents of Ebeye Island at Kwajalein Atoll and secondarily, to provide a means of supplementing income for Ailinlaplap residents. Benefits to Ailinlaplap as a whole seem small, averaging only \$1.57 per capita annually for 2000–2001 (only period for which data is available), given the considerable infrastructure and operational costs of the Fish Base. Some of the major difficulties experienced were:



Kuria Outer Island Fisheries Centre, Kiribati

8 Boape, G. (1999). Rural Fishing Enterprises in Solomon Islands. Fisheries Division, Department of Agriculture and Fisheries, Honiara, Solomon Islands.

9 Cusack, P. 1998. Ice and Cold Storage to Support Fisheries Development and Food Security. Issue Paper No.5. In: Tonga Fisheries Sector Review, Volume II: Issue Papers. Food and Agriculture Organization of the United Nations and Australian Agency for International Development.

10 Government of Tuvalu. 2004. Review of Community Fishing Centres. CFGC review report.

11 Hickey, F. and R. Jimmy. 2008. Fisheries. In: Gay, D. Vanuatu Diagnostic Trade Integration Study 2008 Report. Blue Planet Media + Communications, Port Vila, Vanuatu.

LESSON In the absence of unusually favorable conditions, it is unlikely that fisheries center operation will be profitable. Provision for a long-term transparent subsidy is required in the planning process and should be reflected in the government budget. In general the more remote the location, the larger the subsidy required. If community management is envisioned, then the community must be appropriately resourced. Clarity on the likely subsidy will support sound decision making.



Buying fish at the Wainikoro Centre, Fiji

- Difficulties in maintaining transport to markets increased with age of the project due to increased maintenance requirements of vessels used.
- Producers' expectations of significantly higher incomes could not be met.
- Access to remote areas by outboard boat is required to produce sufficient quantities for sale.[footnote 6]

Observations

Commercial viability?

Few, if any, of centers have been commercially viable.

- **Tuvalu** Community fishery centers in the outer islands, intended to promote fishing as an income earning activity, are mainly lying idle, while still receiving a costly annual subsidy.¹²
- **Solomon Islands** The centers were considered to be not financially viable, and unlikely to sustain operations

- without ongoing support.¹³
- **Papua New Guinea** Profit was never stated as an objective of any of the Coastal Fisheries Stations. Data from six stations showed a collective throughput of about 600 tonnes during their best-ever year. The profit from such a product volume would probably be insufficient to cover the true economic cost of even one station if it were being run on a fully commercial basis.[footnote 7]
- **Vanuatu** None of the centers or satellites in the rural areas produce enough fish to create an adequate surplus of cash to cover the costs of the infrastructure.¹⁴

The insertion of fisheries center infrastructure into a rural community typically does not alter the underlying economics of catching fish in isolated locations and marketing them in urban areas. Yet, many, if not most, of the centers were established with the expectation on the part of govern-

ments and recipient communities that the centers would be profitable or at least not a financial burden. In practice, handing fisheries centers over to island councils or provincial governments is often the solution when national governments feel burdened by the on-going expenses of centers. In many cases it is really dumping the centers on communities that cannot afford them.

Multiple objectives

While commercial viability may not have commonly been achieved in fisheries centers, many have fulfilled other objectives. Many centers have provided valuable services to the local communities (e.g. increasing cash income, generally improving standards of living) and to the wider society (e.g. helping to stem rural-urban migration, increasing domestic fish supplies). Nonetheless, these social objectives can be addressed through alternate means and the cost effectiveness of fisheries centers in delivering these benefits needs to be carefully assessed.

Controlling cost elements

The making of ice in remote locations is inherently expensive, and is one of the most expensive components of a fisheries center. Careful planning for ice production can have a large positive effect on the expense of running a fisheries center. Significant savings can be made through attention to:

- **Scale:** The larger the capacity of the plant, the greater the financial burden if production is not as large as expected.
- **Compartmentalization:** The use of multiple (preferably identical) freezing units at a site, rather than a smaller number of larger units, means under-utilization of capacity can be reduced by shutting off units as required. Because the parts are the same, one functional unit can sometimes be made from two or more broken units.
- **Capital expenditures:** Recurrent costs of refrigeration units can be reduced by larger initial capital expenditure. In the case of an aid-funded project,

12 Ministry of Natural Resources. 2008. National Master Plan for Fisheries Development 2008–2011. Government of Tuvalu.

13 Preston, G., J. Crossland, J. Stanley, R. Susurua and H. Saeve 1998. Final Review of the Rural Fishing Enterprise Project, PHASE 2. Gillett, Preston and Associates, Noumea.

14 Lindley, R. 1993. End of Contract Report, Robert Lindley, TCO, Principal Fisheries Extension Adviser. Vanuatu Fisheries Department, Port Vila.

LESSON Careful attention to the refrigeration aspects could reduce operating costs. The fact that recurrent operating costs can be reduced by larger initial capital expenditure, should be taken into consideration in the planning stage.

this may be desirable in order to minimize the subsequent cost to a recipient country. The capital costs of, for example, enhanced insulation or a large stock of expendable parts will be repaid by reduced operating costs.¹⁵

Appraisal optimism

A fundamental problem of fisheries centers is “appraisal optimism”: over-estimating the throughput of fishery products and under-estimating operating costs. The reality is the suppliers to the centers, mostly subsistence fishers, characteristically produce subsistence quantities of fishery products. “Appraisal optimism” results in many of the fisheries centers in the region being too large for the likely production and therefore more costly to run than need be. Two individuals with substantial experience with fisheries centers in the region offered their perspective on the situation:

“The aid projects/fisheries departments cooked the figures when they did the economic justifications for the centers.”

“Administrators and/or politicians in the capital who plan or seek funding for the outer island fisheries centers are often former residents of those islands and in many cases their perceptions of fishery resource abundance in those places is often formed by nostalgic recollections of high abundance.”

Location of centers

The sites chosen for centers are critically important. In general, the more isolated the center, the higher the running costs. From a social perspective, remote communities are likely to benefit the most from a functional fisheries center. On the other hand, a center with good transport to a not-too-distant urban market, is more likely to be viable (or require less of a sub-

LESSON Some features of the planning process and center design can reduce the level of subsidy required for a fisheries center. One of the most important is a realistic and objective assessment of the likely fishery product throughput of the center. Going further, a second opinion on such an assessment could improve the current situation in which many of the existing centers are simply too large—and more costly to operate than necessary.

LESSON A fisheries management component should be incorporated in all fisheries centers. Simple resource conservation measures can be promoted by centers: the buyer can exert considerable positive influence over fishing practices in the area.

LESSON Although it may be tempting to place a fisheries center at a location where the conditions promise commercial feasibility, this may result in crowding out the private sector. A subsidized fisheries center in competition with an existing private sector fish trader is likely to be counter-productive in the long-term.

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sidy). Viability must be reconciled with welfare objectives in choosing a site.

Another consideration is that a site that has the right conditions with respect to viability also may have the private sector involved in trading fish. Conversely, the lack of private sector activity may not necessarily be because the private sector lacks initiative, funds, knowledge, or technology, but may be because there is not very much money to be made.

Resource management

Over-exploitation of inshore fishery resources can be an issue around fisheries centers. In extreme cases, the centers which were intended to help disadvantaged rural

communities resulted in a reduction of food fish for those communities. Fish depletion was noted around the Arno and Likiep fish bases in the Marshall Islands.¹⁶ Efforts at Fiji’s Wainikoro fisheries center to counter possible over-exploitation of inshore fishery resources were fairly weak: some plans to eventually encourage offshore fishing, and some attention to establishing a marine protected area. Managers were unable to even avoid buying fish that contravene fisheries legislation.¹⁷ As stated by an SPC development officer: “establishing the fishing centers is in a sense, moving the over-fishing problem to the fishing areas around the centers”.

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15 Preston, G. and M. Vincent. 1986. Refrigeration for Small-Scale Fisheries in Pacific Island Countries. Technical Paper 188, South Pacific Commission, Noumea
16 Secretariat of the Pacific Community. 2006. Technical assistance provided to the Marshall Islands. Fisheries Newsletter, Number 116 (January – March 2006), Noumea.
17 Asian Development Bank. 2005. Republic of the Fiji Islands: Fisheries Sector Review. Manila.