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The SPC Regional Live Reef Fish Trade Initiative - A Review

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Background and rationale

The coastal areas of the Pacific Island Countries (PICs) encompass thousands of square kilometers; most of them covered with coral reefs. The coral reef ecosystems of the Pacific region are some of the richest in the world. They are considered as biological resources of global importance because they lie near the center of global marine biodiversity, and most are presently in good condition. They are also crucially important to the economies and local livelihoods of the PICs as sources of food and as the basis for small- and large-scale fisheries, as well as ecotourism. Preservation of these rich coral reef ecosystems is therefore one of the key ingredients for food security, sustainable development, and poverty reduction. For the PIC populations, coral reef resources are the major source of protein, especially for the poorer, isolated communities on outer islands. Moreover, in these relatively resource-poor countries, ecotourism, anchored on the distinctiveness and beauty of the region's coral reefs is one of the few sectors that hold promise for growth and employment generation. Any reduction in biodiversity will therefore also cause a subsequent reduction in potential opportunities for sustainable use of the resources, e.g., catch of aquarium fish larvae, medicinal research, marine aquaculture, and the Live Reef Fish Trades (LRFT).

As a low-volume, high-value fishery in which local fishers can be involved and make a good income, the LRFT can be managed to provide sustainable use of coral reef ecosystems. But for this to happen, the PICs must establish sound policies and management plans for coral reef conservation and sustainable fisheries, and have the institutional and technical capacities to carry them out. These are currently beyond the capacity of these countries to do on their own.

Although many of these reefs are still relatively undisturbed, the coral reef ecosystems of the Pacific are under threat due to coral mining and destructive fishing

methods associated with the LRFT for both the aquarium fish markets and the food fish markets. Severe over harvesting and the use of destructive fishing methods, primarily the use of cyanide to stun and capture target species and the targeting of spawning aggregation sites, have been ubiquitous features of the LRFT in Southeast Asia for the past several decades. These practices and other destructive fishing methods, such as the use of dynamite have had adverse effects on coral reef ecosystems as well as reef fish stocks. As stocks of desired species have become depleted in Southeast Asia, live fish operators have moved into the island nations of the western Pacific, bringing the same destructive methods with them. Unlike reef threats like coral mining, pollution, and sedimentation, LRFT operators typically target the most remote, pristine, isolated reefs for fish collection. These are often outside of the protected area and management systems and where local government monitoring systems exists.

The regional LRFT Initiative

The Regional Live Reef Fish Trade Initiative was first developed in 1998 after the request and endorsement of the 22 Pacific island member countries and territories of the Secretariat of the Pacific Community (SPC) at the second Pacific Community Fisheries Management Workshop (Noumea, New Caledonia, October 1998). The request was triggered basically by a number of concerns. Firstly, the sudden growing number of interests of foreign Live Reef Food Fish Trade (LRFFT) companies mainly from Asia to extend and start operations in the Pacific region created some suspicions. Secondly, there was a general lack of understanding including the technical capacity in the islands to properly address and manage this new commercial fishery and the related Marine Aquarium Trade (MAT). This need was further highlighted by the member countries in the First SPC Heads of Fisheries Meeting (Noumea, New Caledonia, August 1999). Finally there were concerns about the troubling experiences with both of these trades that were being reported from the Asian countries where the trade had originated. The Initiative was therefore endorsed by PIC member countries with the expectation that it will provide technical support to countries in addressing the problems with managing their Live Reef Fish Trades (LRFT).

Aims

The primary objective of the Initiative is to assist PICs in addressing problems of unsustainable practices in the LRFT. The aim can also be considered in a wider context as the conservation of biodiversity for a healthy coral reef ecosystem that will provide a sustainable livelihood for Pacific Island communities through good and appropriate governance mechanisms, and which will involve all stakeholders from the resource level to the industry level.

The Initiative will achieve this through providing the appropriate information about LRF resources and the market, appropriate governance and management tools, training and awareness to enable sustainable LRFFT operations and better decision making for sound management that would maximize benefits to the local resource owners through the following strategies:

1. The provision of the required necessary level of funding to support and strengthen SPC's existing capacity to institute and implement the regional Initiative's activities for developing sustainable live reef fisheries in the Pacific Islands region.
2. Supporting and improving ongoing efforts to provide PICs governments, community leaders and resource owners with the information, linkages and the training necessary to respond to the challenges posed by the spread of live reef fisheries in the region. This assistance would be provided through established SPC modes of operation, involving project partners and external assistance as required working closely with SPC member country governments and local communities.

Funding history

The first two years of the Initiative was funded mainly by the Asian Development Bank (ADB) under its Regional Economic Technical Assistance (RETA) grant which involved collaboration with three non-governmental organizations, namely The Nature Conservancy (TNC), The International Marinelife Alliance (IMA) and the World Resources Institute (WRI). The funding was limited to supporting project activities only and therefore funding had to be sourced elsewhere to support SPC's capacity to co-ordinate and implement the Initiative. TNC decided to provide some funds to support SPC's needed capacity for the duration of the ADB grant. This resulted in the recruitment of the Live Reef Fish Specialist position at SPC who provides technical advice to SPC member countries and is responsible for coordinating the Initiative. The ADB grant made it possible for SPC to start providing the needed assistance to its member Pacific Island Countries and Territories (PICTs) especially in addressing the LRFFT management issues which seemed to be the main area of concern then. The funding however provides for only 25% of the requested three year total project budget which resulted in limited assistance and lack of funding for some still important areas of needs by member countries.

With no forthcoming extension of the funds from ADB to keep the Initiative going, other potential sources of funds were sought. In July 2001, the John D. and Catherine T. MacArthur Foundation approved part of the requested funds to support the Initiative for a further three year period up to March 2004 inclusively. Unlike the

ADB grant, the MacArthur Foundation grant provides support for the Initiative's staff costs and activities. The planned activities for the new funding were built on the achievements and outstanding needs from the previous ADB funded work and new issues coming from member countries. Given that only half of the requested fund from MacArthur Foundation was granted, it was necessary to downsize a number of the intended activities and suspend some until further funding is obtained. Towards the end of 2003, approval for an extension of the MacArthur Foundation grant for a further 3 years was received which will take the Initiative up to the end of March 2007. Again less than half of the funds requested for the Initiatives extension were granted which gives limited funds to support all planned project activities. The planned activities of the Initiative are essential in the overall effort to establish and support sustainable live reef fish operations in the Pacific region and therefore SPC will continue to source out additional funding to ensure their completion.

Challenges for the Initiative

The main problem to be addressed is the growing difficulty of managing the LRF fishery by Pacific Island fishery managers and resource users, in the face of the rapid introduction of new fishing practices and trades. The major constraint to addressing this problem is the lack of capacity within the countries to train local fishing communities in sustainable fishing practices and the comparative lack of good governance and management mechanisms for the trade.

Given the constant demand for wild caught live reef fish on the Asian markets, it is likely that the LRFFT will continue to expand rapidly into the Pacific even to new areas where LRFFT operations may have seemed impossible. In order for SPC to contain and address this rapidly growing nature of the LRFFT in the Pacific it will need to further strengthen its capacity and improve its response mechanism to its member countries' request for technical assistance in dealing with LRFFT issues. This rapid response mechanism would only be realized with the availability of funding support for SPC to develop this capacity and to build and strengthen collaborations with other partners working on similar issues in the region to maximize the use of available resources and benefits to the PICs. This collaborative approach will not only strive to provide the basic information required for managing the LRFFT but should be aimed at building local capacities within Pacific countries to provide them with the ability to address their own LRFFT problems and manage the industry in a sustainable manner.

On the other hand, the countries themselves should be committed at all levels, both at the government level and the community level to support and facilitate the Initiative in its efforts to provide assistance. The political will and the support of the communities at the village level are especially very important for any management

measures to be effective and therefore establishment of such support which is not an easy task, are at the forefront of any of the Initiatives efforts in assisting countries.

Table 1 below gives a rough picture of the status of management control for the LRFT in Pacific countries in 1999 at about the time when the LRFT Initiative started. The information was based on results of a questionnaire survey received from countries, through country visits and any available information from reports and technical papers.

Table 1: Management status of LRFT in Pacific countries (Year 1999)

COUNTRY	Awareness (G/I/C)	Assessment (Stock/Inst.)	Policy	Mgmt Plans	Best Practices	Capacity building	Monitoring (Local/Exp)
Fiji	L/M/L	L/O	L	M	M	O	L/L
Marshall Is	L/L/L	L/O	O	O	L	O	O/L
Solomon Is.	M/M/M	L/L	M	M	L	L	O/L
PNG	M/M/L	L/L	L	L	L	L	L/L
Kiribati	L/L/L	L/L	M	M	L	L	L/L
Samoa	L/L/L	O/L	M	O	O	O	O/O
Vanuatu	L/L/L	L/O	L	L	L	L	L/L
Cook Islands	M/L/M	L/L	L	L	L	L	L/M
Tonga	L/L/L	L/O	M	O	L	L	L/L
Palau	M/L/M	M/L	M	M	M	L	L/L
FSM	L/L/L	L/O	L	L	O	O	L/L

(Status levels: H = High, M = Medium, L = Low, O = none)

Given the challenges above, the Initiative have over the years since it was first developed, tried to achieve its expected goals through activities designed to address the needs and requirements of member countries. The activities, achievements and problems experienced so far by the Initiative under the different phases of funding are described in the following sections below.

Activities, achievements and problems

A. The ADB-RETA funding

For the initial Initiative work program, SPC identified seven main areas of assistance for its member countries. These seven areas are relatively common for PICs and with the assistance, should provide a realistic and strong basis for the sustainable management of their LRFT operations. It is important to note, that the main issue and concern then was on the LRFFT which the funding was particularly targeting at, thus

the focus of the activities then was on the LRFFT. The seven areas of activities include:

- i). Live Reef Fish Trade awareness
- ii). Assessment of LRF resources.
- iii). Development of appropriate LRFT policy and regulations
- iv). Development of LRFT Management Strategies and Plans.
- v). Development of sustainable LRFT operations.
- vi). Institutional strengthening and capacity building for LRFT management
- vii). LRF trade monitoring

The activities and achievements in each of these areas are described below.

i). Live reef fish trade awareness

Activities: Three different levels of awareness are recognized. There is awareness at the community level that would include local fishers. There is awareness at the operator's level and finally at the various government levels which would include, fisheries officers, planners, boards and politicians. TNC provided some funds to initiate the development of LRFFT awareness materials for decision-makers, but lacks the resources to fully produce and implement these materials. There is an additional need for the development of materials for communities and fishers which would have to be in local languages. Once the materials are produced, it would be necessary to disseminate the materials as far as possible. In addition it will be necessary to conduct in-country training workshops for fisheries extensive workers, to ensure they fully understand the messages in the materials as well as learn the best delivery mechanisms. This will ensure that the LRF awareness methods are used and delivered effectively to local communities.

Achievements: LRFFT awareness materials in the form of information sheets and fact sheets describing the LRFFT in general from the resource to the market have been produced. Some facts on the biology of the targeted species, the importance of management, monitoring and even a checklist of requirements when dealing with new interested companies is provided as part of the package. Also in addition, plastic fish identification cards and a fish poster of important LRFFT species in the Pacific have also been produced. To complete the awareness materials, a short video explaining the LRFFT, what it is and what are the associated potential problems, is also available. These have been circulated out to all SPC member countries.

Problems: It has been difficult to evaluate the effectiveness of the awareness materials. The plan to conduct in-country training workshops was not possible due to the shortage of funds. The most concern and big question relating to these

awareness materials, is “Are the materials getting to the community level and understood?” This particular concern could have been improved with translation of the materials to local languages, but again the problem is the shortage of funds.

ii). Assessment of resources

Activities: Some knowledge of the LRF resources in terms of what is there and how much, is essential in order to make decisions on how much to harvest and manage appropriately for each country situation. Preliminary assessments should include:

- assessment of total and exploitable fish stocks;
- analysis of the main structures of these populations;
- the reef’s health status;
- location and state of spawning aggregation sites;
- assessment of ciguatera fish poisoning levels in LRF fishing areas.

The acquisition of such information needs some technical knowledge. It would involve defining a sampling strategy to obtain a reliable picture of the resource and using an adequately tested sampling method to provide high-quality information that can be repeated in both space and time for long-term monitoring. This is one activity where local capacity building in terms of technical know-how should be emphasised. However for the more immediate need, assistance in conducting in-country assessments would be required. This would also enable local officers to get hands-on field training on the assessment methods and basic analysis and interpretation of results. These can be achieved by organising training workshops on assessment methods and data analysis, and/or probably more cost effectively, to provide opportunities for short- term capacity building attachments for Pacific Island fisheries officers to join the project core team in their field assessment work to be done.

Achievements: A total of 6 live reef fish resource surveys using the underwater visual census method were conducted in 4 countries. 2 surveys each were done in Fiji (in Bua and in the Lau Group), 2 surveys in Kiribati (Abaiang Atoll and Kiritimati), 1 in Tonga (Haa’pai), and 1 in Vanuatu (Efate). The surveys provide a first baseline estimate on the LRFFT stocks in the respective surveyed areas in the different countries. During the surveys, preliminary collection of spawning aggregation information was made. Also the opportunity to train the local fisheries officers on the survey method was encouraged as much as possible and at least 2 countries have learned and acquired the survey methodology which has enabled them to conduct resource surveys on their own in other parts of their country.

Problems: Usually during the surveys, there was not enough time to also go through the data analysis and interpretation which is essential to complete the capacity building of local staffs for doing resource surveys. In all cases, the data is taken away from the country, the analysis is done and a report is send back. The problem with

this is that there is no ownership factor and sometimes the report is not well understood and most of the time the outcomes from the report was not able to link and relate to the Fisheries Departments capacity and planning. As a result the recommendations in the report are usually not taken up and followed through by countries. On a different aspect of the capacity building component, those countries that learned the survey method and have conducted additional surveys on their own were however not able to have full benefits of the data due to the lack of analytical skills. This skill really needs to be improved through some skill development strategies. Unfortunately the ADB-RETA funds were not able to cover this.

iii). Development of LRF policy and regulations

Activities: Because the LRF Trade is new in the Pacific, most Pacific countries lack policies and regulations to keep the LRF operations under control. These are important to ensure that the government and local communities knows how to deal with foreign LRF investors or buyers, that the resources are utilised in a sustainable way and that the resource owners get the true benefits from their resource. This will involve working closely with the relevant government departments and to assist in co-ordinating their efforts. Bringing in policymakers, fisheries managers, industry representatives and resource owners together to discuss issues is an effective way of getting dialogue and understandings between the different players. In-country small consultative workshops and country visits to formulate realistic LRF policies and regulations.

Achievements: In all countries where the resource surveys are carried out, the assessment of the existing management policies and regulations have also been conducted. Proposed policy guidelines and suggestions for regulations are then included as part of the report for each country. Other countries have otherwise been advised where possible. Countries that have been provided with policy guidelines and proposed regulation measures are Fiji and Kiribati. The Solomon Islands and Papua New Guinea have also been advised in association with assistance from The Nature Conservancy to these countries provided under their Melanesian Program.

Problems: It has not been easy to provide simple policy guidelines and regulations and the guidelines provided have been basically treated as just that. The assistance of a legal advisor who is familiar with the laws of the country in question will assist this process tremendously. Attempts to involve local legal counsellors employed by the government have not been successful due to the limited numbers of such people in the Pacific and those employed by government are therefore usually too busy. In some countries private legal advisors are available but are often very expensive and beyond the Initiative's capacity to fund. As a result, it has taken a long time for the countries provided with the guidelines to finalise and formalise national policies and regulations to provide the management framework required for the LRFT.

iv). Development of LRF management strategies and plans.

Activities: Workable LRF management strategies and plans have to be developed for all the SPC member countries involved in the LRF trade in order to ensure sustainability of the resources and the trade. A few of these countries have started developing management strategies and plans but virtually none have started implementing them. A Management Plan does not serve any purpose if it is not implemented, and therefore there is still a lot of work to do. The consultative workshops mentioned above could be used also to formulate the basic infrastructure of the plan.

Achievements: This part of the activities is similar to that of activity iii). above. Draft management plans have been proposed for Fiji and Kiribati and are still in the process of being finalized for submission to parliaments for endorsement. The Solomon Islands and Papua New Guinea with assistance from TNC's Melanesian Program were able to actually develop management plans and regulations, which have been approved by their government.

Problems: Progress on moving this forward have been really slow. The need of a legal advisor is important to word the management plan appropriately and to make sure that it is legally sound and in accordance with the country's legal framework. Basically the lack of funds to provide this needed support has been a significant problem.

v). Development of sustainable LRF operations.

Activities: This would involve working with and training the fishermen on non-destructive fishing methods, good fishing practices (to minimize by-catch), and sustainable resource management and good handling practices (to minimize mortality), quality control and marketing strategies for the local LRF operators. A few demonstration sites will be selected and developed to test and show the applicability and practicality of recommended practices to obtain sustainable LRFT operations.

Achievements: Not much was achieved in this area of activity. However the issue has been discussed globally and a Best Practice Standards have been discussed and developed through a project by TNC, MAC and IMA. SPC have been involved in the initial consultations to develop these guidelines.

Problems: With only one member of staff on the Initiative, it was not possible to do this alone but will need additional capacity. The Best Practice Standards is quite a detailed document which might not be practical enough to use. People involved in the LRFT at the trade level are usually people from local communities. Simple visual and easy best practice manuals in local languages are probably the way to go which

needs to be developed by very experienced people directly involved with trade. This has not been possible with the limited funding.

vi). Institutional strengthening and capacity building for management of LRFT.

Activities: Most governments in the Pacific currently lack the basic infrastructure to support management efforts. This is mostly due to the lack of co-ordination among government departments to effectively utilize the existing government system and also partly due to the lack of technical and managerial skills to deal with the management issues of the LRFT and resources to implement the management plans. Assisting countries with identification of existing problems and assessment of the requirements to facilitate the implementation of management plans and regulative measures is urgently needed. The incorporation of user pay options within the management regime would be investigated in order to develop a local self-supporting management system, or at least minimize management costs.

Building local capacity within countries would be a very important part of the project. This will be undertaken through working together with local counterparts in each country as well as in the provision of short-term capacity building attachments between countries or with the collaborating organizations.

Achievements: There has been some success mostly in developing survey skills of fisheries staff in Fiji and Kiribati. Recommendations and identification of key areas that needs to be improved has been provided for some countries where assessment work has been conducted.

Problems: The current in-country training provided is very limited to survey methods and even too short for local staff members to get a good grasp of it. Several follow-up by the Initiative staff to take part and supervise additional surveys will be very useful to make sure that the fisheries staff is confident enough to use the methodology on their own. Limited funds again have not allowed such follow-ups to happen. Data analysis skills are an important need which has not been addressed appropriately under the RETA.

vii). LRFT monitoring.

Activities: Three different kinds of LRFT monitoring are envisaged in the Pacific Island countries. The first is a fisheries- independent one and which will involve trained fisheries officers undertaking regular underwater visual census of stocks and will be tied in with Activity 1. The second will be to monitor LRF operations through the collection of data/information from fishermen and operators. The third will be surveillance and monitoring of exports and collection of customs information. In order for the monitoring to be effective at the three different stages it is necessary to involve local fisheries officers. Training of fisheries officers in the three monitoring

approaches would therefore be necessary. Considerable in-country follow ups and evaluation of these monitoring systems would also be necessary to ensure its appropriateness and effectiveness.

Achievements: Monitoring programs have been developed for Fiji, Kiribati and PNG. Part of the proposed monitoring program involves re-surveys of LRFT fishing areas with the UVC method. Monitoring forms have been designed for the collection of relevant information at different stages of the trade that is important in the management of the trade.

Problems: To date none of the monitoring programs have been implemented. Local in-country training on the monitoring program is needed to make sure that the monitoring is properly implemented and to kick-start it. The implementation of such monitoring programs requires capital, which most countries do not have. User-pay systems are therefore being considered as one option. Monitoring programs will probably need regular follow up, which will incur more costs to ensure good quality of the data being collected and to make sure that the data forms are relevant. Lack of funding is again a problem.

Generally, very few of the assisted PICs have moved on further to develop a complete LRFT management plan and a monitoring program and those that have them have yet to see them being implemented in full. To date, the main cause of this is the lack of funds in the countries themselves and also for the Initiative, to support follow-up assistance to assist in the initial implementation phases which is essential to give local staff some hands on experience and confidence to run these programs. Also, in many cases the political will to push and support these efforts is weak and thus makes it more difficult.

Educating the general public through an outreach program is seen as a fundamental need to provide support to any management efforts. Some awareness materials have been developed and produced for the LRFFT whilst awareness materials for the AT still need to be developed. Equally important to the production of these materials is delivering the awareness to the communities through extension work. The latter activity has been largely overlooked and unfunded.

Some positive outputs

On the other hand, given the limited funds that have supported the Initiative, there are some positive outputs and achievements that should be noted. First of all, in the late 1990s, most LRFFT operations in the pacific were carried out without any management control. This has changed with management plans (Solomon Islands, PNG) or management guidelines (Fiji, Kiribati) now in place to guide Fisheries Authorities. In the same sense, the once very accessible live food fish resources of

Pacific countries, for foreign operators to come in, pillage and then move on are now always considered very carefully, especially in the light of sustainability and maximum benefits for local communities, a result of improved awareness about the trade.

In recent cases where new LRFFT companies wanting to start new operations in Tonga and Fiji, the Fisheries Authorities in these countries have quickly contacted SPC for advice. SPC was able to respond very quickly providing the awareness materials (English versions) developed under the Initiative and then have been able to go into the country and conduct a quick survey with the use of the Initiative's rapid response funds. This provided for a more informed advice but more importantly it demonstrated the process by which countries should address new LRFFT operations.

The MacArthur Foundation Grant

Based on the outcomes and lessons learned from the ADB-RETA, the objectives and activities for the next funding phase of the Initiative were reviewed. The goals have remained the same but the focus and context of the activities were changed slightly for a more effective delivery of the assistance to countries and for a more efficient way achieving the objectives. First, several unfinished parts of previous activities considered important for progressing forward were taken up and added on to either previous activities that have been restructured and new activities to address new issues with a stronger focus on assisting countries with their Marine Aquarium Trades. This has allowed effective and focused use of the limited funds on activities that will help efforts under the Initiative to progress forward and achieve the ultimate aim of managing the live reef fish trades in a sustainable way. The revised full list of new Initiative area of activities that were submitted for funding includes the following:

- i). Capacity building of PIC Fisheries staff through attachments.
- ii). Assessment of Marine Aquarium Trade resources
- iii). Development of MAT national management policies, plans and regulations and monitoring programs.
- iv). Development of MAT awareness materials including fish ID cards and a fish poster.
- v). In-country assistance and support for implementation of LRFT management plans and monitoring programs
- vi). Development of an Interactive LRFT Regional Database that will have information about both the LRFF and the MA Trades.

Unfortunately the submitted list of activities was merely a wish list with less than half of the funds requested granted. The grant was basically enough to cover the cost of

SPC's co-ordination capacity leaving very little for activities. As a result activities had to be downsized and restructured to fit the limited budget whilst at the same time, other potential funding sources are being investigated.

Given the importance of capacity building as a sound basis and foundation for supporting management of the LRFT, it was necessary to restructure the other activities around it. Thus activities ii) and iii) are integrated into activity i) thus now giving four main areas of activity.

i). Capacity building through attachment training at SPC

Activities: A 3-months attachment training program was developed where a nominated fisheries member of staff relevantly working on LRFT issues undertakes the attachment at the SPC headquarters in Noumea. The attachment trainee is required to work with and under the direct supervision of the SPC Live Reef Fish Specialist. Some of the training activities are co-coordinated with other SPC sections, such as Information Section, Information Technology and Procfish/Coastal. The following is a list of the main planned training activities that the trainee go through which provides a guideline on how the three months attachment training period should be spend.

- Orientation and work organization (1-2 days)
- Review and update of country situation, policies, management etc. – report writing. This will require the attachment officer to collect all important and relevant information, and available data on the country's LRFT that he/she would need in writing up the review at SPC. (2 weeks)
- Review of Vanuatu Management policies and regulations (1 weeks)
- Field assessment of live fish resources, including hands-on training on survey design and methods. (2 weeks)
- UVC survey data entry (1 week)
- Data Analysis, use of React and Interpretation of results and report writing (2-3 weeks)
- Development of relevant LRFT public awareness materials for aquarium fish trade (1-2 weeks)
- Translation of ciguatera brochure into local language (3 days).
- Developing Country's LRFT Management Framework and Plan (2 weeks)
- Developing Country's LRFT Monitoring Program (1 week)

The attachment training program assumes a cost-effective approach which aims at accomplishing and covering several needs at the same time. It provides the capacity building needs in giving the trainee a full understanding of the dynamics of the LRFT, then in the resource assessment part, field survey methods training, analysis and interpretation of data and using the information to develop appropriate management

policies, plans and regulations. The resource survey in itself provides needed information about the resources. The outputs from the attachment training in the form of a technical report about the LRFT resources, a draft LRFT management policy guideline, a LRFT management plan with regulative measures and a monitoring program will provide the trainee with all the necessary management framework and skills for managing the LRFT. With all these being done with the trainee direct involvement, means that the trainee will have a sense of ownership and more importantly, a full understanding of what the documents mean.

Achievements: A total of 3 countries have gone through the attachment training program with very positive feedback. At the end of the attachments, the countries, Fiji, Kiribati and Vanuatu have draft management policies, management plans and a monitoring program which they fully understand and which can be realistically implemented. The Trainees are also able to conduct resource surveys, analyze and interpret the data and write useful reports to support management decisions.

Problems: Overall, a total of 8 countries have put in a request and application to be part of the attachment training program. These countries will have to wait until more funding becomes available to continue the attachment training program. The costs of the first 3 countries have alone exceeded funds available for activities and therefore basically leaving no funds for the other required activities.

ii). Developing awareness materials for the Marine Aquarium Trade

Activities: Awareness materials similar to those developed for the LRFFT needs to be developed for the aquarium trade especially for local communities in rural areas which will no doubt be the target for new collecting areas. The materials will have to be translated into local languages of the different countries involved in the trade. The Aquarium Fish ID cards are essential needs in the monitoring program.

Achievements: Compilation of the kind of awareness needs and information required for the different countries have started through the trainees. The actual production of the materials currently does not have any funding support and would have to wait until such funds become available.

Problem: Lack of funding.

iii). In-country assistance and support for implementation of LRFT management plans and monitoring programs.

Activities: The SPC LRFT will do at least a follow up country visit and work with the local LRFT Officer to ensure the management plans and monitoring programs are implemented effectively. Further training of local staff required, especially to ensure a complete understanding of and effective implementation of the monitoring program

may be necessary. Advice will be provided to refine the plan as needed. This is important to ensure that the developed management plans and the monitoring programs are used and are effective for each country's situation.

Achievements: No work has been done in this aspect and therefore no accomplishments as yet.

Problem: Lack of funding.

iv). *Development of an Interactive LRFT Pacific Regional Database for the LRFT.*

Activities: An interactive regional database will be developed which would be made accessible through the SPC Portal. The database will be a source of technical information, trade information and recent relevant news about both LRFTs in the Pacific. It will also be a mechanism by which the details and volumes of exports, prices of products from Pacific countries can be monitored and analyzed and updated and then send back to countries through secured links. The activity would need to contract an appropriate database consultant to do what is required.

Achievements: None yet. This has not been implemented.

Problems: Lack of funding.

MacArthur Foundation grant extension

In view of the grant coming to an end in 2004 and given the number of gaps and unaddressed needs that still exists in the PICs, a request was sent to MacArthur Foundation for a renewal and extension of the grant in late 2003. The extension of the grant was approved for another three years for the year 2004 to 2007. Unfortunately, the total grant received fell short again of the requested total funds and therefore the Initiative is still faced with the continuous problem of lack of funds to cover all activities.

In the extension, the Initiative will basically carry on the unfinished business from the previous grant and will maintain its focus on the capacity building efforts through its attachment training program. Countries currently in line for this training include Marshall Islands, Tonga, Samoa, Palau, FSM and Tuvalu. The available new funds would be able to support 2 attachments only and therefore SPC would need to find more funds to cover the remaining countries.

Collaboration with external partners

It should be noted that the SPC Initiative recognize its lack of capacity and expertise in certain important areas of the trade. These areas are better addressed through the hiring of outside expertise or through collaboration with external partners. The other areas of interests covered under this approach include:

- i). Developing a standard best code of conduct for operations.

This work is better done by a certification agency. The Marine Aquarium Council, a US based non-governmental organization with certification ability has filled in this gap and have been working on a certification process for the AT. In addition to that they are also working on a best practices guideline for the LRFFT with TNC. The SPC Initiative does not have any formal collaboration with MAC but have been communicating closely with them to try and keep each other informed on each other's work. So far this non-formal relationship has seemed to work but there have been discussions on developing a formal partnership to work more closely and especially for working together on some new projects.

- ii). Looking at the economics and benefits of the trade through the whole chain of custody.

A project to look at this issue has been developed in partnership with the Australian National University with funding from the Australian government through the Australian Center for International Agricultural Research (ACIAR). The Memorandum of Understanding has been signed and the work will commence in the next few weeks. Basically the two year project will look at the economics of the LRFFT from the resource side right up through the retail end at the market side. It is hope that an economic model would be developed from this that will enable resource owners to evaluate the value of their resources instantly in relation to market price fluctuations.

For the AT, a joint project between MAC and the Foundation of the People of the South Pacific International (FSPI) has been approved and will commence very soon. The project aims to look at the costs and benefits of the marine aquarium trade. SPC is not a partner in this project but again have been communicating with the two organizations to keep up with the projects developments.

- iii). Looking at potential options for transport systems and transportation links to markets.

This an area of need by most countries and which probably fits better under the Pacific Islands Forum Secretariat's (PIFS) mandate. The issue has been discussed with PIFS who noted that a proposal on the same kind of issue for sashimi grade tuna was pushed forward by the Forum Fisheries Agency (FFA) in last years forum

meeting. The issue with regard to the LRFT products may need to be further developed as further support for a general need for improved transportation mechanisms for marine products in general from the Pacific region to the markets.

Management Status of the LRFT in the Pacific

To conclude this review paper, it will be quite appropriate to show the current status in the management of the LRFT in the Pacific to demonstrate the progress in the different areas of needs based on the initial areas of activity in Table 1. This is best demonstrated in a similar table form as given in Table 2 below.

Table 2: Revised Management status of the LRFT in the pacific countries (Year 2004)

COUNTRY	Awareness (G/I/C)	Assessment (Stock/Inst.)	Policy	Mgmt Plans	Best Practices	Capacity building	Monitoring (Local/Exp)
Fiji	H/H/M	H/M	M	H	H	H	M/H
Marshall Is	M/M/L	L/O	L	O	L	L	L/L
Solomon Is.	H/H/M	M/M	H	H	M	M	L/M
PNG	H/H/M	M/M	H	H	M	H	H/H
Kiribati	H/H/M	H/M	H	M	M	H	M/H
Samoa	M/M/L	O/L	M	O	O	O	O/O
Vanuatu	H/H/M	H/H	H	H	H	H	M/H
Cook Islands	M/M/M	H/M	M	M	M	M	M/H
Tonga	M/M/L	M/L	M	L	M	L	L/L
Palau	H/M/M	M/M	H	M	M	M	L/M
FSM	M/L/L	L/O	L	L	O	O	L/L

(Status levels: H = High, M = Medium, L = Low, O = none)

A direct comparison of Table 1 and Table 2 gives us a general view of how the management of the LRFT has progressed. It is very apparent that the general awareness about the trade has improved greatly. It is also important to note that in several countries like Fiji, Solomon Islands, PNG, Kiribati and Vanuatu, the management framework has been set up and the capacity to implement also exists. For these countries the struggle lies with implementation of the management plan. It is important to note that these are the countries that have received assistance from the Initiative and from other partners. The countries that have not shown much change in their status are those countries where very little or no assistance through the Initiative have been provided. These countries are the main target in the next few years.

Overall it seems that the Initiative have had a positive impact on the LRFT. Implementation is a problem in most countries and the Initiative will be putting some efforts into that area. The Initiative is strongly guided by its member country's needs in order to address the existing important LRFT issues and concerns in the pacific and encourages member countries to inform SPC especially of any new issues that are not being addressed.