

Inception Report

Project for Promotion of Grace of the Seas for Coastal Villages
in Vanuatu, Phase II
(April 2012)

Japan International Cooperation Agency
IC Net Limited

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1. Background of the Project

While the majority of citizens of the Republic of Vanuatu live their lives based on self-sufficiency, in recent years socioeconomic disparities between the urban and rural/outlying-island districts have become a major issue.

Most communities in Vanuatu are scattered along the coastal region, and community members depend greatly for their livelihoods on coastal resources such as fisheries resources. However, coastal fisheries resources have undergone a marked decrease as a result of changes in the ecosystem of the coastal sea due to the effects in recent years of development activities in coastal areas and of climate change.

In the fisheries section of the government's national development strategy (2006 - 2015), coastal fisheries resources providing the majority of local people with cash income and food for self-sustenance occupy a very important position, and they require appropriate management and use.

Examples of coastal resources in Vanuatu include shellfish, sea cucumbers, lobster, and crabs. To preserve these marine creatures, the Ministry of Agriculture, Quarantine, Forestry and Fisheries manages them through fishing restrictions and prohibition as well as export permits. However, due to human-resource, technical, and budgetary restrictions, it has been unable to respond sufficiently in terms of raising the level of Community-Based Coastal Resource Management (CBCRM) as seen in the country in the past and spreading such efforts. In addition, while Vanuatu has acquired aquaculture technologies through aid from other countries, it has not conducted activities in which the cooperation of community members as resource users is essential, such as direct resource recovery through release of artificially raised seed to nature. In light of such conditions, the Government of Vanuatu asked Japan for technical cooperation toward comprehensive CBCRM.

In response to this request, Japan implemented Phase I of the technical cooperation project, "The Project for Promotion of the Grace of the Sea in Coastal Villages in Vanuatu" (2006 - 2009). In this phase, to enable the Vanuatu Fisheries Department (VFD) to begin CBCRM activities, CBCRM site was established in Efate, where the VFD is headquartered, along with provision of technical aid related to cultivation and propagation of sedentary shellfish, and aid was provided toward establishment of a model for this purpose. As a result, technologies were transferred for seed production and intermediate culture in shellfish cultivation and propagation and the model site began activities toward establishment of methods for CBCRM.

Based on the results of this technical cooperation aid, the Government of Vanuatu asked Japan to implement Phase II toward spreading the CBCRM methods established in Phase I, while improving residents' livelihoods to ensure CBCRM.

2. Current Conditions of CBCRM and Related Issues

(1) Issues in Community-Based Coastal Resource Management (CBCRM)

Weakening of Traditional CBCRM

Under independent community rules, the waters traditionally held by communities are often designated preserves or no-fishing zones (taboo areas), and several villages have established measures such as fishing gear restrictions and closed season. This CBCRM management in some cases started with the encouragement of parties such as nongovernmental organizations and donors and, in other cases, began in response to community members' concerns about a decreasing trend in resources. However, such CBCRM activities have also weakened due to the following reasons.

➤ Fragility of Traditional Social Systems

Due to the effects of the recent shift to a market-based economy, movement and relocation to the capital city of Port Vila have increased, with the goal of earning cash income. This trend also appears to have led to the devaluation of traditional social systems. As a result, the importance of fisheries-resource management, which is a part of such traditional systems, is fading.

➤ Limited Substitute Means of Improving Livelihoods

As the necessity of cash income increases, for residents to carry out CBCRM on a voluntary basis, it is essential to provide other substitute means of improving livelihoods during the periods that resources are unavailable due to preservation activities or for other reasons. It is extremely difficult to secure such means of improving livelihoods within the community alone.

➤ Efficacy of Traditional Resource-Management Zones

Some of these zones are small, at just hundreds of square meters in size, and more are decided on at the community's own discretion rather than being established based on scientific

grounds. The effectiveness of these zones is unclear because no baseline surveys or similar activities have been conducted.

(2) Current Conditions of Vanuatu Fisheries Department (VFD) and Related Issues

➤ Technical Issues Related to Seed Production and Artificial Release

While technical cooperation and financial aid from numerous donors have been received in connection with this project, the volume of seed released has been insufficient. Specifically, while artificially produced *Trochus* seed have been released to the foreshore, since the size of shellfish seed released has been less than 3 cm the number released has been roughly several hundred per location. In addition, almost no propagation as a result of release has been confirmed, so that both seed size and number released are insufficient for recovery of natural resources. Resource propagation due to release of artificially raised green snail, giant clam, and sea cucumber seed is even more limited. Aside from technical issues, it is fair to say that causes of these limitations include inadequate development of seed facilities and the difficulty of securing shellfish to spawn the seed.

➤ Issues Related to Motivation for Working Toward CBCRM

To enable community members to address CBCRM proactively without suffering any economic loss, there is a need for efforts to support substitute means of improving livelihoods capable of maintaining cash income, such as development of new fishing industries. However, at present VFD lacks the ability to develop non or under-utilized fisheries resources and, furthermore, to develop aspects of the value chain other than fisheries resources. As such, it may be fair to say that community members are not motivated sufficiently to manage coastal fisheries resources.

➤ Issues Related to Ability to Cooperate with Other Affiliated Institutions

CBCRM must be addressed from a comprehensive perspective including non-fisheries fields rather than by specialized fields individually. However, VFD lacks experts able to plan and implement comprehensive community development beyond the framework of specialized fisheries fields, and as such it is lacking the ability to coordinate with affiliated institutions as necessary.

3. Current Conditions and Issues in the Area

The area of this project consists of Mangaliliu on Efate, Lelepa, and Moso in the province of Shefa, Amar-Crab Bay on Malakula, Uri, and Uripiv in Malampa, and Mystery and Aneityum in Tafea.

(1) Mangaliliu, Lelepa and Moso

Problems at the sites: These villages were sites in Phase I of the project (2006 – 2009), where the following activities were implemented: 1. Release of Trochus, green snail, and giant clam seed and concentration of spawning giant clam, 2. Formulation of fisheries-resource management plans for the Lelepa and Mangaliliu coasts, and 3. Designation of no-fishing zones. The following issues have become clear here:

- 1) Since land problems between two islands in Moso emerged again during Phase I, two villages were exempted from the project.
- 2) While CBCRM plans were formulated for the Lerema region not including Moso, almost no activities have taken place due to a lack of practical activity plans.
- 3) While it is clear that, in Mangaliliu, the mortality rates of giant clam seed and green snails imported from Tonga are high, neither village people nor VFD have ascertained the survival rate. The causes of the high mortality rates are also unclear.
- 4) While there had been expectations for cash income through attracting ecotourism business to giant clam farms and sale of giant clams, at the time of the survey these were making almost no economic contributions.

(2) Uri, Uripiv and Amar-Crab Bay

Uri and Uripiv are two islands located off the coast of Malakula, the provincial capital of Malampa. These islands are home to the Uri-Uripiv fisheries cooperative, with membership consisting of fishers from the two islands. However, there is no particularly strong interaction between local people of the two islands other than the fact that they both use the same fishing grounds. The islands' populations vary widely, from less than 30 to 2,400 people. Means of earning household income do not differ much from those of the communities of Mangaliliu – Lelepa and Moso described above.

1) Problems at the Sites

(i) Pressure on No-Fishing Zones:

From year to year pressure from nearby fishers desiring to fish this vicinity is growing. For this reason, incentives to get nearby fishers to observe the no-fishing zones are essential.

(ii) Increasing Fishing Pressure on Waters in the Uri-Uripiv Vicinity

Fishing activities are difficult in northern Uripiv, which faces the open sea and has rough waves. For this reason, fishers from Uripiv are conducting fishing activities in the vicinity of Uri, causing a decreasing trend in reef fish in the waters between Uri and Uripiv.

(iii) Inefficient Seafood Distribution Systems

In 2008, a livestock and seafood market was constructed in Malakula with the support of Grant Aid for Grassroots Human Security Projects from Japan. It is now being put to effective use. For this reason, distribution between consumers and the market has improved considerably. However, distribution of seafood between fishers and the market continues to be conducted by the fishers individually. In Uripiv and Uri in particular, since the only means of transportation to Malakula is by boat, the task of transporting seafood to market by fishers individually is inefficient.

(iv) Sustainability of CBCRM Activities

The activities of the no-fishing zone management committee were recognized beginning in the first half of the first decade of the 21st century and it receives continual aid from donors. However, since this aid too has been supported by volunteers including those from Japan Overseas Cooperation Volunteers, the Peace Corps from the United States, and VSO in areas such as preparation of application forms, it would be desirable to strengthen capabilities to the extent that activities can continue through self-help by the recipient country.

(v) Deficiencies in the Resource Monitoring Structure

While the no-fishing zone management committee underwent training on checking reefs conducted by the U.S. Peace Corps around 2009, the structure for monitoring resources inside no-fishing zones has not developed sufficiently, as, for example, the current conditions of the Trochus released into the zones by VFD in the past has not been ascertained.

(3) Mystery Island and Aneityum

1) Problems at the Sites

(i) Quarantine Standards in Sale of Handicrafts

On average, roughly three tourist vessels (carrying on average 300 - 400 visitors each) from Australia and elsewhere stop in Mystery island each month. For this reason, when a tourist vessel is in port the island's economy is centered on tourism, and village residents are busy with activities such as production of handicrafts and catching lobsters for sale to tourists. However, Australia's quarantine standards for handicrafts were made stricter around 2005. Moreover, since local producers could not satisfy these standards, they have been forced to import the handicrafts they sell from China or elsewhere. Not only has this decreased profit margins but it also means the loss of a precious opportunity to sell local products.

(ii) Unlawful Work inside Marine Preserves

Under the darkness of night, some people carry out unlawful work in Mystery's marine preserves. Some even come from the direction of New Caledonia to do so. Thus the preserves are not regulated completely. It would also be difficult to develop a monitoring structure since the preserves are not staffed.

(iii) Pressure on Resources Due to Sale of Lobsters to Tourists

Sale of lobsters to tourists, which began in recent years, is proving quite successful, with about 100 lobsters caught each time a tourist vessel arrives. Since resource management is not conducted for lobsters, if this pressure on the resource continues, then the resource could be depleted in the future. Thus it is necessary to survey the volume of lobster resources and conduct activities to manage these resources.

(iv) Shortages of Goods (e.g., Fuel) Due to Irregular Transport Ship Schedules

Aneityum is the southernmost island, and its population is not very large. For this reason, there are no regularly scheduled ships to Aneityum since it would not be a profitable destination, and only about two or three transport ships arrive per year. Sometimes there are shortages of goods essential to living such as fuel. This has become a major problem in the island's economy.

From the matters discussed above, the issues involved in CBCRM can be summarized as shown below.

Weakening of Traditional Community-based Coastal Resource Management (CBCRM)

Weak capacity in Vanuatu Fisheries Department (VFD) and other stakeholders toward assistance for the fisheries community development

The accumulated experience for the fisheries community development has not been well utilized

4. Abstract of the Project

(1) Project title

Project for Promotion of Grace of the Seas for Coastal Villages in Vanuatu, Phase 2

(2) Overall goal and its indicators

1. Conservation of coastal environment and sustainable utilization of coastal resources are enhanced in target areas.
2. Community-based coastal resource management (CBCRM) are promoted in other rural coastal areas.

<Indicators>

1. X number of environmental and / or resource indicators showed positive changes.
2. X communities practice CBCRM.

(3) Project purpose and its indicators

Community-based coastal resource management is effectively practiced at target areas through adequate technical assistance from the Vanuatu Fisheries Department (VFD).

<Indicators>

1. Management measures appropriately implemented in each target area.
2. X percentage of community members (households) participated in CBCRM activities.

(4) Outputs, its indicators, and activities

Output 1: Capacity of the VFD to support community-based coastal resource management is strengthened.

<Indicators>

X number of staff of VFD obtains certificate of competence.

<Activities>

1. Strengthen the VFD capacities of marine shellfish seed production and propagation, their management method and business model formulation.
2. Strengthen the VFD capacities of baseline surveys and data analysis.
3. Strengthen the VFD capacities of technical assistances in CBCRM for coastal communities.

Output 2: Communities in the target areas acquire necessary skills and knowledge of CBCRM approaches and tools.

<Indicators>

1. CBCRM approaches selected by communities are technically appropriate.
2. X number of CBCRM tools are adequately used by communities.

<Activities>

1. Conduct community-participated surveys in coastal resources and socio-economic condition for target areas with VFD.
2. Organize coastal communities and formulate CBCRM plans for target areas with VFD.
3. Verify some CBCRM approaches for target areas with VFD.
4. Monitor, evaluate and modify CBCRM plans for target areas with VFD.

Output 3: Experiences gained and lessons learnt from CBCRM related activities are compiled and synthesized.

<Indicators>

At least 3 cases of effective CBCRM approaches / tools are presented at national / regional forums.

<Activities>

1. Compile experiences and lessons from CBCRM activities with VFD.
2. Synthesize experiences and lessons from CBCRM activities and disseminate the information to stakeholders with VFD.

Note: The indicators above-mentioned will be determined with an approval of Joint Coordination Committee, according to the result of baseline surveys and discussion with VFD.

5. Basic Policies in Project Implementation

Technical Policy 1: Maintaining and Strengthening CBCRM through Community Cooperative Activities

Through surveying the actual state, background, and potential of cooperative activities by community members, activities related to CBCRM will be made into activities that will have a positive impact on community cooperative activities as a whole.



As shown left, community cooperative activities are related to management, production, and living activities. It may be fair to say that the importance of each cooperative activity and whether the related community organizations are separate or overlapping may vary depending on the subject community. It must be kept in mind that CBCRM is one part of management activities.

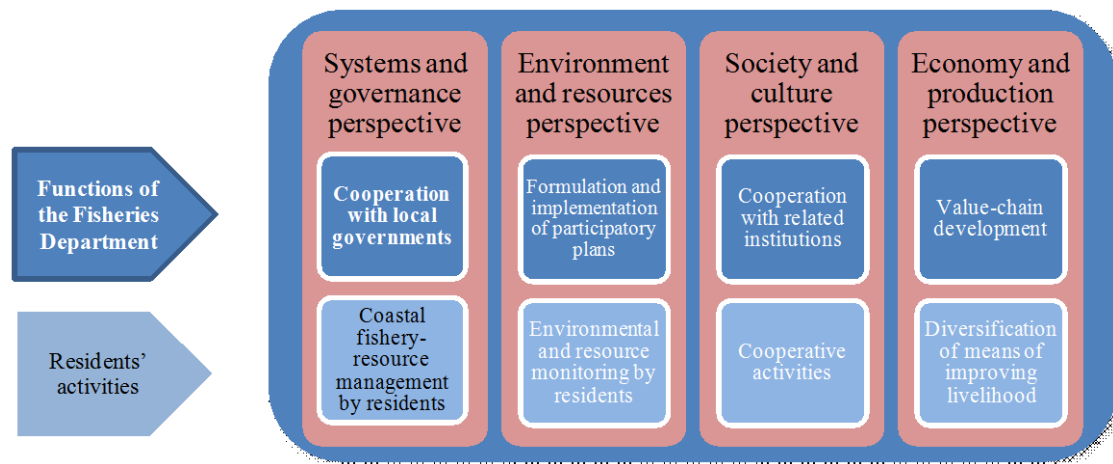
These cooperative activities are related to each other. One practical example would be the way in their productive activities community members harvest and sell shellfish that require resource management, and the funds earned through doing so lead to living activities in the form of repairs to community schools.

In this way, it is important to look at community cooperative activities comprehensively and draft and implement CBCRM.

Technical Policy 2: Strengthening Administrative Capabilities to Implement Comprehensive CBCRM

VFD focuses on strengthening comprehensive aid capabilities under Technical Policy 1: Maintaining and Strengthening CBCRM through Community Cooperative Activities. For this reason, examples of the skills development needed will be described from the four perspectives

of systems and governance, environment and resources, society and culture, and economy and production.



Conceivable **systems and governance** perspectives include formulation of CBCRM plans by community members and development of rules in accordance with these and aid capability related to funding the costs of management. Since conducting such activities by VFD involves limitations in terms of budgeting and personnel structures, they require the ability to cooperate with local governments and existing community organizations.

Environment and resources perspectives refer to VFD providing guidance on methods of environmental and resource monitoring by residents, particularly to enable simple monitoring of the conditions of growth and distribution after release of marine shellfish seed. For this reason, they require the ability to strengthen organizations of residents so that they can conduct such activities.

Society and culture perspectives refer to the ability to strengthen comprehensively cooperative activities such as community management activities, production activities, and living activities as discussed under Policy 1. It is considered that if VFD acquires this ability and community production activities and relations of mutual aid between community members are strengthened, then community independence would increase, leading to vitalization of CBCRM activities as well. For this purpose, the ability to cooperate with related institutions relevant to these is essential.

Probably the main functions from **economy and production** perspectives are provision of substitute means of livelihood other than existing fishing industries and value-chain development, along with following up on these. These activities need to be planned so that they vitalize cooperative activities by community members as a whole and, by extension, have a

positive impact on CBCRM activities themselves as a synergy effect. In sectors that VFD cannot address, it should be able to demonstrate the ability to coordinate with other institutions. For example, possibilities in tourism would be handled by the Tourism Office, while cases in which improvements to the infrastructure for living are given priority would be handled by the Public Works Department.

Management Policy: Utilizing Experience with Similar Projects and the Expertise of Affiliated Institutions in the Area

(1) Utilizing the Outputs of Similar Projects to the Maximum Extent

Attempts have been made to effect CBCRM through the participation of community members with the aid of a variety of donors, including a Trochus seed production and resource propagation project by the Australian Centre for International Agricultural Research (ACIAR), a seaweed cultivation project by the Food and Agriculture Organization (FAO), and a land-crab preserve management project by the South Pacific Regional Environment Programme (SPREP). For this reason, the number of local people in coastal communities who possess appropriate knowledge and skills for CBCRM has increased gradually. Participation in this project of such human resources already developed would form a network for raising awareness and promoting resource management in coastal communities through development of activities to raise awareness of CBCRM in an effective manner. Furthermore, workshops and joint projects will be conducted with the goal of generating synergy effects in CBCRM, through promoting cooperation with other donors and NGOs.

(2) Effective Use of Resources in the South Pacific Region

A variety of institutions, universities, and fisheries departments, such as the Secretariat of the Pacific Community (SPC), sub-regional office of FAO of the United Nations, and the Tonga Fisheries Department, have implemented CBCRM programs in the South Pacific region, building up knowledge and experience concerning propagation, cultivation, and CBCRM suited to the natural environment of the region. Technologies and teaching materials studied and developed until now can be put to effective use through inviting researchers and technicians from institutions, universities, and fisheries departments in the region to serve as third-country experts. Furthermore, skills suited to the natural environment of the region can be acquired through dispatching counterparts to related research institutions as third-country training.

(3) Utilizing Lessons from the Preceding Phase

This phase will involve activities taking into consideration cooperative activities by community members as a whole, including CBCRM. For this reason, broad-ranging cooperation extending beyond VFD will be required. Use of human resources from across VFD as a whole, which cannot be said to have been conducted adequately in the preceding phase, and development of a structure to enable obtaining the cooperation of related local governments and administrative institutions will be conducted.

6. Tentative CBCRM Approaches in Target Sites

Each of the three target sites of this project has different geographical, social, and organizational characteristics, as summarized in the table below. These characteristics are considered to be common among the small island countries in the region. According to the specific conditions of small islands, appropriate CBCRM approaches of respective target sites are considered by combining with some options of coastal resource management and livelihood improvement by coastal communities. Some CBCRM approaches at respective target sites to be tentatively considered are shown in the table below. These CBCRM approaches will be verified through the implementation of pilot projects.

	Conditions	Tentative CBCRM Approaches	Expected Regions
1	<ul style="list-style-type: none">Capital market is readily accessible in short time with the land transportationVFD can provide directly the extension service to the communityIndividual community manages its own coastal protection zone.	<p>The reduction of fishing pressure on reef fisheries¹ resource through</p> <ul style="list-style-type: none">i) diversification of fisheries to offshore² ,ii) distribution and marketing improvement for the capital marketiii) establishment of management fund by i) and ii) <p>by individual fisheries community</p>	<p>Shefa Province Lelepa / Moso / Mangaliliu (Efate Island)</p> <p>(Phase I area)</p>

¹ Reef fisheries refers to the collection of benthonic resources such as shellfish or spear fishing in the reef, which is easily accessible for the fisheries community.

² Offshore refers to the fishing ground which is out of the reef and different type of fisheries resource is available such as pelagic or demersal species.

2	<ul style="list-style-type: none"> Island is far from capital but has regular transportation from/to capital by air and ocean transportation VFD staff is assigned and can provide regular extension service to the community. Multiple communities manage collectively the coastal protection zone. 	<p>The reduction of fishing pressure on reef fisheries resource by</p> <ul style="list-style-type: none"> i) diversification of fisheries to offshore, ii) promotion of the high price fisheries products distribution and marketing , iii) establishment of management fund by i) and ii) <p>by the collective effort of the fisheries communities</p>	Malampa Province Uri / Uripiv / Crab Bay (Malakula Island)
3	<ul style="list-style-type: none"> The islands are far from capital and access to the capital market is difficult No VFD staff is assigned and there is no regular extension service. There is regular tourist cruise ship visit and income generation is possible with them. 	<p>The reduction of fishing pressure on reef fisheries resource by</p> <ul style="list-style-type: none"> i) diversification of fisheries to offshore, ii) promotion of income generation activities linked with the tourism sector iii) establishment of management fund by i) and ii) 	Tafea Province Mystery Island, (Aneityum Island)

7. Method of Project Implementation

7-1. Composition of Project Implementation

This project has three main components: 1) a baseline survey of coastal fisheries resource evaluation and the socio-economy of coastal fisheries communities, 2) pilot project for CBCRM, community livelihood improvement, participatory monitoring of released shellfish, and 3) regional workshops on CBCRM. Based on these components, the implementation period of the project shall be divided into the following stages.

- First Stage: from January 2012 to September 2012
Implementation of baseline survey and formulation of management plans for coastal fisheries resources
- Second Stage: from October 2012 to December 2013
Implementation of pilot project and monitoring of released shellfish
- Third Stage: form January 2014 to November 2014

Implementation of a regional workshop on coastal fisheries resource management

Based on these implementation stages, a flowchart describing the implementation of the project is presented in Annex 1. The next chapter explains in detail the activities for each implementation stage.

7-2. Implementation Process of the Project Activities

First Year: January 2012 to March 2013

A. Consideration of the Plan of Operations and the Formulation of a Draft Inception Report

The project team will review the existing materials and information, which can be obtained in Japan, and then consider the basic policies, methods, contents, implementation structure, and schedules for the project operation. After receiving approval from the JICA Fiji Office, these components will be compiled as the draft Inception Report. In order to consider the project plan properly, the project team will refer to the outcomes of Phase 1, the report on the cooperation preparatory study, the collected materials of the detailed planning study, and other related materials published by the Vanuatu Government.

B. Submission of draft Inception Report

The project team will participate in the preparatory management planning meeting to explain the contents of the draft Inception Report. Then the team will make a record of the discussions in the management planning meeting, and submit the report to the JICA office in Fiji.

Activities in Vanuatu

C. Explanation of the draft Inception Report

The project team will explain the draft inception report with VFD, and make modifications if necessary. Moreover, the project team will arrange the composition, date, place, and agenda of Joint Coordination Committee (JCC) with relevant stakeholders.

D. Activities for Output 1

The activities for Output 1 are mainly technological transfers from the project team to the project counterpart, which is the VFD.

D-1. Improve the capacity of VFD in seed production and ranching of marine shellfish, and formulate management methods and business models for marine shellfish propagation.

D-1-1. Formulate a management plan for marine shellfish seed production and reinforce seed production activities.

Based on observations made at the marine hatchery division of VFD, the project team will confirm the current condition of marine shellfish seed production and the management conditions of the hatchery facility, and identify any issues pertaining to shellfish seed production for sea ranching. In addition, the project team will formulate the measures that the project should take, and the plan of operation for producing the necessary amount of shellfish seeds for sea ranching. The contents and suggestions will be arranged as the “Management Plan of the Hatchery Facility.” As necessary, the project team will identify all the necessary rehabilitation items needed for the hatchery facility, such as a water intake system or rearing tanks. However, too much work on hatchery rehabilitation may halt current seed production activities, which is undesirable. Therefore, rehabilitation work will be planned on a minimum scale so as to avoid any interruption of the on-going seed production activities.

The Phase 1 project collected the broodstock of the following shellfish species, and produced their seed artificially at the hatchery. After examining the conditions of the broodstock and seed production, the species which can be produced in sufficient amounts will then be selected as the target species for sea ranching in the project.

Relevant Shellfish Broodstock Species

English Name	Scientific name	Main Usage and Resource Conditions
Trochus	<i>Trochus niloticus</i>	The shell is used as a material for making high-quality buttons. This natural resource still exists around coastal reefs. However, the population has declined due to excessive harvesting.
Green Snail	<i>Turbo marmoratus</i>	The shell is used as a material for making mother-of-pearl works. This species has been exhausted due to the results of over harvesting at one time.
Giant Clam	<i>Tridacna squamosa</i>	Both are domestic species of Vanuatu. They are mainly consumed as food domestically. However, because of current excess harvests and environmental changes, the populations are gradually declining.
	<i>Tridacna maxima</i>	

The activities D-1-2 and D-1-3 will be implemented only if the project team decides on their necessity in accordance with the current situation and the possibility of their implementation.

D-1-2. Support the production and release of shellfish seeds.

Based on the Management Plan of the Hatchery Facility, the project team will support the seed production activities of marine shellfish. As the basic techniques of shellfish seed production have already been transferred to the technical staff members of the VFD in Phase 1, the VFD will mainly take responsibility for seed production operations of the marine shellfish listed above. In order to stabilize marine shellfish seed production by the VFD technical staff, the Japanese experts will regularly monitor their seed production activities and give them technical advice as necessary. The shellfish seeds produced at the VFD hatchery will then be transported and released at the proper coastal areas. At the same time as shellfish seed releases, the project team shall advise and confirm further management and monitoring methods pertaining to shellfish seeds with coastal fishing communities.

D-1-3. Confirm the current conditions of broodstock groups and the addition of new broodstock.

The Phase 1 project conducted the formulation of shellfish broodstock groups. In Phase 1, natural shellfish broodstock, such as trochus, green snails and giant calms, were collected and released at certain foreshore places intensively. Moreover, released shellfish broodstock will be managed by coastal communities at their respective sites. Phase 2 will also continue the activities of formulating shellfish broodstock groups. The project team will check the shellfish broodstock groups formed in Phase 1, and decide whether or not the broodstock groups can be managed continuously. If necessary, new shellfish broodstock will be collected together with coastal communities, and released alongside existing broodstock groups.

D-1-4. Begin monitoring the impact of released broodstock.

D-1-5. Begin monitoring the ranched seeds on their growth and survival rate.

These two activities will be done in parallel in each target site to ensure that there are effective monitoring activities. The VFD staff will visit the sites on a regular basis to check the fishing community's management of the conditions of released broodstock and seed, and check the accuracy of the recorded sampling results. The basic data items to be collected include the survival rate of released broodstock and seeds, the settlement rate (percentage of shellfish which remain within the area), size, and weight.

At the same time, the VFD will teach the target coastal communities simple and economical monitoring procedures pertaining to the collection and measuring of samples in shallow waters and reefs. This will be done with an emphasis on patience so as to ensure that fishers at the

target sites become capable of playing an active role in the monitoring activities, and the VFD can feed these activities into the coastal resource management plan.

In deep water areas where it is not possible to conduct monitoring activities by skin diving, VFD staff will conduct monitoring by scuba diving to check the conditions of the released parent shells and seeds and collect basic data. The monitoring data collected at the target sites will be entered into the VFD database and utilized to analyze the released parent shell and seeds at any given time.

D-1-6. Begin establishing standard methods for community ranching of marine shellfish.

Based on the analysis of the monitoring results obtained from D-1-4 and D-1-5, it will be possible to establish standard methods for coastal communities to effectively and sustainably conduct the management of released broodstock and seeds. The methods should be technically easy enough and economical enough for the community to undertake them. The methods should be finalized as the “manual for shell breeding and ranching by the community.”

D-1-7. Establish the CBCRM plan including the shell marketing plan.

Taking into account the standard marine shellfish ranching methods, the project team will establish the marine shellfish resource management plan at each target site. This plan should be linked with the “re-consideration and update of CBCRM plan through the results of the pilot project (to be explained later).”

In the Phase I of the project, the shellfish marketing plan was included in the CBCRM plan, but it was not possible to realize the marketing part of the plan. In the Phase II of the project, it is not likely that released seeds will reach marketable size due to the short duration of the project period. However, a shellfish marketing plan will also be established along with product promotion activities which are aimed at future marketing activities a few years after the project.

D-2. Improve the capacity of the VFD in its implementation and data analysis of baseline surveys.

D-2-1. Develop participatory methods for coastal resource evaluation and monitoring, applied with the standard research methods of the Pacific region.

D-2-2. Implement a training program for VFD officers on how to conduct the baseline survey.

D-2-3. Formulate and verify database formats for survey results.

D-3. Improve the capacity of the VFD to provide coastal fishing communities with technical assistance for CBCRM

D-3-1. Hold a training program for proper approaches to CBCRM.

Based on the results of the baseline survey, the project team will consider the proper methods and approaches for CBCRM which local fishing communities can apply by themselves. Among the basic contents of a training program are the following: a variety of targeted fisheries resources; resource management zones; monitoring items and recording methods; a variety of roles for the fisheries and their various combinations; the inspection methods; the necessary equipment; the formulation of resource management codes; considerations for making estimates on resource management costs; the development of tools for resource management activities; decisions on the penalties applied to offenders; the processes for decision making; and the methods for reaching an agreement.

D-3-2. Hold a training program for supporting CBCRM.

Based on the CBCRM approaches above-mentioned, the project team will arrange the details of the support activities which the VFD should undertake. To promote CBCRM, the project team will discuss whether the approaches should focus only on CBCRM, or whether the approaches should include social activities in coastal fishing communities to support CBCRM.

Moreover, if it is necessary to implement support with the inclusion of other community activities, the project team will also consider any proper activities for targeting communities and related organizations which may cooperate in those activities. According to the discussion results, the project team will hold a training program for VFD officers on the proper approaches of CBCRM.

E. Activities for Output 2

Activities for Output 2 will mainly be done by the VFD, the project counterpart, directed toward the coastal communities.

E-1. Conduct a participatory coastal fisheries resource evaluation and socio-economic survey at the target areas with the VFD.

E-1-1. Conduct a participatory baseline survey (coastal fisheries resource evaluation and socio-economic survey) at the target sites.

The survey team, comprising counterparts from VFD and Japanese experts, will visit the target sites of Efate, Malekula and Aneityum islands to conduct the baseline survey of coastal fisheries resource evaluation and evaluate the socio-economy of coastal communities on the basis of the survey manuals and training programs mentioned above. At the target sites, the survey team will carry out field surveys effectively in cooperation with coastal communities. In addition, the survey team will make efforts to carry out a coastal fisheries resource evaluation and socio-economic survey simultaneously to collect the necessary data efficiently in the short time frame allotted.

E-1-2. Issue analysis on the basis of the results of the coastal fisheries resource evaluation and socio-economic survey.

The project team will analyze the results of the baseline survey conducted at the target sites, and extract the pertinent issues regarding CBCRM and livelihood improvement at the respective coastal communities.

E-1-3. Share the results of baseline survey with the coastal communities.

The project team will visit the target sites to report the baseline survey results to coastal communities, share the issues extracted in Activity E-1-2, and discuss any necessary measures which need to be tackled from then on. The analysis and discussion results will be arranged as baseline survey reports (coastal fisheries resource assessment and socio-economic survey for coastal communities). The baseline survey reports will be submitted to JICA with a project progress report.

E-2. Organize coastal fishing communities and formulate the CBCRM plan for the respective target sites with the VFD.

E-2-1. Support and strengthen the organization of coastal fishing communities.

In community organization methods and approaches practiced in the training programs indicated in Activities D-3-1 and D-3-2, the project team will support the promotion of CBCRM and the organization of coastal fishing communities for the improvement of their livelihood by managing the issues identified which affect the coastal fishing communities at the target sites. If there are social organizations that have objectives similar to the target communities, the project will also endeavor to strengthen the functions and activities of those organizations. In order to promote the voluntary development and strengthening of social organizations for CBCRM and

the improvement of livelihoods in coastal fishing communities, the concept of Appreciative Planning and Action (APA) may be utilized.

E-2-2. Formulate draft CBCRM plans at the respective target sites.

Based on the results of the baseline survey, the project team will hold discussions with coastal fishing communities to review the CBCRM plans designated in Phase 1 and formulate the revised drafts of the management plans at the respective target sites. Moreover, based on the revised plans at the respective target sites, the project team will then formulate the draft plans for the operations of the pilot project. Additionally, the project team will also discuss the draft plans of the operations with the coastal communities at the respective target sites, and modify the plans' contents with their actual situations and requests.

The pilot project aims at the facilitation of the CBCRM, the activation and strengthening of organizations. VFD staff and community members shall participate in all the process of the pilot project, including the planning, implementation, monitoring etc. Considering the combination of approaches used for CBCRM, the project team should choose proper pilot project which have the potential to contribute to improvements in the livelihood of the coastal communities effectively. According to the basic policy "Utilize the experiences of similar projects and the know-how of regional organizations," the project team will select proper pilot project by referring to the know-how of other projects, such as successful projects in Vanuatu and the know-how of other countries in the South Pacific.

In terms of the contents and outputs of the management plans for coastal fisheries resources and pilot project, the project team will conduct public relations activities by employing various media resources, such as posters, brochures and websites, to inform stakeholders of the project outputs on a wide scale and ensure effectiveness of the project.

Based on the tentative CBCRM approaches indicated at Chapter 6 (Tentative CBCRM Approaches in Target Sites), detail specific options are considered as components of CBCRM approaches. These purposes, activities, and expected contributions to coastal resource management are shown at the table below.

Outline of Proposed Options for CBCRM Approaches (Proposition)

	Proposed Option	Main Purpose	Activities	Expected contribution to the coastal resource management
1	Fishing effort diversification	To reduce the fishing pressure on reef fisheries resource through the promotion of the off shore fishing ground.	<ul style="list-style-type: none"> – Introduction of FAD and trap fisheries – Planning and implementation of the CBCRM 	– Management of coastal fisheries resource such as reef fish with the reduced fishing effort on them
2	Improvement of fisheries products marketing and distribution	To facilitate income generation from the local fisheries products through the distribution and marketing to markets and the introduction of processed products	<ul style="list-style-type: none"> – Development of distribution and marketing – Instruction of fish processed products and its marketing promotion 	– Development of fund generated from the stable income for the CBCRM
3	Coastal fisheries resource preservation	To strengthen the CBCRM and awareness for the importance of resource management among coastal communities	<ul style="list-style-type: none"> – Introduction of simple and locally-made artificial reefs – Monitoring of aggregation affect around artificial reefs 	– Promotion and strengthening of CBCRM

* According to the result of baseline survey, some specific options are selected to realize sustainable CBCRM activities. In addition, depending on the condition of each target site, an appropriate CBCRM approach, which is combined with proper specific options in proportion to their necessities, is determined. After pilot projects verify the effectiveness of the CBCRM approaches, suitable CBCRM models for the characteristics in South Pacific islands will be proposed.

(a) Option of fishing effort diversification

Background:

Vanuatu, consists of small islands, has abundant migratory pelagic fisheries resources, such as skipjack, Spanish mackerel, dolphin fish etc. However, with the small canoe without engine, it is difficult for small-scale fishers to reach the offshore fishing ground where these species come

around. Fish aggregating device (FAD), once deployed near shore, could aggregate these species so that the resources becomes available for the small-scale fishers.

Purpose:

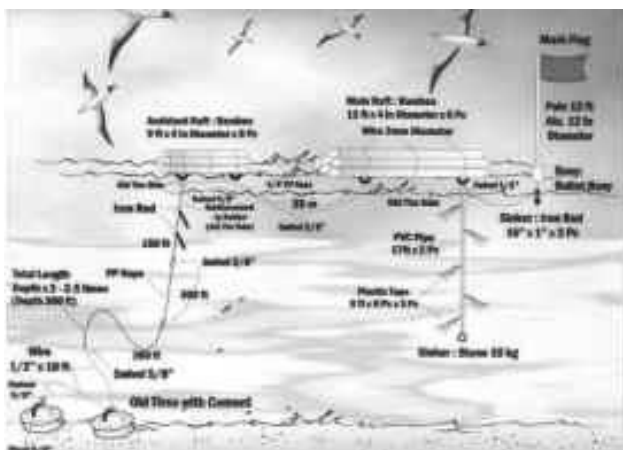
According to experiences and knowledge of VFD and local communities, appropriate development and management of FAD fisheries are considered, such as the economical and durable design, place for deployment, FAD maintenance and etc. In addition, pelagic fisheries resources are effectively developed, not only for fishes aggregating at FADs in surface water layer, but also fishes in mid or deep water layers.

In order to avoid conflicts by disordered FAD deployment, FAD fisheries should be properly controlled to utilize pelagic fish resources sustainably. Therefore, a formulation of FAD fisheries rules on opinions of coastal communities is one of purposes of the pilot project. Moreover, some monitoring points are set by FAD deployment to collect field biological data, such as growth, maturity and migratory patterns of target fish species.

Activities:

In cooperation with VFD and coastal communities, locally-made FADs are prepared and deployed with observation devices in coastal and shallow water areas. Proper FAD maintenance and management are instructed in workshops for coastal communities. Coastal communities collect their fish catch data and monitor fish aggregation condition around FADs. In case local wooden canoes are hardly reach FAD deployment points, training programs are held for modification of their canoe designs with sails and sailing navigation skills to expend their access areas.

FAD deployment chat (left) and fish aggregated around an artificial reef (right)



(b) Option of improvement of fisheries products marketing and distribution

Background:

In most cases, artisanal fishers consume their captured fishes by themselves, because they don't have any means to store fresh fishes for a long time. Furthermore, at coastal communities in remote areas, artisanal fishes are rarely sold for cash incomes, because it is difficult for fishers to go to urban areas for fish sale. On the other hand, fresh fish are dealt at relatively reasonable prices in urban areas, like Port Villa. Fish is also an important ingredient for cuisines of tourists and local fish demand is not small. Therefore, local fishers are expected to organize themselves, find regular marketing and distribution channels of their fish catches, and start fish processing activities.

Purpose:

Because there are few preservation measures of captured fish at remote coastal communities, community people jointly manage small-scale equipments for preserving fresh fish and fish cages for stocking live fish or lobster. In addition, the project organizes local fishers to transport and sell their captured fisheries products at urban markets as business groups. Value-added fish products are also developed by processing local fish, such as fish fillets or smoked fish.

Activities:

The project organizes working groups of local fishers and their wives, who are interested in marketing, distribution, and processing of their fish products. Then, the methods and skills of fish preservation and processing are instructed to the working groups. Necessary facilities (e.g. fish stocking tanks or cages, kitchens for fish processing) and equipments (e.g. refrigerators, cool boxes, vacuum packing machines) for fish distribution and processing are introduced to the working groups. When public electricity supply is not available, solar power panel systems may be introduced. By utilizing these facilities and equipments, the marketing and processing activities and management conditions of the working groups are regularly monitored.

Stocking cages of lobsters in Vietnam (left), and smoked fillet of skipjack in Micronesia (right)



(c) Option of coastal fisheries resource preservation

Background:

In Vanuatu, Marine Protected Areas (MPAs) have been established in many place by variety of NGOs and donors. These MPAs are managed mainly by fisheries communities. In most cases, catch or collection of benthonic species are prohibited within MPAs, focusing on the preservation and recovery of the sea turtle, reef fishes, sea cucumber, and shellfishes etc. Some MPAs focuses excessively on the prohibition of fishing activities and the negative implication of MPAs on livelihood of fisheries communities are not taken seriously. Thus, there is a need to verify the coastal fisheries resource preservation model which is compatible with both resource preservation purpose and fishing as a sustainable economic activity.

Purpose:

Promote the reproduction of the coastal fisheries resources through the creation of nursery ground for small fishes, lobsters, and sea cucumbers with the small artificial reef or gabion³. In addition, verify the feasibility voluntary fisheries resource protection measures by fishing communities imposing the measures on themselves, such as catch size or period restriction to the declining species.

Activities:

With the cooperation from fishing communities, make small size artificial reef or gabion which can be made easily with locally available materials, and transportable with the canoe or small boats. Install them on flat sea bottom in the coastal area, where the resource is

³ A gabion is a structure with stone or woods inside and wrapped by metal mesh outside. It is used also for reinforcing buildings and bridges, make walls, drainage etc.

overexploited and monitoring is not too difficult. After the installation, monitor on the regular basis the effect of the installation on fisheries resource and surrounding environment. Together with that, conduct fishing activities during project implementation period with resource management measures such as restriction on minimum catch size, maximum catch quantity per household, regular recess (1 day break after 3 days of fishing trip). Evaluate the impact of those resource management measures on the coastal fisheries resource, and also social and economic impacts on the fishing community members' awareness and income from fishing activities.

Small gabion with bamboo in Japan (left) and artificial reef assembled with wasted lubbers from thinning in Japan (right)



E-3. Implement the project for the CBCRM plan with the VFD at target sites.

E-3-1. Field-test CBCRM approaches.

Based on the implementation plan of the pilot project, the first objective will be to procure the necessary materials and equipment. The next stage will involve building or installing the necessary facilities such as artificial reefs, refrigerators, ponds for farming, and so on with the help of the fisheries communities. Each pilot project should be implemented by the fishers in the targeted community. For the implementation, the fisher group to be organized by E-2-1 will be utilized. On-site training will be conducted for the fisher group in charge of the pilot trial in order for them to obtain basic skills.

The project team will make a data sheet in order to record the activities of the pilot trial. The instructions should be given to the fishers groups to explain how to keep records on the sheet.

E-3-2. Implement the supporting activities of the VFD for CBCRM.

The VFD should elaborate the supporting plan for coastal communities to implement its CBCRM plan. Some activities can be done mainly by the communities, but others may need support from the VFD. Depending on the type of activities, the VFD should decide whether the activity should be left to the community or if it will need substantial help from the VFD. For example, the VFD will have to consider whether it is best to keep silent as an observer or to express its opinions before attending the discussions held by communities on the internal regulations of the groups which will participate in resource management activities.

E-4. Monitor and evaluate the implementation of the CBCRM plan with the VFD.

E-4-1. Monitor the effects of the CBCRM activities on resources and communities.

E-4-2. Monitor the effects of the support for the livelihood activities of communities.

The two monitoring activities of the pilot trial will be conducted at the same time when each target site is visited. The VFD staff (from its headquarters and the extension officer) and the Japanese experts will form a monitoring team to visit each site, and check the progress of the activities of the fishers groups. The data sheets for the on-site activities and resource management information shall be collected and aggregated for analysis. Instructions and advice will be given where necessary.

Monitoring of the pilot project will be done from the following two viewpoints.

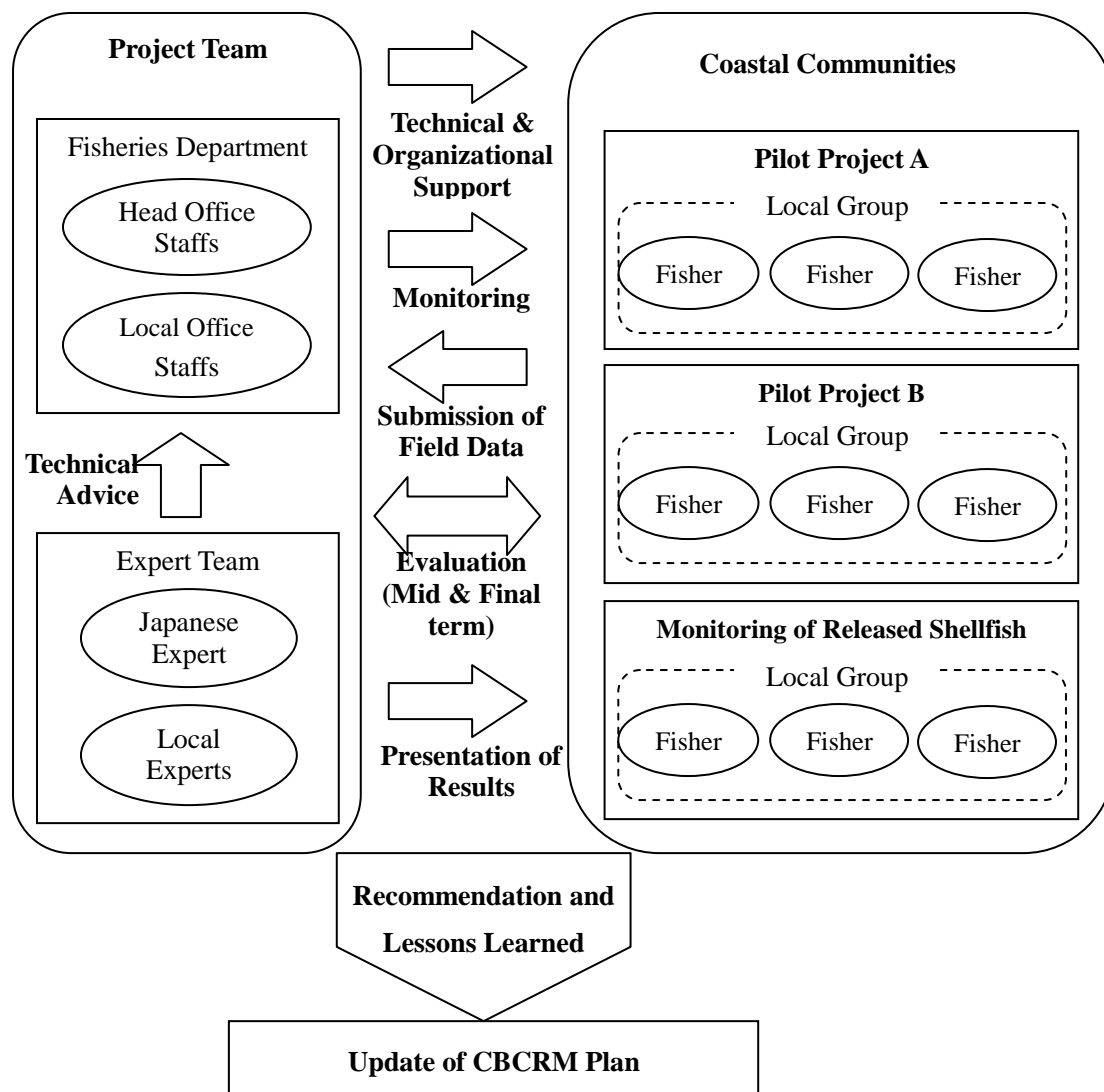
- 1) On-site monitoring of the project will be done in collaboration with fishers group and the VFD, for the purpose of giving technical instructions to the VFD staff. The Japanese experts will give technical and administrative advice to the VFD staff and fishers group as necessary.
- 2) To monitor the impact of resource management, the fishers group and the VFD staff will collaborate on compiling the catch data collection by conducting regular samplings. As for the biological data (such as aggregation of pelagic species around FAD), the VFD staff will collect it after receiving technical instructions from the Japanese experts.

During the evaluations which will be conducted in the mid-term and at the completion of the project, a workshop shall be held with the fishing communities in order to check the progress of the project, namely monitoring, outputs, issues on the released seeds, and to hold discussions on future activities. The activities of the pilot project shall be flexibly modified depending on the

conditions of the results of the monitoring and mid-term evaluations, or the conditions of the target site and fishers groups.

E-4-3. Review and modify the CBCRM plans.

Based on the analysis of the monitoring results from E-4-1 and E-4-2, the project team will update the CBCRM plan at the target site. At the final evaluation stage, technical and managerial issues concerning the CBCRM plan, and livelihood improvement activities should be discussed and the recommendations and lessons obtained through the pilot project will be shared. Based on the analysis of the issues, recommendations and lessons learned, the project team will then prepare the draft updated version of the CBCRM plan. Discussions on the plan will be linked with the activity D-1-7 “Establish the CBCRM plan, including the shell marketing plan” in order to make the plan more feasible. The updated version of the draft CBCRM plan should be explained to the fishing communities, and an agreement by each site should be obtained before the update.



Flow chart of the implementation of the pilot project and the monitoring of the released marine shellfish, and the update of the CBCRM

F. Set indicators on the Project Design Matrix (PDM).

The Japanese experts and their counterparts will visit the target sites together to identify and confirm the current situation of respective sites. Based on the results of the field visits to the target sites, the project team will then discuss the proper indicators, which should be described in the Project Design Matrix (PDM), with the relevant officers of the VFD and the stakeholders of the target sites.

G. Hold Joint Coordination Committee (JCC).

The project team will hold the first JCC in around April 2012 to confirm the policies and framework of the project with relevant authorities. Relevant organizations such as SPC may be invited to discuss a possible linkage with the project.

The second JCC is to be held around September 2012 to explain, discuss and if necessary modify the draft CBCRM plan. The indicators to be set in the PDM should also be authorized in the second JCC. Afterwards, the project team will make a record of the discussions to be checked and endorsed by the stakeholders.

H. Coordinate with the project evaluation and instruction survey.

JICA plans to conduct the project evaluation and instruction survey at around the mid-point of the project period, i.e., January or February 2013. The project implementer will have to prepare the necessary information and materials for the survey team.

The survey results will be explained and discussed at the JCC and adjustments will be made where necessary. The discussion will be summarized in the minutes and the stakeholders will check and endorse it with their signatures.

Preparation Activities in Japan

I. Submit the project progress report in both Japanese and English.

Elaborate the first year project progress report, explain and submit it to JICA.

Second Year: April 2013 to March 2014

J. Submit the second year working plan in both Japanese and English.

Elaborate the second year working plan, explain and submit it to JICA after necessary modifications are applied.

Activities in Vanuatu

K. Submit the second year working plan in English.

Explain the working plan and submit it to the VFD.

D. Activities for Output 1

D-1. Improve the capacity of VFD in seed production, and in the ranching of marine shellfish.

Formulate the necessary management methods and business models for marine shellfish propagation.

D-1-4. Continue monitoring the impact of parent shells released.

D-1-5. Continue monitoring the disseminated seeds on their growth rate and survival rate.

D-1-6. Establish a standard method of shellfish propagation for the community.

D-1-7. Establish the CBCRM plan including a shellfish marketing plan.

E. Activities for Output 2

E-3. Implement the project for the CBCRMP with the VFD at target sites.

E-3-1. Field-test the CBCRM approaches.

E-3-2. Implement the supporting activities of the VFD for CBCRM.

E-4. Monitor and evaluate the implementation of the CBCRM plan with the VFD.

E-4-1. Monitor the effects of the CBCRM activities on the resources and communities.

E-4-2. Monitor the effects of the supporting activities on the livelihood of communities.

E-4-3. Review and modify the CBCRM plans where necessary.

L. Activities for Output 3

The following activities are to be undertaken mainly by the VFD toward the communities and stakeholders in the fisheries sector of the Oceania countries.

L-1. Synthesize the experiences and lessons learned through the CBCRM and livelihood improvement activities together with the VFD.

L-1-1. Identify the CBCRM approaches that were effective.

Based on the final updated version of the CBCRM plans, recommendations and lessons learned from the pilot project, the next step will be to organize feasible and effective approaches for CBCRM.

L-1-2. Describe and record other related information which is found useful.

If any useful information apart from the issues on the CBCRM for coastal communities and livelihood improvement is found, the project team will summarize the relevant experiences and results, and add them to the CBCRM approach as organized in L-1-1.

L-2-1. Analyze effective and useful information collected for the extension of the CFRM.

The project team will distribute the CBCRM approaches obtained through L-1-1 and L-1-2 to related organizations in the form of a brochure. The brochure will be utilized as a reference in the regional workshop as explained later.

M. Hold the fourth JCC around February 2014.

The project team will hold the fourth JCC to explain the progress of the project. The CBCRM plan will be explained, discussed, and modified if necessary. Afterwards, the project team will make a record of the discussions which the stakeholders will then check and endorse with their signatures.

Preparation in Japan

N. Submission of the progress report in Japanese and English

The project team will elaborate on the project progress report, explain it, and submit it to JICA.

Third Year: April 2014 to November 2014

Preparation Activities in Japan

O. Submission of the third year working plan in Japanese and English

The project team will elaborate on the third year working plan, explain it, and submit it to JICA after making modifications where necessary.

Activities in Vanuatu

P. Submission of the third year working plan in English

The project team will explain and submit the third year working plan to the VFD.

L. Activities for Output 3

L-2. Disseminate information to the stakeholders together with the VFD.

L-2-1. Share information with the stakeholders.

The first step will be organize a domestic workshop and present the output of the project inviting the stakeholders of the project. This will serve also as a rehearsal for the coming regional workshop. It is expected that the VFD staff, representatives from the target sites and

target provinces, from the fisheries cooperatives, and NGOs engaged in CBCRM will attend the workshop. The output of the project will be shared among the participants, and further discussions concerning future activities will also be held. If the conference room of the VFD cannot accommodate all the participants, then another room must be secured.

L-2-2. Hold the Regional workshop on the CBCRM for the regional stakeholders in the fisheries sectors throughout the wider region of South Pacific.

The project team will hold a regional workshop aimed at extending the CBCRM system region-wide. To accomplish this, it will invite representatives from the VFD, the Fisheries Departments of five surrounding countries, and other related organizations such as environmental agencies, NGOs and fishers' organizations. The resource people for the CBCRM extension in South Pacific are those in charge of CBCRM in the University of South Pacific (USP), SPC, and FAO regional office in Samoa. The representatives from each country will be asked to submit a report for the country which details the country's current situation and presents any issues which arise in the CBCRM. This report will be presented at the workshop to be shared among different countries.

In the regional workshop, participants will be divided into several working groups based on areas of interest and areas covered by the project. Each working group will make a draft framework of the action plan for CBCRM. Project Cycle Management (PCM) method will be employed to make a participatory workshop, and a simple Project Design Matrix (PDM) will be compiled. During this process, experts from universities, regional organizations, and international organizations will provide advice where necessary, so that the outputs and experiences of various CBCRM projects in South Pacific will be properly reflected in the draft action plan. The draft action plan made by each working group will be shared among all the participants on the final day of the regional workshop. Finally, discussions will be held on the promotion of the network established for the extension of CBCRM in South Pacific.

Q. Coordinate with the evaluation conducted at the completion of the project.

JICA plans to conduct an evaluation survey three to six months between May and August 2014 before the project finishes. The project team will prepare and submit the necessary information and materials.

After the evaluation, a JCC will be held to explain the results of the evaluation. The project team will make a record of the discussions which stakeholders will check and endorse with their signatures.

R. Compile the project completion report in Japanese and English.

Make a draft project completion report in English, obtain consent from JICA on it, and submit and explain it to the VFD. During the process of the compilation of the report, the active involvement of the counterparts will be encouraged. The report in Japanese will also be submitted to JICA.

Activities in Japan

S. Hold a report session on the completion of the project.

Attend the reporting session at the completion of the project and explain the project completion report. The project team will make a record of discussions and submit it to the JICA Office in Fiji and to the branch in Vanuatu.

T. Submit the completion report in Japanese.

The project team will produce the completion report in Japanese, and explain and submit it to JICA.

U. Submit the project completion report

The project team will produce the project completion report in English, and will compile the output obtained throughout the implementation of the project. The project team will then explain and submit it to the VFD after obtaining approval from JICA. In the process of compiling the report, active involvement from all the counterparts will be encouraged. The report in Japanese will also be submitted to JICA.

8. List of Japanese Experts and Position

Name	Position	Duties
Dr. Akiya Seko	Chief Advisor/ Coastal Resource Management	<ul style="list-style-type: none"> ● Planning and management of the overall project ● Understand current situation of the coastal resource management and formulation of resource management plan ● Planning, preparation, implementation, monitoring, and evaluation of pilot project for the CBCRM ● Coordination with the relating organizations including the Government of Vanuatu, and editing of the project reports
Mr. Mitsuo Inuma	Deputy Chief Advisor / Income Generation Activities	<ul style="list-style-type: none"> ● Support the project management ● Project management in the absence of the chief advisor ● Supervision of the training and baseline survey ● Planning, preparation, implementation, monitoring, and evaluation of the pilot trial related to income generation activities ● Planning and implementation of the regional workshop
Mr. Shigeaki Sone	Marine Shellfish Propagation	<ul style="list-style-type: none"> ● Grasp the current situation of the hatchery facility of the Fisheries Department of Vanuatu, and formulation of the facility management plan ● Technical training on the marine shellfish seed production and monitoring ● Monitoring of the environmental impact of the seed propagation ● Supervision of the seed propagation monitoring and the evaluation of the result ● Development of the community-based marine shellfish propagation manual
Mr. Kazuo Nishiyama	Participatory Approaches / Socio-economic Survey	<ul style="list-style-type: none"> ● Organization and training on methods for the socio-economic survey ● Implementation of baseline survey for socio-economics of the coastal communities ● Formulation of the manual for the coastal community socio-economic survey and monitoring ● Planning and implementation of the workshop for the fishers organization strengthening ● Miscellaneous logistics ● Miscellaneous liaison
Mr. Motoki Fujii	Fishing Effort Diversification	<ul style="list-style-type: none"> ● Understand the current fishing activities in the target fisheries communities and recommendations for the fishing effort diversification ● Planning, preparation, implementation, monitoring, and evaluation of the pilot trial on the fishing effort diversification
Mr. Satoshi Nagashima	Resource Assessment / Ecological Monitoring	<ul style="list-style-type: none"> ● Organization and training on the coastal resource assessment ● Implementation of baseline survey for the coastal resource assessment ● Development of the coastal resource assessment and monitoring ● Environmental impact assessment survey regarding the marine shellfish propagation

