First Progress Report

Project for Promotion of Grace of the Seas for Coastal Villages
in Vanuatu, Phase 2
(May 2012)

Japan International Cooperation Agency
IC Net Limited

Outline of the Report

1. Interpretation of the Project Design Matrix (PDM)

- The Project Purpose of the Project for Promotion of Grace of the Seas for Coastal Villages in Vanuatu, Phase 2 (hereinafter the Project), is the implementation of the Community-Based Coastal Resource Management (CBCRM) Plan by community residents. The indicator of the Project Purpose is the extent of the implementation.
- The Project has two outputs. One is that community residents use the CBCRM Approach that consists of means to implement CBCRM. The other is that the capacity of the Vanuatu Fisheries Department (VFD) to support CBCRM activities is improved. The indicators are the extent of use of the CBCRM Approach and the level of capacity strengthening, respectively.
- The CBCRM Approach consists of several CBCRM Options and the system for implementing CBCRM by community organizations.
- A CBCRM Option means concrete activities to put CBCRM into practice.
- Based on these interpretations, draft indicators for the PDM were made and Project activities were undertaken.

2. Progress and Issues of the Project from February 2012 to the Middle of May 2012

2.1 Preliminary Survey in the Target Areas

- Marine Protected Areas (MPAs) are respected. However, pressure to open up the MPAs or ease the protection measures is increasing.

2.2 Output 1

2.2.1 Improve the capacity of the VFD in seed production and ranching of marine shellfish.

- To formulate a draft management plan of the hatchery facility, the current state of the production, operation and issues of the hatchery was confirmed. The broodstock of green snail released in the phase 1 of the Project, and reproduction from the broodstock were confirmed. Furthermore, the survival of *Tridacna gigas*, also released in the phase 1 of the Project, was confirmed.
- The Project considers *Hippopus hippopus* as the most suitable species for the seed production and release in the phase 2. Location for seed release should be carefully selected.

2.2.2 Improve the capacity of the VFD in its implementation and data analysis of the baseline survey.

- The participatory socio-economic survey was designed with three steps: preliminary workshop; questionnaire survey; and organization analysis workshop.
- The preliminary workshop is meant to introduce the phase 2 of the Project, and collect information on community organizations.
- The questionnaire survey is to collect information on the socio-economic structure of communities and households. It is also meant to look into community residents' awareness of CBCRM.
- The organization analysis workshop is aimed at grasping the potential of the Resource Management Committee and extracting the ideas for pilot projects
- VFD staff and surveyors in the target communities were trained to conduct the questionnaire survey. The

training consisted of two components: lectures and preliminary survey in the field.

3. Others

3.1 Preparatory Management Planning Meeting

- The first preparatory management planning meeting was held on 13 April 2012 with participants from the JICA Fiji Office, the JICA Vanuatu Office, and the Project Team. The participants made comments on the draft Inception Report and the draft scope of the baseline survey. Based on the comments, the documents were modified and submitted to stakeholders.

3.2 JCC

- The first JCC was held on 19 April 2012 with the stakeholders from the Vanuatu and Japanese sides. The outline of the Project was explained, and the MM was concluded.

4. Schedule from the Middle of May 2012 to 30 September 2012

4.1 Baseline Survey

- The questionnaire survey and the organization analysis workshop will be completed by the middle of June 2012. The result of the survey data analysis will be made available by the middle of July 2012.

4.2 Monitoring Indictors for the PDM

- The tentative indicators in the PDM will be reviewed based on the baseline survey, and modified if necessary by early August 2012.

4.3 Review of the CBCRM Plan

- The existing CBCRM Plans will be reviewed by early August 2012, based on the baseline survey results, especially the awareness of target communities on CBCRM, and the organization analysis workshop.

4.4 Designing of the Pilot Projects

- By early August 2012, the pilot projects will be designed based on the baseline survey, incorporating the CBCRM Options and Approaches, indicators for monitoring, and implementation system.

4.5 Second JCC

- The second JCC is to be held on 13 (or 14) September 2012. The drafts of PDM indicators, CBCRM plans, CBCRM Approaches and Options are to be formally approved in this meeting.

4.6 Formulation of the Hatchery Facility Management Plan

- The plan is to be completed based on the design of the pilot projects.

4.7 Monitoring the Impact of the Released Broodstock

- The result of the monitoring on green snail and *Tridacna gigas* will be reported to the communities.
- A survey will be arranged on the reproduced green snail seed from the broodstock released in the phase 1 of the Project.

4.8 Technical Guidance on Marine Shellfish Seed Production

- The Project will consider green snail, *Hippopus hippopus*, and *Tridacna gigas* as target species for spawning and seed growing in the VFD hatchery in the timeframe of the Project.

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List of Attachments

- Scope of Work of the Baseline Survey
- Outputs from the Preliminary Workshops
- Questionnaire (Sheet 1, 2, and 3)
- Guideline for Questionnaire
- Minutes of the First Preparatory Management Planning Meeting between JICA and the Project Team
- Participants List of the First JCC
- Record of Discussion of the First JCC
- Minutes of the First JCC

1. Interpretation of the Project Design Matrix (PDM)

It is important to have a clear consensus on the logical structure of, and the indicators in, the PDM, as they are the basis of any project. Thus this chapter discusses the interpretation of the PDM before going into the progress of the Project.

The Figure 1 is the logical structure of the PDM, showing the relationship among the key terms for the Project such as Approach and Option for the Community-Based Coastal Resource Management (CBCRM), the Project Purpose, and the draft indicators in the PDM for the Project.

The Project Purpose, i.e., "CBCRM is effectively practiced," means that communities play an active role in the implementation of the CBCRM Plan. The indicator for the monitoring and evaluation of the Project Purpose is the extent of implementation of the CBCRM Plan. The CBCRM Plan consists of the measures and procedures for the management of resources to be protected or sustainably developed, and the management of certain sea areas for protection or sustainable development of such resources.

The measures and procedures should be formed based on the analyses of natural, socio-economic, and cultural factors in the target areas and communities. The CBCRM Plan should be formed based on such analyses in order to encourage active involvement of communities in the CBCRM activities.

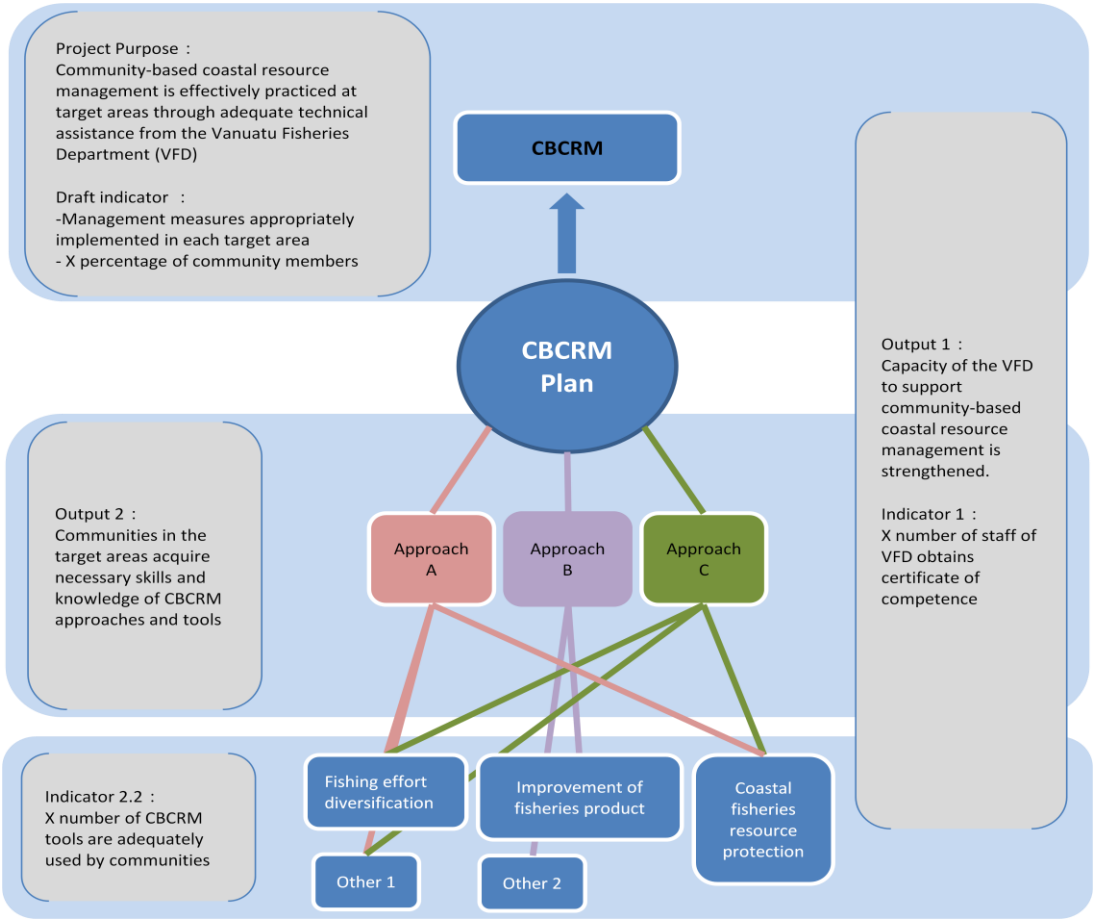

Figure 1: Logical Structure of PDM

One of the outputs of the Project is that the community residents practice the CBCRM Approach, i.e., measures and procedures for managing coastal resources. The Approach means the proper combination of CBCRM Options to address each factor and the management capacity of the community to carry out such Options[1]. The Approach varies depending on the target area, as it needs to respond to multiple factors around the area. Hence, the properness of the Approach should be judged not only on its consistency with multiple factors in a given target area, but also on whether it is within the management capacity of the community organizations in the target area. The indicator for the monitoring and evaluation for the output is the extent of application of such Approach.

CBCRM Options mean concrete activities to implement resource management such as follows.

- Fishing method diversification to shift the fishing activities to an offshore area
- Improvement of fisheries products distribution to add value to the fish catch
- Coastal resource protection through the deployment of artificial reef to raise awareness for the ownership and importance of resource management in the community

The Options should take into account the consistency with the communities' technical capacity, social and cultural

[1] This Progress Report denotes the CBCRM "tool" in the PDM as "Options."

characteristics to be effective and applicable by the community residents.

Another output of the Project is the strengthening of the Vanuatu Fisheries Department (VFD)'s capacity to support the communities. The VFD needs to support communities in all aspects of CBCRM, including CBCRM Options, CBCRM Approach, CBCRM Plan, and implementation of all of the above. Accordingly, the VFD should be capable of comprehensive analysis of the factors unique to each target area, selecting appropriate CBCRM Options with the communities, and establishing an Approach taking into consideration coastal resource management but also all aspects of the communities' cooperative activities.

Based on the interpretations above of the PDM and indicators as well as the basic policies on Project implementation, the Table 1 summarizes draft indicators and their relationship with the baseline survey.

Table 1: Draft Indicators in the PDM and Baseline Survey Items

	Indicators in PDM	Expexted outcome	draft indicators	Items for the baseline survey
Project Purpose				
Community-based coastal resource management is effectively practiced at target areas through adequate technical assistance from the Vanuatu Fisheries Department (VFD)	1. Management measures appropriately implemented in each target area	-Community understand the importance of coastal resource management -Number of people willing to cooperate for the resource management increases	-Level of awareness in communities on MPA	Sampling by questionnaire on the awareness of MPA
	2. X percentage of community members (households) participated in CBCRM activities	-Collaboration between the cooperative activities on coastal resource management and other cooperative acitivities is enhanced -Number of community members related to the coastal resource management increases	-Number of community activities related to coastal resource management -Number of people cooperate with the resource monitoring (such as fish landing and biological observation at fixed point -Number of active members in the resource management committee -Level of social capital	-Monitoring on the pilot projects *As for the social capital, questionnaire survey on household will be conducted again. The indicator will be selected based on the questionnaire
Outout 1				
Capacity of the VFD to support community-based coastal resource management is strengthened.	X number of staff of VFD obtains certificate of competence	VFD's supporting capability is strenghtned. Capability includes specific technical expertise of individual VFD staff, and management capability of VFD as a whole to utilize effetively such technical expertise.	-Coordinating capability with other organizastions -capability of community-based monitoring and follow up -Technical expertise of individual VFD staff (e.g. marine shellfish propagation) -capability of plan proper	Before the implementation of pilot projects IDOS (Institutional Developemnt/ Organizational Strengthening) will be used to grasp the capability of VFD. During the implementation of the pilot projects, VFD's capability for supporting CBCRM will be monitored.
Output 2				
Communities in the target areas acquire necessary skills and knowledge of CBCRM approaches and tools	2.1 1. CBCRM approaches selected by communities are technically appropriate	CBCRM approach is practiced with enhanced capability of community organizations.	Indicators for organizational strengthening -Level of awareness for the CBCRM (individual community members) -Management capability of community to hundle more active CBCRM activities	1. Organizational strategies 2. Organizational structure 3. Human resource 4. Organizational culture 5. Finance 6. Operational system 7. Management system
	2.2 2. X number of CBCRM tools are adequately used by communities	<Example> FAD is managed by community groups. A fund is established from the profit obtained from the fish catch. The fund is used for the FAD maintenance and also for the CBCRM activities	-increased number of people who want to introduce FAD	-Fund for the CBCRM increases by the introduction of livelihood improvement option -Fishing effort is diversified *monitoring will be done during the implementatin of the pilot projects

2. Progress and Issues of the Project from February 2012 to the Middle of May 2012

This chapter describes the activities undertaken by the Project team during February 2012 and the middle of May 2012. Firstly, it summarizes the result of the preliminary survey. Secondly, it explains the progress of the Project along the implementation schedule for 2012 in the Inception Report.

2.1 Preliminary Survey in the Target Areas

The preliminary survey was undertaken in order to understand the current CBCRM in the target areas, find survey assistants in the areas, and confirm if any other factors, including logistical arrangements, should be kept in mind for the baseline survey. The Table 2 summarizes the results of the preliminary survey.

Marine Protected Areas (MPAs) are functioning in all the target areas. In other words, community residents undertake no fishing activity in the MPAs. However, the CBCRM Plan made in the past does not seem to be respected. The major current issue for CBCRM is the increasing pressure from community residents to abolish the MPAs. To address this issue, it is dispensable to analyze CBCRM activities in the framework of comprehensive cooperative activities in communities.

With regard to logistics, the transportation and communication infrastructure in the target areas is very limited except in Efate. The challenge is to implement the Project smoothly under such intractable constraints as the relatively short duration of the assignments of the Project team members and limited human resources in the VFD.

Table 2: Results of the Preliminary Survey

	Target area	Survey date	Remarks
1	Efate ● Mangaliliu/Efate Island ● Sunae and Tasiriki/ Moso Island	5 and 14 May 2012	・ According to the Chief and the Resource Management Committee members of Mangaliliu, MPA is properly maintained. However, it does not mean that the CBCRM Plan made in the past is respected. ・ The needs of the communities include promotion of livelihood activities for the elderly who cannot go out for fishing and the improvement of the meeting place. ・ Sunae and Tasiriki communities indicated that they would be able to hold a joint workshop. However, the representative of the Resource Management Committee decided to hold a separate workshop for each community, as the two communities have different characteristics.
2	Malakula ● Crab Bay (14 communities)/ Malakula Island ● Uri Island ● Uripiv Island	11 and 12 May 2012	・ The MPA in Crab Bay is managed by 16 communities in total, i.e., 14 communities in Malakula Island as well as Uri Island and Uripiv Island. However, there is only one VFD staff member in Malakula. Thus the government service for the communities is very limited. A pilot project should be designed carefully to benefit the communities with different characteristics. ・ One of the main villages in Malakula, called Lakatoro, has the fish market built with Japanese cooperation, and currently one Japanese Overseas Cooperation Volunteer (JOCV) is working at the market. Collaboration with such existing resource may be an effective for the implementation of pilot project (e.g. improvement of fish distribution and marketing, development of fish processing products, statistical data collection for resource management purpose etc) ・ With abundant natural and environmental resources, the Crab Bay Resource Management Committee wishes to develop Crab Bay for tourism. However, Crab Bay would need improvement in road access and other infrastructures if it were to be developed for tourism. Since such development would require a

			large amount of investment, it seems unrealistic to carry out as part of the Project. ・ MPA in Crab Bay is respected, but no resource management activity in particular is undertaken. ・ The number of communities participating in the Crab Bay MPA had been considered to be 10, but it turned out to be 14 in reality. The socio-economic survey will be undertaken for all the 14 communities. However, due to the many communities participating in MPA, it will be necessary to carefully consider the contents and budget for a pilot project. ・ Uri Island has so few residents that it is unsuitable for a pilot project.
3	Aneityum	21-24 April 2012	・ Aneityum has no VFD staff. Moreover, the transportation, communication, and distribution of goods between Port Vila and Aneityum are quite limited. Thus it is important to facilitate collaboration with existing local organizations to promote CBCRM. A pilot project should be designed and implemented with this point in mind. ・ MPA in Analcauhat community is respected. However, there is an increasing pressure to open up. ・ The Resource Management Committee conducts reef check twice a year. ・ Some residents wish to revive the traditional community governance system, and introduce MPA in other communities. ・ The island has a few highly educated human resources although it is remote. Thus it is necessary to formulate a CBCRM Approach and monitoring means that suit them. ・ Aneityum faces many logistical constraints. It has no stable electricity supply, and the twice-a-week flights in and out of the island are frequently cancelled. ・ The results of the preliminary workshop indicate that the participants are generally highly motivated and understand the Project well. ・ The island is too dependent on tourism. Thus it is necessary to diversify economic activities by focusing on the primary industry utilizing the traditionally available natural resources. A cruise ship is scheduled to call at the neighboring Mystery Island on 23 May 2012. The Project Team will be in Mystery Island on the day to grasp the current state of tourism there.

2.2 Output 1

2.2.1 Improve the capacity of the VFD in seed production and ranching of marine shellfish.

(1) Formulation of the Draft Hatchery Facility Management Plan

To strengthen marine shellfish seed production and formulate the management plan of the hatchery facility, the current situation and issues of the hatchery were examined.

Hatchery production and its prospects

Currently, the VFD hatchery conducts a seed production trial for giant river prawn and tilapia. As for the four marine shellfish species dealt with in the phase 1 of the Project, trochus was naturally produced and maintained at the facility. As for green snail, seed were produced in 2007 and some were released to the sea. Out of the remaining individuals, approximately 500 were in the facility. As for giant clam, some *Tridacna squamosa* remained after being produced in 2007 and were sold to aquarium fish shops. Regarding *Tridacna maxima*, the VFD was growing seed after IRD (Institut de Recherche pour le Développement) experimentally spawned them. The Project Team confirmed that there were approximately 20,000 individuals of *Tridacna maxima*[2].

[2] The VFD hatchery facility has both grown trochus and green snails that do not grow. They should be released to the sea since it is difficult to keep them for a long time.

The VFD has conducted frequent trials for seed production of green snail and *Tridacna squamosa*. However, all the trails have failed so far partly due to the insufficient number of broodstock for seed production. The Project Team has also conducted a trial for *Tridacna squamosa* spawning but failed[3].

Among the four species, *Tridacna maxima* stock in the natural environment is in a relatively healthy condition. *Tridacna squamosa* is in demand for aquariums. However, it is a relatively rare species and its habitat is deeper than that of other species. This makes it difficult to secure sufficient parent stock. In addition, its seed production takes at least five years. The Project can give technical advice to the VFD if it wishes to keep producing both species. However, the species seem unsuitable as target ones for the Project because their connection to CBCRM is very limited.

Green snail could be one of the target species of the Project because its natural stock in Vanuatu is heavily depleted and it has high economic value. Seed production of the species within the timeframe of the Project is difficult because its growth is slow. However, it is desirable that the VFD acquires the necessary skills for seed production for the future. Thus the Project will consider having VFD personnel experience the process of growing green snail seed[4]. Before implementing this task, it is necessary to improve the hatchery, as the poor condition of the roof can lead to salinity decrease when it rains heavily.

Concerning giant clams, *Hippopus hippopus* may be a suitable target species for the phase 2 of the Project. This species does not have high economic value but under heavy fishing pressure for consumption. If spawning succeeds, it has the highest possibility for seed production and release into the natural environment within the timeframe of the Project. Thus it is fair to say that it is the most suitable species to promote CBCRM. The Project Team has already requested the VFD to secure a sufficient amount of broodstock of *Hippopus hippopus*.

Tridacna gigas, transplanted into the communities during the phase 1 of the Project, is now stably growing under the management of the communities. This species is extinct in Vanuatu but has potential as a tourist attraction. The reproductive age of this species is approximately ten years. Considering the age of the transplanted individuals, it may be possible to produce its seed within the timeframe of the Project. With its high growth rate, this species is the only suitable one for potential farming. Therefore, the Project will collect necessary information and experience on the species for future seed production.

Management and operational situation of the hatchery

As for daily maintenance, the procedures that the Japanese experts in the phase 1 of the Project instructed are generally respected. However, in the absence of the counterpart of the phase 1, defects such as lack of water temperature were seen and some seed died. It is necessary to make proper arrangement to cope with absence of the person in charge.

JICA donated a water pump, but the pump that arrived had different specifications from the one originally

[3] Stable seed production is not practical at this point as the quantity of broodstock is insufficient.
[4] For seed production of green snail, broodstock are available in Mangaliliu, where they were released during the phase 1 of the Project.

requested and is now not in use. As a result, water provision into the hatchery is not sufficient, because only one pump is functioning.

The hatchery has other operation problems. The control system of the pump failed. For a long time, the water inlet and the elevated water tank had not been cleaned, and filter maintenance had not been undertaken. A water pipe is broken, a fish tank is leaking, and the roof of a tank for raising juveniles is broken. A cause of such insufficient maintenance is that the phase 1 of the Project had outsourced maintenance service. In other words, the VFD had no system to undertake necessary maintenance by itself. Although some defects were fixed during the phase 2 of the Project, other defects were left unattended since it would take expenses to address them. Considering the priorities and budget of the Project, the Project Team will look into the extent to which it can provide maintenance.

(2) Support to the production and release of shellfish seeds

Please refer to "4. Schedule from the Middle of May 2012 to 30 September 2012" for details.

(3) Confirming the current condition of broodstock groups and the addition of new broodstock

The current condition of the broodstock group of *Tridacna gigas* released during the phase 1 of the Project was confirmed in Mangaliliu, Sunae and Tasiriki in Moso Island, and Natapao in Lelepa Island.

In two points in Mangaliliu, the condition of green snail broodstock and reproduced seeds was confirmed. Since *Tridacna gigas* has no mobility and is easy to track, data were stored together with the monitoring results in the phase 1. A survey method and database on green snail are under consideration. Collaboration with other institutions may be required for a survey on green snail.

(4) Monitoring of the released broodstock and seeds

In Mangaliliu, reproduction from the released green snail broodstock was confirmed. In the phase 1, the green snail broodstock were also released in Moso and Lelepa Island to form a broodstock group. These places are on the oceanic side and more suitable for green snail than Mangaliliu. Hence, a considerable amount of reproduced seeds may be confirmed. However, no survey has been conducted in Moso and Lelepa Island due to time constraints. Implementing one in the future is to be considered.

Tridacna gigas seeds released in Mangaliliu, Moso Island, and Lelepa Island were surveyed. In Moso and Lelepa Island, the seeds were confirmed to be in good condition. In Mangaliliu, some seeds were confirmed dead and carried away from the suitable habitat by rough sea. It became clear that the southwestern coast of Efate Island is unsuitable for giant clam release because Manaliliu repeatedly had problems with the weather.

In the phase 1, *Tridacna crocea*, *Tridacna aquamosa*, and *Tridacna maxima* seeds were released[5] in various locations, but none survived because of predation. Thus successful seed release of giant clam requires careful selection as to the species, size, and location. In the phase 2 of the Project, it is necessary to carefully consider the most suitable location for *Hippopus hippopus* seed release.

[5] The release was done without using any protection cage.

The green snail and trochus that are currently kept at the VFD hatchery are of suitable size as seeds for release[6]. Thus some of them should be released on an experimental basis. For any species of giant clams, it is necessary to develop a simple identification method to distinguish natural stock from released one.

2.2.2 Improve the capacity of the VFD in its implementation and data analysis of the baseline survey.

(1) Developing participatory methods for coastal resource evaluation and monitoring

Since this activity is being discussed with the VFD, below is a description of the progress in the participatory coastal community socio-economic survey that was carried out.

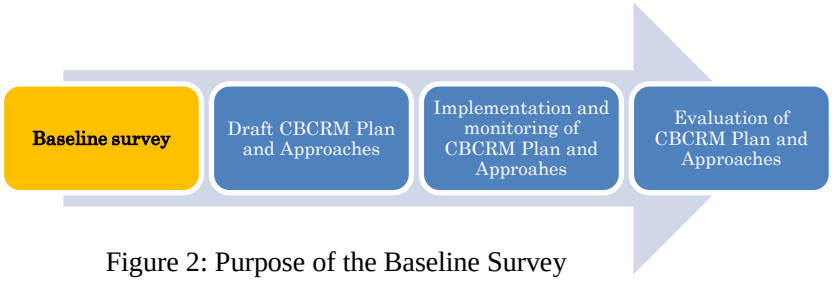

Figure 2: Purpose of the Baseline Survey

As Figure 2 shows, the baseline survey was the starting point to evaluate the CBCRM Plan and Approaches. In the survey, necessary data and information were collected for the following purposes[7].

- Evaluate social capital, which is the basis of community organizations' activities
- Establish monitoring items during the implementation of CBCRM Approaches
- Formulation of a CBCRM Plan
- Formulation of ideas for strengthening the implementation system of the CBCRM Plan
- Formulation of CBCRM Options, which are the basis of the CBCRM Plan

Here are the two keys to a successful CBCRM Plan and its sustainable implementation: (1) the Resource Management Committee in each target community has the resilience to cope with the changing socio-economic and natural environment; and (2) strengthening of social capital to support the Resource Management Committee.

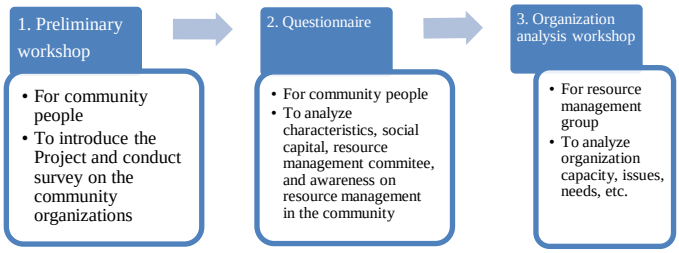

Figure 3: Process of Baseline Survey

The plan for the baseline survey was made in consideration of the five purposes mentioned above, indicators in the PDM, and constraints in time, budget, and human resources. As shown in the Figure 3, the baseline survey consisted of three steps: preliminary workshop, questionnaire survey, and organization analysis workshop.

[6] It causes high mortality to keep individuals at the hatchery longer than necessary. At the hatchery, 900 individuals at the end of 2010 decreased to 500 at the end of 2011.
[7] See the attached draft scope of the baseline survey for details.

i) Preliminary workshop

The Project Team paid its first visit to each target community in the phase 2, explained the Project, and asked the community to work with the Project. In addition, a preliminary workshop was held[8] in order to have the participants understand the decision-making system, purpose, number of members, and period of activities in each community organization. The participants included such people as community leaders, resource management groups, and representatives of women's groups. The Project Team asked the participating community residents to write on a card the name of a community organization. Then the cards were pasted on large pieces of paper on the wall, and the Project Team asked the residents about community organizations and grasped details of the organizations. The Table 3 shows the outline of the preliminary workshop in the target communities.

Table 3: Outline of the Preliminary Workshop

	Community	Number of participants	Date	Output
1	Analcauhat/Aneityum Island	21	23 April 2012	Community organization list
2	Mangaliliu/Efate Island	10	8 May 2012	Community organization list
3	Sunae/Moso Island	10	9 May 2012	Community organization list
4	Tasiriki/Moso Island	8	9 May 2012	Community organization list
5	Natapao/Lelepa Island	10	18 May 2012	Community organization list
6	Crab Bay/Malakula Island, Uri Island, and Uripiv Island	14	14 May 2012	Outline of MPA Management Committee activities[9]

ii) Questionnaire survey[10]

The purpose of the questionnaire survey was to understand the socio-economic characteristics, social capital, and awareness of CBCRM in the target communities. The questionnaire consisted of the following three sheets.

- Sheet 1: Socio-economic structure of the community (Questions on socio-economic characteristics and social capital in the community; interviewee: representative of the community)
- Sheet 2: Household (Questions on socio-economic characteristics on households; interviewee: head of the household)
- Sheet 3: Awareness for MPA (Questions on perception on the effectiveness and relevance of the MPA a few years after its establishment; interviewees: individual members of the community by sex and age group)

[8] The Project Team decided to conduct this workshop in the other target communities because it proved effective in Aneityum.
[9] In the workshop in Malakula, it was difficult to list all community organizations for 16 communities participating in Crab Bay resource management due to time constraints. Thus information collection focused on activities of the MPA Management Committee.
[10] Please refer to the attached questionnaire sheets for details.

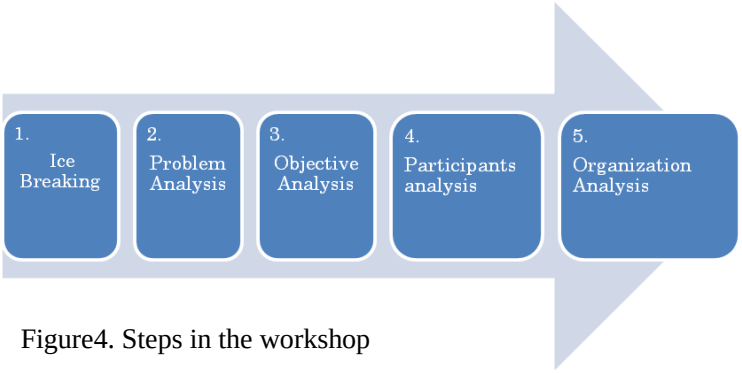

Figure4. Steps in the workshop

iii) Organization analysis workshop

Participants from mainly the Resource Management Committee analyzed organization through a workshop. The Project Team has believed that strengthening organizations concerned with CBCRM is an indispensable part of sustainable CBCRM activities. Thus the team evaluated the current capacity of the relevant organizations concerned through the workshop and used the result as a baseline indicator for the Project. The pilot project would be designed in such a way that it would strengthen the organizations concerned with CBCRM.

Table 4: Contents of the Workshop

	Process	Purpose	Method	Expected Output
1	Ice Breaking	To analyze current utilization, knowledge, and experience of the resource in the community	RRA (Rapid Rural Appraisal)	Fishing ground map / fishing calendar
2	Problem analysis	To analyze problems and causes of the problems in resource management	Affinity diagram	List of problems and causes in resource management
3	Objective analysis	To analyze the countermeasures for the problems and priority of the problems		List of countermeasures for the resource management
4	Institutiogramme	To analyze the potential organizations which participate in CBCRM	ID/OS	Result of institutiogramme
5	Organization analysis	To analyze the current and potential capacity of resource management committee	ID/OS	Result of Integrated Organization Model

Table 5: Items for the Organization Analysis

Organizational capacity	1.Strategy	
	2.Structure	Organization chart
	3.Human Resource	Motivation
		Knowledge/experience
	4.Culture	Membership
		Norm
		Conflict prevention
	5.Finance	Current capital/fund
		Colletion system
		Reporting
	6.Operational system	Demarcation
	7. Management System	Norm
		Decision-making structure
		Communication

Firstly, VFD personnel collected the current fishing ground utilization with the help of the Project Team members. Secondly, problems in the resource management were extracted. Thirdly, possible countermeasures to solve or mitigate these problems were listed. Fourthly, possibilities for working with other organizations were analyzed to realize such countermeasures. Finally, organization analysis was conducted to find out the current and potential capacity of the Resource Management Committee. The Table 5 shows the items for the organization analysis.

In the workshop, the Project Team consulted the community on ideas and methods for the community participatory resource survey.

(2) Training program for VFD officers on how to conduct the baseline survey

The training was designed to include lectures as specified in the attached guideline of the questionnaire, and field practice in the preliminary survey.

The participants in the training were two VFD staff members in charge of surveyors, and members of the Resource Management Committees in the target communities who were to implement the baseline survey. The extent of each surveyor's understanding was confirmed in the field trial as part of the preliminary survey, and additional instructions were given when necessary. The Table 6 shows the schedule of the training.

Table 6: Schedule of the Training for the Baseline Survey

Main island	Community	Participants from communities	Date of lecture	Date of field trial	VFD staff
Efate	Mangaliliu	1/1	7 May 2012 Venue: VFD meeting room	8 May 2012	1 from the policy and 1 from the statistics division
	Sunae	1/1		9 May 2012	
	Tasiriki	1/1			
	Lelepa	1/1			
Malakula	Uri, Uripiv, and Crab Bay	10/16	11 May 2012 Venue: Training room adjacent to the VFD branch office in Malakula	14 May 2012	1 from the policy division
Aneityum	Analcauhat	5 (expected)	21 May 2012 (expected)	24 May 2012 (expected)	1 from the policy division

3. Others

3.1 Preparatory Management Planning Meeting

The first preparatory management planning meeting was held on 13 April 2012 via JICA-Net. The Project Team members took part in the meeting from the following locations: Dr. Akiya Seko, Mr. Mitsuo Iinuma, Mr. Kazuo Nishiyama from the JICA Vanuatu Office; Mr. Shigeaki Sone from the JICA Headquarters; and Mr. Motoki Fujii from the JICA Osaka Center. The meeting was part of the preparation for the Joint Coordination Committee (JCC) on 19 April 2012[11].

3.2 JCC

The first JCC was held on 19 April 2012 in Port Vila. A wide variety of people took part in the meeting, including those from the relevant ministries of the Vanuatu government, counterparts of the VFD, representatives from the target communities, and JICA officers from the JICA Fiji Office. The discussion was summarized in the draft Minutes of Meeting (MM) which were later finalized with the signatures of the representatives of the VFD, JICA, and the Project Team. (For more details, please refer to the attached participants list, record of discussion[12], and MM.)

4. Schedule from the Middle of May 2012 to 30 September 2012

This chapter explains the schedule of the Project from the middle of May 2012 to the end of September 2012.

As indicated in the Inception Report, the preparation for the pilot project is to begin in October 2012. Accordingly, ideas for the pilot projects

[11] Please refer to the attached minutes of meeting for more details.

[12] The official record is the MM. More detailed discussion and comments were summarized in the record of discussion although it is not meant to be official.

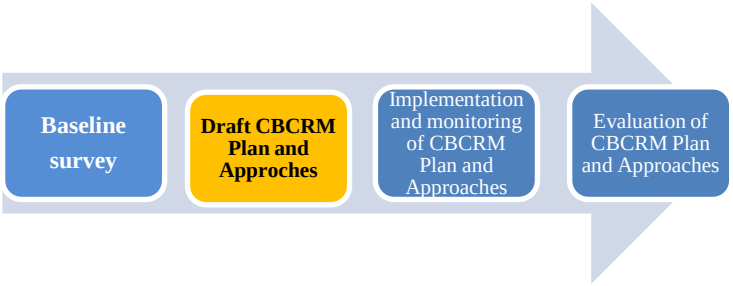

Figure 5: Flow of the Activities

should be approved in the second JCC in September 2012. To follow this timeframe, ideas for the CBCRM Plan, CBCRM Approaches including the CBCRM Options, and pilot projects to verify them should be prepared by the middle of August 2012.

4.1 Baseline Survey

The questionnaire survey and the organization analysis workshop are to be completed by the middle of June 2012. The results should be collected and analyzed by the middle of July 2012.

4.2 Monitoring Indictors for the PDM

The draft indicators for the PDM shown in the Table 1 shall be reviewed and modified if necessary based on the results of the baseline survey. The indicators are meant for the monitoring of the progress and achievement of the Project. However, it would be better if the VFD and communities could continue the monitoring even after the end of the Project. Hence the indicators should be selected so that they are simple and easy to use for the VFD and communities in continuous monitoring.

4.3 Review of the CBCRM Plan

The existing CBCRM plans will be reviewed based on the information collected from the questionnaire, especially the sheet 3, and the organization analysis workshop.

The existing plans cover such matters as the extent of the MPA, species to be protected and their size, types of prohibited and permitted fishing gear, and the people or organizations in charge of each activity. The information collected so far indicates that the existing plans are not working well because they do not reflect the communities' real needs that may be outside CBCRM. To improve the situation, it is necessary to recognize CBCRM as one of the many cooperative activities in communities, and understand the interaction between CBCRM and other cooperative activities. The CBCRM Plan should incorporate practical arrangements for continuity of the activities, such as pooling part of funds earned through alternative income generation, and an allowance to be paid from the funds to the person in charge of fish catch monitoring.

4.4 Designing of the Pilot Projects

The pilot projects should be designed based on the baseline survey, allowable budget and time, incorporating the CBCRM Options and Approaches, indicators for monitoring, and the implementation system. They should be considered with due consultation with the VFD, target communities, and other relevant stakeholders including governmental and non-governmental organizations.

4.5 Second JCC

The second JCC is to be held on 12 September 2012. The draft ideas made in "4.4" above should be formally approved in this meeting.

4.6 Formulation of the Hatchery Facility Management Plan

The plan is expected to cover green snail and giant clams (*Hippopus hippopus* and *Tridacna gigas*). The plan shall set production target figures taking into account the ongoing trials for other species based on the development plan of the VFD. It also should be designed to encourage the VFD to be self-reliant in managing the hatchery facility.

4.7 Monitoring the Impact of Released Broodstock

As mentioned previously, monitoring was undertaken in some of the target communities in Efate Island. The results will be provided to the communities as feedback. Since reproduction of green snail has been confirmed, it is desirable to conduct a survey on reproduced seeds. However, it will be necessary to consider working with other institutions such as SPC as such survey requires ample financial resources.

4.8 Technical Guidance on Marine Shellfish Seed Production

As stated above, green snail and giant clams (*Hippopus hippopus* and *Tridacna gigas*) are the target species of seed production. As for green snail and *Tridacna gigas,* broodstock were released to the natural environment in the phase 1 of the Project and were confirmed to be in good condition. They can be utilized again as broodstock. *Hippopus hippopus* gives the Project the best chance to produce its seeds and release them into the natural environment within the timeframe of the Project. Moreover, seeds of this species may be transferred to outer islands from Efate and released because they can survive in a dry condition for almost a day. Thus *Hippopus hippopus* is the most suitable species for CBCRM. However, it would be difficult to monitor a CBCRM activity of community residents within the timeframe of the Project even if seeds were released. Thus the Project will consider having residents collect a sufficient quantity of broodstock, which the VFD does not have now, and having them take part in the process of spawning and growing seeds at the VFD hatchery. Participation of community residents from the early stage will stimulate their ownership and awareness for resource management indispensable for sustainable CBCRM activities.