

5.3.3 Output 3 and activities

Output 3. Basic data on investigation and monitoring of marine life and ocean environment is accumulated
Activity 3.1 To establish a system to arrange the existing information of marine resources in order <ul style="list-style-type: none">3.1.1 Collect existing relevant information3.1.2 Exchange information with relevant organizations3.1.3 Open and distribute the information
Activity 3.2 To investigate marine life <ul style="list-style-type: none">3.2.1 Collect information of fish production3.2.2 Identify suitable field at sea and operate undersea monitoring3.2.3 Operate ecosystem survey at intertidal zone3.2.4 Feed back the results to relevant organizations, communities and schools
Activity 3.3 To conduct environmental survey in the sea <ul style="list-style-type: none">3.3.1 Implement actual survey of GMR use3.3.2 Create and implement a plan of marine environmental survey3.3.3 Implement training courses of participatory ocean environmental survey3.3.4 Feed back the results to relevant organizations, communities and schools

The information of marine life and ocean environment is fundamental indicator for the GMR conservation. The DGNP, the CDF and other NGOs have developed the Marine Species Research and Monitoring Program due to the need to create biological and ecological base line data for the sustainable management of the commercially exploited species and species with ecological importance. Activities of the Project generate the information system that encourages relevant organizations to implement joint research and promote share and exchange information. The monitoring of ocean environment will be emphasized in this Project.

Periodical and long-term monitoring survey at intertidal zone and marine environmental survey are the rudimentary information for the conservation management plan. By-seasonal monitoring is important to accumulate data which will help comparing the numbers on yearly basis.

5.3.4 Output 4 and activities

Output 4. Pollution to the GMR caused by activities of local residents is reduced
Activity 4.1 To reduce pollution caused by activities of local residents <ul style="list-style-type: none">4.1.1 Conduct opinion research of local residents and information on reduction of pollution4.1.2 Create and implement reduction program with residents

- 4.1.3 Create and implement small-scale model cases
 - 4.1.4 Feed back information on activities and results to relevant organizations, communities and schools
- Activity 4.2 To promote appropriate marine eco-tourism
- 4.2.1 Collect existing information of marine eco-tourism
 - 4.2.2 Organize joint workshops with communities and other relevant organizations
 - 4.2.3 Examine and evaluate the introduction of sports fishing in the outside of GMR baseline zone
 - 4.2.4 Feed back the results to relevant organizations, communities and schools

Creating and implementing investigation plan with residents must be crucial to preserve the environment of communities and the GMR. Information of the pollution will spread to relevant organizations, communities and schools by feed backing.

Small-scale model cases are necessary to make sure environmental load reduction measures and to expand the measures efficiently and effectively. One of model cases would be practical water purification using alga. Support of the activities is crucial for alleviation of marine pollution.

Eco-tourism is an integral part of a sustainable-use approach to the environment. Directed tourism with regulations and itineraries as laid out by the DGNP started operating in 1969. The number of visitors quickly increased from 7,000 in 1975, 17,840 in 1985, nearly 42,000 in 1989, over 60,000 in 1996 to beyond 64,000 in 1998.

An intensive course for naturalists' guides, which is required to supervise visitors to Park sites, is conducted annually. Guides in the Galapagos Islands are on every ship. They keep visitors on defined paths, give daily briefings, and accompany them on-site to explain and expand the experience.

Sports fishing is refereed in the management plan of the GMR, but the condition of the area has not been surveyed yet. The applicability study is not examined to estimate the impact of such introduction to the area.

With aim of dealing with this situation for appropriate model of eco-tourism, it is necessary to collect information, to create eco-tourism programs, to support guide training courses, and to establish a network with tourism industry.

5.3.5 Output 5 and activities

- Output 5. Improvement and stabilization of the residents' life is supported.
- Activity 5.1 To investigate multilateral income resources of the residents

- 5.1.1 Investigate potential on small-scale optional eco-tour
- 5.1.2 Investigate potential on production of handicraft using invaded materials
- 5.1.3 Support to develop the product featuring popular Galapagos character

Activity 5.2 To support on marine life survey for the residents

- 5.2.1 Support residents to collect catch report
- 5.2.2 Support residents to participate in marine survey
- 5.2.3 Support inter-island participatory marine survey
- 5.2.4 Feed back the results to relevant organizations, communities and schools
- 5.2.5 Open fisheries management workshops with participation of the residents

There is a possibility on small-scale optional eco-tours and handicrafts implemented by local residents, since non-residents of the Galapagos Islands mostly operate huge travel agencies and souvenir shops. In fact, there is a NGO helping local housewives of San Cristobal Island.

Local residents can provide “at home atmosphere eco-tour”, a small scale optional eco-tour for tourists who come to Galapagos from the mainland Ecuador. However, the facility, quality, and promotion to the mainland Ecuador are not sufficient to attract tourists and markets thus it is not competitive in the marketplace. The project can help local residents in creating new types, patterns and designs with a possibility survey on the focused areas.

Local residents do not have enough opportunity to monitor the marine ecosystem and ocean environment to obtain the information on fisheries resource management. To involve them into activities is important to promote their understanding for the marine life and fisheries resource management and to take initiative in activities.

5.4 Implementing Strategy of Activities

In order to achieve the Project Purpose, comprehension and collaboration among local residents, relevant organizations and tourism industry are fundamental. In this context, Activities of Output 1 and 2 should be implemented first.

The results of Activities of Output 3 will be scientific data for the conservation management of the GMR in the future. The regular and long-running monitoring is required.

Activities of Output 4 contribute not only to the conservation of the GMR, but also to the improvement of environmental quality of livelihood in communities. Local residents should have responsibility to the activities by the support of the DGNP, the CDF and other relevant organizations.

The results of Activities of Output 5 will offer the stabilization of residents' life in economy and knowledge of marine survey and fisheries resource management. Local residents will tend to participate in this Project and other similar kind of projects.

5.5 Commitments from the Ecuador Government

The Government of the Republic of Ecuador, represented by the DGNP in this Project, has committed to take necessary measures to ensure the self-reliant operation of the Project. Those are as follows:

- 1) Provision of buildings and facilities needed for implementation of the Project including office space and necessary facilities for Japanese experts
- 2) Assignment of necessary number of counterparts.

5.6 Inputs

In order to implement this Project, Japanese and Ecuadorian sides accomplish the following inputs.

5.6.1 Inputs from Japanese side

1) Dispatch of Japanese experts

a. Long-term experts

Chief Adviser / Marine Reserve Administration

Project Coordinator

Marine Ecosystem Monitoring

Environmental Education / Community Activity

b. Short-term experts

Short-term experts will be dispatched when necessity arises.

2) Provision of machinery and equipment

The government of Japan will provide equipment, machinery and materials necessary for the implementation of the Project.

3) Training of Ecuadorian personnel

The government of Japan will receive Ecuadorian personnel connected with the Project for technical training in Japan.

4) Local cost

Part of expenses for project activities will be provided.

5.6.2 Inputs from Ecuadorian side

1) Assignment of Project Director as the Chairperson of the Joint Coordinating Committee.

2) Assignment of Counterparts

a. Project Director

b. Project Manager

c. Technical counterparts

- Marine Reserve Administration

- Marine Ecosystem Monitoring

- Environmental Education / Community Activity

- Other related fields in accordance with the fields of short-term experts

3) Secretaries, administrative staff, and drivers

4) Equipment including vehicles

5) Local cost

Necessary budget for project activities shall be allocated.

5.7 Analysis of Important Assumptions

1) Important assumptions of the activities for the outputs

Staff of DGNP does not change in a short period of time

All counterparts are full time employed staffs of the DGNP which means their contract status is stable. Unpredictable change of the position or sudden resignation will not be occurred.

Charles Darwin Foundation cooperates with the Project

CDF has cooperated in executing conservation program with the DGNP for more than 30 years under the agreement between the government of Ecuador and CDF. This framework will be continued until the abrogation of the agreement.

2) Important assumptions of the outputs for the project purpose

Conflicts among stakeholders including local residents do not occur

Conflicts over the exploitation of natural resources in Galapagos Islands between fishing communities, institutions for natural preservation, and other sectors had occurred several times. Nowadays, DGNP recognizes the importance of stakeholders' participation in the planning process of the resource management and organizes the

participatory management program.

The number of tourists does not increase rapidly

Over 60,000 tourists have visited the Galapagos Islands each year from 1996, and the present number of tourists is almost nine times as that of 1975. The capacity of the boats more than tripled between 1981 and 1999 from roughly 500 to 1,700 passengers per night.

A sheer number of tourists would visit the Galapagos Islands, however, strict measures have long been in place to control tourism.

The number of local residents is not increased sharply

The province of Galapagos has almost 18,000 residents, restricted to only 3 % of the total landmass of the archipelago. The 86 % of the population live in the urban areas of three main districts and the remaining 14 % of the populace live in rural areas. The population has grown at some 8 % per year over the last two decades owing to immigration (5.9%) from the continent.

The SLG controls immigration into Galapagos, regulates many other activities in the archipelago and establishes general rules and principles, applicable on land or at sea.

Fishing efforts for the GMR are not increased largely

Fishing is one of the single most important sectoral activities that directly impacts the marine biodiversity of Galapagos. Fisheries Monitoring Program for monitoring of artisanal fishing and collecting biological information on fish is carried out by the DGNP, however, the situation continues to be tense with respect to the exploitation of marine resources between fisheries industry and other stakeholders. It requires continuous monitoring and periodical discussion on the utilization of resources.

3) Important assumptions of the project purpose for the overall goal

Activities by communities are continued

A couple of participatory programs have been implemented creating a public awareness within involved parties. Activities by communities will be developed and continued through the experience of the participatory programs.

4) Important assumptions of the overall goal for the super goal

Large-scale accidents of marine pollution do not occur

Past accidents of oil-spill by tankers aroused concern of organizations, institutions and NGOs about the precaution. If another accident occurs, their immediate response would minimize the damage to the shore and off shore.

Pollution from urban area does not increase largely

It is obvious that pollution from urban area is entering the GMR. However, this situation would not be more serious as far as the number of residents is not increased and their living standard is not changed.

Weather condition does not change drastically

Irreversible climate change will be a negative factor for accomplishing the Project.

Introduced species does not increase sharply

According to the technical advice of CDRS for the System of Inspection and Quarantine for the Galapagos Islands, introduced species continue to invade the islands due to the vehicle created by human activities. To prevent further introductions, a quarantine system shall be continuously implemented.

5.8 Administration and Implementing Structure of the Project

The Director of the GNP will be the Project Director and bear overall responsibility for the administration and implementation of the Project. The Project Manager, nominated by the Director of the GNP will be the chief counterpart of the Project. He / she will be responsible for managerial and technical matters of the Project. The Project Director will appoint one Ecuadorian counterpart as the Project Coordinator who will be in charge of supervising technical aspects as well as daily administrative matters pertaining to the implementation of the Project.

Other relevant local organizations will coordinate planning, implementation, monitoring and other necessary matters to bring the best results of the Project. For the effective and successful implementation of technical cooperation of the Project, a Joint Coordinating Committee will be established.

5.9 Pre-conditions

One of the indispensable factors in the process of this Project is local residents' participation. 'Local residents cooperate for the Project' is put as a pre-condition of this Project.

Chapter 6 Justification of the Project

6.1. Relevance

6.1.1 Consistency of the policy of the Ecuadorian Government

The conservation of the Galapagos Islands is of the foremost importance for the Ecuadorian Government due to its unique fauna and flora species and educational and scientific history.

The Ecuadorian Government enacted a Law for the “Special Regime for the Conservation and Sustainable Development of the Galapagos Province” in 1998, which among its main provision, states that the protection and conservation of the terrestrial and marine ecosystems of the Galapagos Province is a State responsibility, as well as the control of the human settlements and its interrelation with the environment. In 2001, the Ministry of Environment took further action, prepared a 2010 strategic plan for the conservation and sustainable development of Galapagos.

Considering these backgrounds, the Project is justified to contain sufficient consistency with the policy of Ecuadorian Government.

6.1.2 Consistency with Japanese cooperation policy

International contribution to conservation of important and endangered natural environment is one of the priority sections in the Japanese cooperation policy. Governed by the policy, JICA has established the Fisheries and Environmental Division in the Department of forestry and Natural Environment Department in January 2000 strengthening technical cooperation for this sector.

Regarding the priority areas of cooperation in Ecuador, JICA has defined the following four subjects.

- 1) Implementation of the people-centered development
- 2) Careful consideration to poverty reduction in all aspects of its cooperation of the undeveloped regions
- 3) Environmental measures and conservation of the environment
- 4) Concentrating efforts into several new fields, namely conservation of biodiversity

The scheme of the project is fully agreed with 3) and includes all aspects of 1), 2), and 4).

6.1.3 Community-Based Planning and Operation for the Project

Previous aids to the area were more focused on to nature protection and environmental conservation rather than improving the residents' standard of living.

Through discussions between the Ecuadorian Government and the Government of

Japan, content of the project has been agreed to be planned directly by the participation of the residents and the communities of the Galapagos Islands.

By holding several workshops, structural problems of the decision making system in the Galapagos Islands, without the participation of the residents, was stressed as fundamental to be solved urgently. This project is designed to cope with the problem as much as possible under the extent that the DGNP covers.

For this reason, the project is formed as to be residence and community centered, meanwhile protecting the previous environment do that it will be advantageous for the entire communities.

6.1.4 Participatory Project formulation

Throughout discussions between the Ecuadorian side and the Japanese side, project site was decided to focus on the GMR. Thereafter, the scope of project was developed by applying PCM method. Various stakeholders participated in workshops, which were organized during the period of Preparatory Studies, by which direction of the Project was created. The results were consolidated into this project document, especially on PDM and P/O.

6.2 Effectiveness

Local communities are involved in most of the activities of the Project. Activities-Outputs-Project Purpose of the Project is logically very well connected that accomplishment of each activity directly leads to the achievement of the Outputs and Project Purpose. Most of the Important Assumptions to achieve the Project Purpose also depends on cooperation of the local communities.

Thus, Cooperation of local communities is an indispensable factor of successful achievement of the Project.

6.2.1 Logical aspects of planning

The Project pursues capacity building and networking with institutions and local residents within Galapagos Islands through the achievement of five outputs which will be realized as the results of practical activities of Ecuadorian and Japanese experts.

The improvement of practical knowledge and technology of Ecuadorian counterparts will be expected largely through the activities. Technical training in Japan will provide them opportunities to visit learning sites as well as to improve the specific knowledge.

Due to the activities of Japanese experts in Ecuador and technical training of counterparts in Japan, the Project will evolve close relationship between researchers in Ecuador and Japan, particularly on the field of marine reserve. In addition, the domestic and international connection of the mentioned field is expanded with the disclosure of obtained information.

When the project purpose is achieved, the DGNP will take the further leadership in the marine conservation with participation, as a platform organization coordinating activities of NGOs and academic institutions. Since the important assumption of the project purpose for the overall goal, 'activities by communities are continued', will be accomplished, the overall goal, 'Collaboration system for the conservation of the GMR is established', will be achieved.

The continuous activities of the DGNP, other relevant organizations and communities contribute to the conservation of ecosystem in GMR, which means to achieve the super goal of this Project.

6.2.2 Verification of the level of project purpose

The achievement of the project purpose is surely due to accomplishments of five outputs which covers a wide range of sectors. Cooperation and Coordination with other organizations with long experience in the Galapagos Islands are indispensable to implement the Project without the duplication. The activities are based on the participation of local residents, for this reason, the understanding of local residents and the participation for the Project are unrevealed cornerstones in the Project.

Under the cooperation and accommodation of the DGNP, the Project will be implemented for the enhancement of activities for the harmonization between conservation and human life in the Galapagos Islands. The Project Purpose will be reached with support and collaboration of DGNP.

6.3 Efficiency

6.3.1 Relationship between inputs and outputs

This Project will be implemented basically by the staff of DGNP together with Japanese long-term experts. The Project is designed to strengthen collaborative activities with relevant government organizations and NGOs, especially CDRS in field surveys and monitoring Environmental Education activities in schools and communities. These organizations are more than welcomed to participate in or to collaborate with the Project. Moreover, sub-contract scheme with local resource persons and consultants

will also be encouraged due to the necessity. The efficiency from input to output shall be secured by adopting these countermeasures.

6.3.2 Adoption of the contract-type technical cooperation scheme

New scheme of JICA namely contract-type technical cooperation will be adopted in several activities of the Project. In this scheme, a couple of project components such as assignment of experts, procurement of basic equipment and coordination of counterpart training in Japan will be contracted to provide organ(s) which is/are evaluated and selected by JICA. By adoption of the contract-type technical cooperation scheme, quick decision-making and flexible actions, and modification on daily basis of the project will be possible so that efficiency of the Project is expected to improve.

6.4 Impact

6.4.1 Prospect of achievement of overall goal and super goal

When the project purpose “Activities of conservation for the GMR with the participation of local residents is promoted.” is attained, the groundwork for the collaboration system for the conservation of the GMR will be established. Later, it will be promoted through community-based marine conservation activities.

At least five to ten years will be required to attain the overall goal after the Project because it takes time until local residents independently accept new attitude towards marine environmental conservation.

6.4.2 Socio-economic impacts

1) Political impact

This Project seeks to find short and long term solutions to deteriorating condition of the GMR. This objective has also been given the highest priority by the Ecuadorian government, which introduced the SLG to provide a legal framework for managing the terrestrial park and marine reserve. This Project will create the conditions for Ecuador to develop the capacity for managing the marine reserve on a sustainable basis which will be used as a model for other reserves in Ecuador and the rest of the world.

2) Institutional impact

Through the field survey and monitoring, basic data of marine environment are collected and environmental influence on local residents’ activities is investigated. It enables the DGNP and other authorities concerned to plan and enforce codes, regulations of marine conservation in Galapagos with appropriate standards.

3) Social impact

The beneficiaries of this Project are primarily the Galapagos community. In particular, the immediate beneficiaries are the DGNP who are charged with management of the marine reserve, the communities of fishing families and marine tour guide who rely on a healthy ecosystem in order to continually exploit the natural resources of the reserve and the CDRS who will participate in the research components of the Project. However, by harmonizing the activities of man within the Galapagos marine ecosystem, creating a framework for sustainable development and maintaining biodiversity, the ultimate beneficiaries will be all those living and working in the protected areas of Galapagos.

Target groups for the Project are 18,000 residents of the Galapagos Islands specifically, the fishing sector, the marine tourism sector, fishing families, school children and school leavers.

4) Technical impact

Technologies on environmental conservation is to be introduced in the Project are directly transferred to Ecuadorian counterparts, namely staffs of the GNP. The number of counterpart candidates is nearly 40. In addition, since the Project is implemented in close collaboration with other relevant organizations, the technology is disseminated to all those persons participated in the Project.

5) Economical Impact

Through the investigation of multinational income resources of residents, improvement and stabilization of the income of residents are expected. These activities should be harmonized with marine ecosystem.

6.5 Sustainability

(Institutional Sustainability)

The DGNP is an institute which is in charge of the GMR based on "Special Regime for the Conservation and Sustainable Development of the Galapagos Province". Necessary staff for the activities of the DGNP is secured, however, environmental management technique and cooperation skill with local communities are not sufficiently accumulated in it, which are expected to be strengthened through the activities of the Project.

(Financial Sustainability)

It is considered that financial sustainability is secured since the DGNP receives stable revenues from park fees and permits. In addition, funds from donors are also

received.

6. 6 Overall Project Justifications

The Ecuadorian side recognized the importance of both marine reserve and sustainable development.

Although a lot of donors are seen in Galapagos, cooperation in the field of marine reserve has not been conducted very much in the Galapagos Islands from which the significance of the Project is highly assumed.

This Project is expected to create a model of marine reserve and sustainable use of marine resources by communities. Considering these factors that are mentioned in this document, the relevance of the Project is high.

Project Design Matrix

(PDM) Draft

As of 13 August 2003

Project Name: Conservation of the Galapagos Marine Reserve in the Republic of Ecuador
 Target Area: Galapagos Marine Reserve (GMR)
 Implementing Agency: Direction of the Galapagos National Park Service (DGNP)
 Target Group: Residents of the Galapagos Islands
 Duration of the Project: 5 years from January 20, 2004

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<p>Super Goal:</p> <p>Ecosystem in the Galapagos Marine Reserve is conserved.</p>	<p>1. Species composition and biomass of undersea monitoring sites are conserved.</p>	<p>1. Semestral and annual monitoring reports</p>	
<p>Overall Goal:</p> <p>Collaboration system for the conservation of the Galapagos Marine Reserve is strengthened.</p>	<p>1. Functions of Participary Management Board (JMP) and Inter-Institutional Managing Committee(AIM) are strengthened and supported by local residents.</p> <p>2. Regulations of Special Regime Law are properly practiced and informed to local residents.</p> <p>3. Self-motivated participation to the environmental conservation activities by the local residents is increased.</p>	<p>1. Questionnaire to local residents, Report of the Meeting</p> <p>2. Questionnaire to local residents</p> <p>3. Questionnaire to the local residents, Report of Activities, and Reports of Investigation</p>	<p>—Large-scale accidents of marine pollution do not occur</p> <p>—Pollution from urban area does not increase largely</p> <p>—Weather condition does not change drastically</p> <p>—Introduced species is not increased sharply</p> <p>—Activities by communities are continued</p>
<p>Project Purpose:</p> <p>Activities of conservation for the Galapagos Marine Reserve with the participation of local residents are promoted.</p>	<p>1. The conducting number of seminars on marine life, Environmental Education, etc. and marine life investigations increases.</p> <p>2. The participation number of local residents to seminars on marine life, Environmental Education, etc. and marine life investigations increases.</p>	<p>1. Report of seminars and investigations</p> <p>2. Report of seminars and investigations</p>	
<p>Outputs:</p>			

<p>1.Information networks of marine environmental conservation are established in the communities.</p> <p>2.Environmental understanding is promoted to the people concerned in the Project.</p> <p>3. Basic data on investigation and monitoring of marine life and ocean environment is accumulated.</p> <p>4. Pollution to the GMR caused by activities of local residents is reduced.</p> <p>5.Improvement and Stabilization of the residents' life is supported.</p>	<p>1.1 Information between communities is shared.</p> <p>1.2 The utilizing number of communication means of information in communities and from outside communities increases.</p> <p>2.1 Curriculum and teaching materials of Environmental Education are made.</p> <p>2.2 Curriculum and teaching materials of Environmental Education are utilized.</p> <p>3.1 The quantity of investigation and monitoring data of marine life increases.</p> <p>3.2 The quantity of investigation and monitoring data of marine environment increases.</p> <p>4.1 Countermeasures to reduce pollution are implemented by local residents.</p> <p>4.2 Comprehension of people concerned of ecotourism as it should be increases.</p> <p>5.1 Practical income options of local residents increases.</p> <p>5.2 Comprehension of local residents to marine life investigation increases.</p>	<p>1.1 Questionnaire to local residents</p> <p>1.2 WEB site, The on-air number and audience rating of radio and TV</p> <p>2.1 Curriculum and teaching materials</p> <p>2.2 Annual report of the DGNP</p> <p>3.1 Reports of investigation and monitoring</p> <p>3.2 Reports of investigation and monitoring</p> <p>4.1 Questionnaire to local residents</p> <p>4.2 Questionnaire to local residents</p> <p>5.1 Reports of possibility survey</p> <p>5.2 Questionnaire to local residents</p>	<p>—Conflicts among stakeholders including local residents do not occur</p> <p>—The number of tourists is not increased rapidly —The number of local residents is not increased sharply</p> <p>—Fishing efforts for GMR are not increased largely</p>
<p>Activities:</p> <p>1.1 To strengthen information networks of communities' information</p> <p>1.2 To Develop the feed-back information system</p>	<p>Inputs:</p> <p>[Japanese side]</p> <p>1. Personnel</p>	<p>[Ecuadorian side]</p> <p>1. Personnel</p>	<p>—Staff of DGNP do not change for a short period of time</p> <p>—Charles Darwin Foundation cooperates with the Project</p>

<p>2.1 To support Environmental Education for local residents</p> <p>2.2 To support Environmental Education for teachers</p> <p>2.3 To support Environmental Education for tourism industry</p> <p>3.1 To establish a system to arrange the existing information of marine resources in order</p> <p>3.2 To investigate marine life</p> <p>3.3 To conduct environmental survey in the sea</p>	<p>(1) Long-term experts 1) Chief Advisor/ Marine Reserve Administration</p> <p>2) Coordinator</p> <p>3) Marine ecosystem monitoring</p> <p>4) Environmental Education / Community activity</p> <p>(2) Short-term experts 2~3 persons / year</p>	<p>(1) Project Director</p> <p>(2) Project Manager</p> <p>(3) Counterparts Staff of the DGNP</p> <p>(4) Secretary</p> <p>(5) Administrative staff</p> <p>(6) Drivers</p>	
<p>4.1 To reduce pollution caused by activities of local residents</p> <p>4.2 To promote appropriate marine eco-tourism</p> <p>5.1 To investigate on multilateral income resources of the residents</p> <p>5.2 To support the residents to conduct marine and marine life survey for the residents</p>	<p>2. C/P Training in Japan 2~3 persons / year</p> <p>3. Equipment necessary for the implementation of the Project</p> <p>4. Local Cost project activities</p>	<p>2. Equipment including vehicles</p> <p>3. Land, Buildings and Facilities including office for Japanese</p> <p>4. Local cost Necessary budget for project activities</p>	<p>Preconditions:</p> <p>—Local residents cooperate with the Project</p>

<Final Draft>

Plan of Operation (PO)

Outputs / Activities	Description of Activities	YEAR					Section of DGNP in charge	Collaboration	
		1	2	3	4	5			
1.Information networks of marine environmental education are established in the communities.									
1.1To strengthen information networks of communities									
1.1.1	Collect socio-economic data of communities	Collect the data of communities, family structure, income, fishermen's association, fishing activities and perception on the marine resources						Environmetnal Education/ Communication	High Schools, INGALA
1.1.2	Offer information of ocommunities outside	Offer collected information of communities, monitoring program and results						Environmetnal Education/ Communication	
1.1.3	Collect and offer information from outside	Collect and offer information of Galapagos Islands communities, eutrophication, fishery from the outside world						Environmetnal Education/ Communication	
1.2Develop the feed-back information system in local communities.									
1.2.1	Create internet discussion board	Create internet discussion board and put information from communities, JMP and AIM news or report						Environmetnal Education/ Communication	Communities, JMP, AIM
1.2.2	Up-date the information of the GMR	Update the information of the GMR, eutrophication and communities etc.						Environmetnal Education/ Communication	CDRS
2. Environmental understanding is promoted to the people concerned with the Project.									
2.1 To support Environmental Education for local residents									
2.1.1	Organize system of local residents for exchanging ideas and information	Discuss the impact of local residents' activities to the GMR and measures for environmental improvement in daily life						Environmetnal Education/ Communication	Local Government Group
2.1.2	With the understanding of community, create Environmental Education materials, posters and programs	Create material of environmentla education, posters and program at workshop-style training						Environmetnal Education/ Communication	Local Government Group
2.1.3	Implement campaign with participatory approach	Promote information excahngge, program planning promotion of clean-up and campaign for the GMR						Environmetnal Education/ Communication	Local Government Group
2.2 To support Environmental Education for teachers									
2.2.1	Support creating and implementing Environmental Education programs	Create and implement Environmental Education program that meet the SLG						Environmetnal Education/ Communication	Schools, MOE

Outputs / Activities	Description of Activities	YEAR					Section of DGNP in charge	Collaboration
		1	2	3	4	5		
2.2.2 Support improvement of curriculum	Support improvement of curriculum to implement effectively as part of intergral education reform						Environmetnal Education/ Communication	Schools, MOE
2.2.3 Implement courses for teachers	Create teaching method materials with teachers and implement training courses for teachers						Environmetnal Education/ Communication	Schools, MOE
2.2.4 Establish networks with/within teachers	Establish networks among stakeholders with participation of teachers						Environmetnal Education/ Communication	Schools, MOE
2.3 To support Environmental Education for tourism industry								
2.3.1 Create and distribute materials on eco-tourism	Create and distribute materials on eco-tourism to promote the knowledge of biodiversity, attraction of visiter's site, and management system in GMR						Tourism	Tourism Association
2.3.2 Implement training courses of eco-tourism target groups	Implement training courses including objectives and rules of actions of eco-tourism						Tourism	Tourism Association
2.3.3 Implement questionnaire periodically	Implement questionnaire to tourists periodically and feed-back the results to the training course						Tourism	Tourism Association
3. Basic data on investigation and monitoring of marine life and ocean environment is accumulated								
3.1 To establish a system to arrange the existing information of marine resources in order								
3.1.1 Collect existing relevant information	Collect and review existing information and data and interview relevant organizations						Protecion and conservation of the Marine Reserve	CDRS
3.1.2 Exchange information with relevant organizations	Organize meetings periodically and exchange information of related research						Protecion and conservation of the Marine Reserve	CDRS
3.1.3 Open and distribute the Information	Through the publishment and/or internet, open the research datas to the public						Protecion and conservation of the Marine Reserve/ Environmental Education, Communicaton	CDRS
3.2 To investigate marine life								
3.2.1 Collect information of fish production	Survey fish & fish product through observation program of DPNG						Protecion and conservation of the Marine Reserve	Fishiries cooperative

Outputs / Activities	Description of Activities	YEAR					Section of DGNP in charge	Collaboration
		1	2	3	4	5		
3.2.2 Identified suitable field at sea and operate undersea monitoring	Operate periodical observation of field ecosystem at selected area						Protection and conservation of the Marine Reserve	Fisheries cooperative
3.2.3 Operate ecosystem survey at intertidal zone	Operate periodical monitoring of biota and environment at selected intertidal zone						Protection and conservation of the Marine Reserve	Fisheries cooperative
3.2.4 Feed back the results to relevant organizations, communities and schools	Offer information to stakeholders and arouse community's concern to the ocean						Protection and conservation of the Marine Reserve/ Environmental Education, Communicaton	Fisheries cooperative
3.3 To conduct environmental survey in the sea								
3.3.1 Implement actual survey of GMR use	Implement questionnaire survey to fishermen and tourism about the condition of utilization of the sea						Protection and conservation of the Marine Reserve	CDRS
3.3.2 Create and implement a plan of marine environmental survey	Operate general survey of sea condition, chemical analysis of sea water and biological sampling using plankton net						Protection and conservation of the Marine Reserve	CDRS
3.3.3 Implement training courses of participatory ocean environmental survey	Operate survey at the intertidal zone and operate on board observation						Protection and conservation of the Marine Reserve	CDRS
3.3.4 Feed back the results to relevant organizations, communities and schools	Offer information to stakeholders and arouse community's concern to the ocean						Protection and conservation of the Marine Reserve/ Environmental Education, Communicaton	CDRS
4. Pollution to the GMR caused by activities of local residents is reduced								
4.1 To reduce pollution caused by activities of local residents								
4.1.1 Conduct opinion research of local residents and information on reduction of pollution	Conduct opinion research about pollution to grasp the actual condition						Management	Local Government Group, IDB,
4.1.2 Create and implement reduction program with residents	Create and implement program against waste and sewage water resulting from analysis of pollution						Management	Local Government Group, IDB,

Outputs / Activities	Description of Activities	YEAR					Section of DGNP in charge	Collaboration	
		1	2	3	4	5			
4.1.3 Create and implement small-scale model cases	Develop and operate practical water purification models							Management	Local Government Group, IDB,
4.1.4 Feed back information on activities and results to relevant organizations, communities and schools	Offer information to stakeholders and arouse community's interest to the ocean							Management	Local Government Group, IDB,
4.2 To promote appropriate marine eco-tourism									
4.2.1 Collect existing information of marine eco-tourism	Collect existing information of marine eco-tourism, implement questionnaire and interviews for analysis of tendency							Tourism	JMP Member
4.2.2 Organize joint workshop with communities and other relevant organizations	Hold joint workshops with communities, environmental NGOs and other relevant organizations for improvement and exchanging of information on eco-tourism							Tourism	JMP Member
4.2.3 Examine and evaluate the introduction of sports fishing in the outside of GMR baseline zone	Conduct evaluation study for sports fishing through the integrated data analysis							Tourism	JMP Member
4.2.4 Feed back the results to relevant organizations, communities and schools	Offer information to stakeholders and arouse community's interest to the ocean							Tourism/ Environmental Education, Communication	NGOs, Schools
5. Improvement and stabilization of the residents are supported.									
5.1 To investigate on multilateral income resources of the residents									
5.1.1 Investigate potential on small-scale optional eco-tour	Conduct possibility survey for effective eco-tour for the residents							Tourism	CAPTURGAL, Fisheries Cooperatives
5.1.2 Investigate potential on production of handicraft using invaded materials	Conduct possibility survey for fascinating handicraft for the residents							Tourism	CAPTURGAL, Fisheries Cooperatives
5.1.3 Implement introduction survey on small-scale sports fishing	Conduct feasibility study on sports fishing in substitution for artisanal fisheries							Tourism	CAPTURGAL, Fisheries Cooperatives
5.1.4 Support to develop the product featuring popular Galapagos character	Exchange information to produce effective product to generate profit for Galapagos							Tourism	CAPTURGAL, Fisheries Cooperatives
5.2 To support on marine life survey for the residents									

Outputs / Activities	Description of Activities	YEAR					Section of DGNP in charge	Collaboration
		1	2	3	4	5		
5.2.1 Support residents to collect catch report	Survey fish & fish product caught by residents.						Management, protection and conservation of the Marine Reserve, Sustainable use of Natural Resources	Fisheries cooperative
5.2.2 Support residents to participate in marine survey	Conduct survey trip for the residents						Management, protection and conservation of the Marine Reserve, Sustainable use of Natural Resources	Fisheries cooperative
5.2.3 Support inter-island participatory marine survey	Hold joint survey to make a chance to observe other island for the residents of Santa Cruz, San Cristobal, Isabela etc.						Management, protection and conservation of the Marine Reserve, Sustainable use of Natural Resources	Fisheries cooperative
5.2.4 Feed back the results to relevant organizations, communities and schools	Offer information to stakeholders and arouse community's interest to marine life						Management, protection and conservation of the Marine Reserve, Sustainable use of Natural Resources	Fisheries cooperative, Schools
5.2.5 Open fisheries management workshop with participation of the residents	Conduct seminar for fisheries management periodically with the residents						Management, protection and conservation of the Marine Reserve, Sustainable use of Natural Resources	Fisheries cooperative