

事前評価調査
(2002年11月)

2.1 報告会資料

エクアドル・ガラパゴス諸島海洋保全計画 事前評価調査団

1. 背景・経緯

ガラパゴス諸島は、エクアドル沖約1,000kmの大平洋上に位置する火山諸島であり、大陸から隔離された環境が特異な生態系はユネスコが定める世界遺産の第1号に指定されている。

2001年1月、サン・クリストバル島沿岸でタンカーが座礁した1ヶ月後に、生態系保全専門家要請背景調査団を、同年4月には3名の専門家を派遣し、今後技術協力として検討すべき課題を整理した。

2001年7月と翌年3月の短期調査団では、ガラパゴス諸島における関係者とPCMワークショップを開催し、問題、目的分析を行い、プロジェクト・デザイン・マトリックス(PDM)、活動実施計画表(P/O)、プロジェクト・ドキュメント(P/D)を作成した。

本調査団は、前回までの調査団における協議事項を整理し、カウンターパート機関であるガラパゴス国立公園局(GNP)とともにJICA側が提案していた新PDMと新P/Oの内容を取りまとめ、新たなPDMとP/Oを作成し、合意する目的でエクアドル側と協議した。

2. 協議内容

外務省国際協力院(INECI)、環境省、GNP、サンタ・クルス島とサン・クリストバル島の関係者との協議

1) JICAのこれまでの調査団が、タンカー座礁による油流失事故に対応した第1段階、生物生態系を保全するためにガラパゴス諸島内への侵入種に対応した第2段階、プロジェクトサイトを海洋保護区(GMR)とし、島民の生活改善、生活の安定に焦点をあてた第3段階に整理されること。現在、認識している重要な課題は、ガラパゴス海洋保護区の保全と住民の生活権、生活の安定であるとのことに先方の理解が得られた。

2) 2回の短期調査団における協議内容は、「住民の方々の要請を真摯に受け止めた」という点では評価されるが、要請を取り込み、実施可能なプロジェクトを立てるためには更に内容を検討する必要がある。一つには、科学調査船の供与や帆船訓練など JICA として対応できない内容がふくまれていることと、もう一つには、世界の環境 NGO や日本から見て、プロジェクトに明らかに住民の生活向上と発展が含まれており、環境悪化を助長させる恐れがあると見られることである。内容を否定するものではなく、表現をより一般的にして幅を持たせ、活動内容を具体化する方針（改善と安定）を説明したところ、新 PDM、新 P/O の内容について先方の理解が得られた。

3) 今後、ガラパゴス諸島で行われるいかなるプロジェクトも、環境省、ガラパゴス国家行政庁（INGALA）が定める『ガラパゴス諸島の保全と持続的発展のための地域管理計画』に沿っていなければならないが、先方機関から新 PDM、新 P/O は内容的に同管理計画と合致していると認められた。

4) 住民の収入源確保、漁業圧力低減について：

民芸品とエコ・ツーリズムだけでは、住民の収入源確保、漁業圧力低減のための代替収入源としては弱すぎる。大手観光企業や大資本が参入する分野において、法的・技術的支援のない住民が太刀打ちできる可能性は極めて低いことを指摘した上で、オプションを増やす目的でその他の案を提案するよう求め、内容の協議を行った。その結果、成果 5 の活動 1 として、以下のようにまとめられた。

a) 大手観光ツアーでは体験できない、地元住民主体によるエコ・ツーリズムのフィージビリティ調査が求められている。地元住民による小規模ツアーや、漁民の家に泊まる体験ツアーを進める考えもあるようだが、住民が生活するレベルまで考えるのであれば、運営、広報、ファシリティー等を強化する必要がある。

b) 民芸品としては、サン・クリストバル島の漁民の女性グループが縫いぐるみなどを作って売っているが、観光客が好んで買うレベルまでの商品には至っていない。侵入種を伐採しその材木を原料とした置物なども、住民の手によ

って作られている。その他の土産品としては、エクアドル本土からTシャツ、キーホルダー、絵葉書などが運ばれて売られている。これら大資本の土産物に対抗し、安定した収入源とするには、質の向上・販売経路の拡大等が望まれる。

JICA は、今後の検討課題として次の案を提起した。

「デザインを専門とする JICA 短期専門家を派遣し、デザイン・質の向上を図る。世界水族館会議に参加している世界の動物・水族館に呼び掛け、ガラパゴス諸島の商標を付けた製品を委託販売する。手数料を引いた売上金を、ガラパゴス諸島保全と住民の生活向上の為に使用できる資金経路の確立を目指す。」
但し、現時点では商標登録等の不安があり、ガラパゴス産品を本土、海外で販売することは認められていない。

c) スポーツ・フィッシングについては、海洋保護区 40 海里外において今後、振興していきたいとのことであった。フィージビリティ調査を行い、その可能性を検討していく。

5) 持続的な環境保全と住民生活との調和に関しては、特効薬的なプロジェクトは存在しない。現時点で PDM、P/O の作成はするが、プロジェクト期間中に試行錯誤の上で内容を改善していくことが最良の策であるとのこと双方の合意を得た。

6) ガラパゴス諸島において既に活動しているエクアドル政府の機関や国際機関・団体、NGO と連携を図ることと、またそれらの機関と活動が重複しないようにとの強い要望が先方からあった。機関・団体間の調整は GNP が行うことを双方において確認した。

7) 各活動においては、環境保護団体・NGO と手を組んで進めていくことも考慮しており、先方も同意している。(具体的に、GNP は既に Traffic South America と協力関係にある。)

8) GNP の窓口として、サンタ・クルス島、サン・クリストバル島、イサベラ島に GNP 職員各一名ずつ配置することを、双方ともに合意した。

9) 大統領が交代すると、新環境大臣を指名し、実務が動くまでに相当な期間が必要となるため、新大統領が来年1月15日に就任する以前に R/D に署名したいとの強い希望が先方機関にはあった。JICA としては、いつでも署名できる体制を整えることで対応したいとの旨を伝えた。

チャールズ・ダーウィン研究所 (CDRF) との協議

1) モニタリングに関しては、CDRF は希少生物が生息する海域に重点をおいて進めていくので、必然的に漁業許可水域等、開発区、一般区等の調査が手薄になるので、JICA プロジェクトにおいてフィールド・モニタリングが行われることは重複を避けつつ、データを共有していく上で有効であるとのコメントを受けた。

3. 今後の予定

2003 年 2、3 月頃 R/D、プロジェクト・ドキュメント署名

2003 年夏頃 プロジェクト開始

4. 主要面談者一覧

1) 環境省 (ministerio de ambiente)

Lourdes Luque de Jaramillo	Ministra del Ambiente
Manuel Saenz Perez	Director Ejecutivo, Unidad de Coordinacion de las Islas Galapagos
Carlos VallejoLL	Director de Asuntos Internacionales

2) 外務省国際協力院 (INECI – Instituto Ecuatoriano de Cooperacion Internacional)

Vladmir Jarrin
Juan Carlos Brivio
田上 実

3) ガラパゴス国立公園局 (GNP – Parque Nacional Galapagos)

Eliecer Cruz	Director de GNPS
Washington Tapia Aguilera Msc.	Departamento Tecnico
Mauricio Velasquez	Romo Coordinador de Proyectos de Investigacion
Edwin Naula G	Jefe Oficina Tecnica San Cristobal
Pablo Guerrero	Tecnico de Recursos Marinos
Tania Villegas	Coordinadora de Educacion Ambiente

4) ガラパゴス国家行政庁 (INGALA-Presidencia de La Republica Instituto Nacional Galapagos)

Oscar Aguirre Abad	Gerente
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5) チャールズダーウィン研究所 (CDRF – Fundacion Charles Darwin)

Fernando Espinoza	Secretario General
Alan Tye	Jefe del Departamento de Botanica

6) 地球環境ファシリティー (GEF – Global Environmental Facility)

Arturo Izurieta	Gerente, Proyecto ECU/00/G31 'Especies Invasoras de Las Galapagos'
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7) スペイン国際協力局 (AECI-Agencia Espanola de Cooperacion Internacional, Oficina Tecnica de Cooperacion en Ecuador)

Manuel Garcia Solaz	Coordinador General
Jose A. Gontalet Novoa	Codirector AECI, Proyecto Araucaria

8) 在エクアドル大使館

平松 弘行	大使
中野 雅彦	二等書記官
芦沢 修治	三等書記官

9) JOCV エクアドル事務所

高田 肇	調整員
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団員構成

エクアドル・ガラパゴス諸島海洋保全計画 事前評価調査団

団長／総括 勝山 潔志 国際協力事業団 森林・自然環境協力部
水産環境協力課長

環境教育 小池 亜紀 国際協力事業団 森林・自然環境協力部
水産環境協力課 ジュニア専門員

計画管理 渡邊 成男 JICA プロジェクト元調整員

行程表

メキシコ ユカタン半島沿岸湿地保全計画 実施協議調査団
 エクアドル ガラパゴス諸島海洋保全協力 事前評価調査団

日順	月日	曜日	内容
1	11月12日	火	移動 (成田→ロサンゼルス→メキシコ・シティー)
2	11月13日	水	JICA打合せ (河合所長、安藤次長、桜井、松本) / 大使館訪問 (田中一等書記官) 移動 (メキシコ・シティー→メリダ)
3	11月14日	木	セレストン保護区視察・CONANP協議 (Fernando Duran<Director of Ria Celestun of CONANP)
4	11月15日	金	移動 (メリダ→メキシコ・シティー) CONANPとの協議 (Flavio Chazaro Ramirez<General Director of Institutional and Promotional Development of CONANP>, Fernando Duran, Arturo Pena<Subdirector of Cooperation of CONANP>, Maria Adonietta Ricoy <Chief of Bilateral Affairs Department of UCAI>,)
5	11月16日	土	移動 (→パナマ・シティー→キト)
6	11月17日	日	資料整理
7	11月18日	月	大使館訪問 (平松大使、中野二等書記官、芦沢三等書記官) / JOCV調整員事務所打合せ (高田調整員) / 外務省 (国際協力庁INECI) との協議 (Vlasimir Jarrin, Juan Carlos Brivio) / 環境庁との協議 (Manuel Saenz Perez<Executive Director and Galapagos Coordination Unit>, Carlos Vallejo LL<Director of International Affairs>, Forella Mckliff, Mauricio Velasquez Romo<Coordinator of Investigation Projects>)
8	11月19日	火	移動 (キト→バルトラ島→サンタクルス島) / 国立公園局との協議 (Mauricio Velasquez Romo, Washington Tapia Aguilera Msc.<Technician Department>)
9	11月20日	水	国立公園局との協議 (Technicians of PNG) / PDM説明会 / ダーウィン研究所訪問 (Fernando Espinoza<Secretary General>)
10	11月21日	木	移動 (サンクリストバル島) / 国立公園局訪問 (Edwin Naula G. <Chief of Technician of San Cristobal Office>) / PDM説明会 / 移動 (サンタクルス島)
11	11月22日	金	GEF訪問 (Arturo Izurieta<Manager >) / 国立公園局との協議 (ミニッツ) (Eliecer Cruz<Direcor>, Mauricio Velasquez Romo, Pablo Guerrero<Technician of Marine Resources, Tania Villegas <Technician of Environmental Education)
12	11月23日	土	国立公園局との協議 (ミニッツ) (Mauricio Velasquez Romo, Pablo Guerrero, Tania Villegas) / 資料整理・ミニッツ案修正
13	11月24日	日	資料整理・ミニッツ案修正
14	11月25日	月	国立公園局との最終協議 (Eliecer Cruz, Mauricio Velasquez Romo)
15	11月26日	火	移動 (サンタクルス島→バルトラ島→キト)
16	11月27日	水	環境省との協議 (Manuel Saenz Perez, Carlos Vallejo LL, Forella Mckliff) / スペイン協力局訪問 (Manuel Garcia Solaz<General Coordinator>)
17	11月28日	木	ミニッツ署名 (Lourdes Luque de Jaramillo<Minister of Environmental Ministry>, Juan Salazar Sancisi<Executive Director of INECI, Carlos Vallejo LL, Forella Mckliff) / 大使館報告 (平松大使、芦沢三等書記官)
18	11月29日	金	移動 (キト→ボゴタ→ニューヨーク)
19	11月30日	土	移動 (ニューヨーク→)
20	12月1日	日	移動 (→成田)

CONANP- National Commission of Natural Protected Areas (国家自然保護区委員会)

UCAI-Coordination Unit of International

INECI-International Cooperation of Ecuadorian Institute, Ministry of International Affairs (外務省国際協力院)

PNG-Galapagos National Park (ガラパゴス国立公園局)

GEF-Global Environmental Facility (地球環境ファシリティ)

2.2 ミニッツ

Minutes of Meetings
between
The Japanese Third Preparatory Work Mission
and
The Authority Concerned of the Government of the Republic of Ecuador
on
The Japanese Technical Cooperation for the Project on Marine Reserve
of the Galapagos Islands in the Republic of Ecuador

The Japanese Third Preparatory Work Mission (hereinafter referred as "the Mission"), organized by Japan International Cooperation Agency (hereinafter referred as "JICA") and headed by Mr. Kiyoshi Katsuyama, visited the Republic of Ecuador from 16 November to 29 November, 2002, for the purpose of modifying the details of the technical cooperation concerning the Project on Marine Reserve of the Galapagos Island in the Republic of Ecuador (hereinafter referred as "the Project").

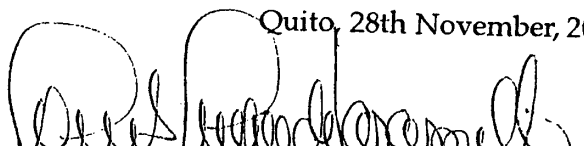
During its stay in the Republic of the Ecuador, the Mission conducted a series of discussion, field survey and exchanged views with the Ministry of Environment, the Ecuadorian Institute of International Cooperation (INECI), the Galapagos National Park Service (Servicio Parque National Galapagos, hereinafter referred as "GNPS"), the Charles Darwin Research Station (hereinafter referred as "CDRS"), Galapagos National Institute (hereinafter referred as "INGALA"), Fisheries Cooperation, Municipality of Santa Cruz and San Cristobal, and the other authorities in tourism, education and agriculture in Galapagos.

As the result of discussion, and in accordance with the provision of the Agreement on the Technical Cooperation between the Government of Japan and the Government of the Republic of Ecuador, signed in Quito on 25th June, 1992 (hereinafter referred as "the Agreement"), the Mission and the Ecuadorian authority concerned reached common understanding concerning the matters referred to in the attached document hereafter.

Quito, 28th November, 2002

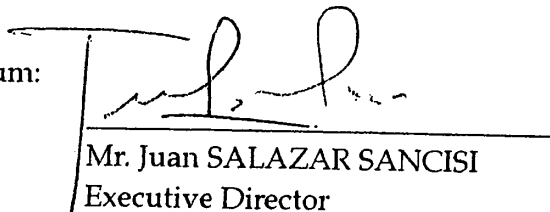


Mr. Kiyoshi KATSUYAMA
Leader
The Third Preparatory Work Mission
Japan International Cooperation Agency
Japan



Mrs. Lourdes LUQUE de JARAMILLO
Minister
Ministry of Environment
The Republic of Ecuador

Ad-referendum:



Mr. Juan SALAZAR SANCISI
Executive Director
The Ecuadorian Institute of International Cooperation
Ministry of Foreign Affairs
The Republic of Ecuador

THE ATTACHED DOCUMENT

1. Result of discussion

As a result of inspection for converting from previous PDM draft to new PDM draft, the Mission realized some important facts; "Regional Plan for the Conservation and Sustainable Development of Galapagos" had been approved by Council of INGALA in October 2002, and all the development project in Galapagos should be informed by INGALA. Ministry of Environment of Ecuador should be the focal point of the Project.

In course of discussions with multi-stakeholders, some questionable opinions were proposed by Galapagos participants for the difference of new PDM to previous one. On the other hand, CDRS emphasized the importance of marine monitoring and expressed affirmative opinions to the Project.

Importance of the environmental/general education was stressed by many participants. However, these sector's programs had been proposed by some organizations with funding of some donors, especially in San Cristbal, necessity of further coordination was recognized.

Anticipation of the Project was expressed by Ecuadorian counterparts collectively, though necessity of further coordination of the related agencies was reaffirmed including final coordination with INGALA.

With the mutual agreement of the Mission and GNPS, the component for supporting the residents to improve and stabilize their life was added to the new PDM draft contents.

2. Outline of the Project

(1) Title of the Project

Both side agreed to decide "Marine Reserve of the Galapagos Islands in the Republic of Ecuador" as the title of the project. However, the title may be modified according to further discussion before signing of the Record of Discussions (hereinafter referred as "R/D").

(2) Target Area

Target area will be the Marine Reserve of Galapagos and the related areas.

(3) Implementing Agency

GNPS under the Ministry of Environment will bear overall responsibility for the implementation of the Project. GNPS will closely collaborate with CDRS and other related organizations or personnel on the implementation of the Project.

(4) Duration

The duration of the Project was decided as five (5) years. However, the duration may be subject to modification according to further discussion before signing of the R/D.

(5) Overall Goal

The Overall Goal of the Project will be "Collaboration system for the conservation of Galapagos Marine Reserve is established."

(6) Project Purpose

The Project Purpose will be "Activity of conservation for the Galapagos Marine Reserve (hereinafter referred as "GMR") with participation of local resident is promoted."

(7) Outputs

The Outputs expected through the Project activities are:

- 7-1) Information network of community is established.
- 7-2) Environmental understanding is promoted.
- 7-3) Investigation and monitoring on marine life and ocean environment are implemented.
- 7-4) Discharge load to GMR caused by the activities of local residents is reduced.
- 7-5) Improvement and stabilization of the resident's life are supported.

(8) Activities

Refer to the Project Design Matrix (PDM) <Final Draft> as shown in Annex I.

3. Measures to be taken by Ecuadorian Government

(1) The Government of the Republic of Ecuador will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through the full and active involvement in the Project by all related authorities, beneficiary groups and institutions.

(2) In accordance with the provision of article V of the Agreement, the Government of the Republic of Ecuador will ensure that the technologies and knowledge acquired by Ecuadorian nationals as a result of Japanese technical cooperation will contribute to the sustainable development in ecological, economic and social aspect of the Republic of Ecuador.

(3) In accordance with the provision of article V and VI of the Agreement, the Government of the Republic of Ecuador will grant in the Republic of Ecuador privileges, exemptions and benefits to the Japanese experts referred to 2. (1) and (2) and their families.

(4) In accordance with the provision of article VIII of the Agreement, the Government of the Republic of Ecuador will take measures necessary to receive and use the Equipment provided through JICA referred to 2. (1) and (2) and equipment, machinery and materials carried in by the Japanese experts referred to 2. (1) and (2).

(5) The Government of the Republic of Ecuador will take necessary measures to ensure that the knowledge and experience acquired by Ecuadorian personnel from technical training in Japan will be utilized effectively in the implementation of the Project.

(6) In accordance with the provision of Article V-(b) of the Agreement, the Government of the Republic of Ecuador will provide the services of the Ecuadorian counterpart personnel and administrative personnel.

(7) In accordance with the provision of Article V-(a) of the Agreement, the Government of the Republic of Ecuador will provide the land, building and facilities.

(8) In accordance with the laws and regulations in force in the Republic of Ecuador, the Government of the Republic of Ecuador will take necessary measures to supply or replace at its own expense machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided through JICA referred to 2.(1) and (2).

(9) In accordance with the laws and regulation in force in the Republic of Ecuador, the Government of the Republic of Ecuador will take necessary measures to meet the running expenses necessary for the implementation of the Project.

4. Measures to be taken by Japanese Government

In accordance with the laws and regulations in force in Japan and the provision of Article III of the Agreement, the Government of Japan will take, at its own expense, the following measures through JICA according to the normal procedures of its technical cooperation scheme.

(1) Dispatch of Japanese Experts

The Government of Japan will provide the services of the Japanese experts referred to 2.(1) and (2). The provision of Article IX of the Agreement will be applied to the above-mentioned experts.

(2) Provision of Machinery and Equipment

The Government of Japan will provide such machinery and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project. The provision of Article VIII-1 of the Agreement will be applied to the Equipment.

(3) Training of Ecuadorian Personnel in Japan

The Government of Japan will receive the Ecuadorian personnel connected to the Project for technical training in Japan.

5. Claims against Japanese Experts

In accordance with the provision of Article VII of the Agreement, the Government of the Republic of Ecuador undertake to bear claims, if any arises, against Japanese experts engaged in technical cooperation for the Project resulting from, occurring in course of, or otherwise connected with the discharge of their official functions in the Republic of Ecuador except for those arising from the willful misconduct or gross negligence of the Japanese experts.

6. General Observations

In the meeting held in the Ecuadorian Institute of International Cooperation, INECI, its acting Executive Director, stressed the importance of International Cooperation. However, he recommended that the missions should be limited in number. He also expressed that this Project should begin as soon as possible

7. Further Procedure

Next mission will be dispatched at the earliest possible with the mutual understanding of Ecuadorian Government and Japanese Government. Both sides are agreed to keep in contact to cope with the change of regime of the Ecuadorian Government for the continuance of the Project .

Annex I : Project Design Matrix (PDM) <Final Draft>

Annex II: Plan of Operation (PO) < Final Draft >

<Final Draft>

Project Design Matrix (PDM)

Project Name: Marine Reserve in the Galapagos Islands in the Republic of Ecuador

Target Area: Galapagos Marine Reserve (GMR)

Implementing Agency: Galapagos National Park Service (GNPS)

Target Group: Counterparts, Residents of the Galapagos Islands

Duration of the Project: 5 years from 2003

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Super Goal: Ecosystem in the Galapagos Marine Reserve is conserved.	1. Conservation of sea turtles is ensured.	1. Ecological survey report of sea turtles	—Special Regime Law is maintained —Management Plan for GMR is maintained
Overall Goal: Collaboration system for the conservation of the Galapagos Marine Reserve is established.	1. Information on eco-system of undesea field is collected and organized. 2. Participatory meetings are held.	1. Data pool files 2. Reports of meetings	—Large-scale accidients of marine pollution do not occur —Pollution from urban area does not increase largely —Weather condition does not change drastically —Introuduced species is not increased sharply
Project Purpose: Activities of conservation for the Galapagos Marine Reserve with the participation of local residents is promoted.	1. Monitoring data in GMR is declared publicly. 2. Measures on reduction of discharged load caused by activities of local residents.	1. Report of monitoring 2. Report of implementation	—Activities by community is continued

<p>Outputs:</p> <p>1. Information network of community is established</p> <p>2. Environmental understanding is promoted.</p> <p>3. Investigation and monitoring marine life and ocean environment are implemented.</p> <p>4. Discharged load to the GMR caused by activities of local residents is reduced.</p> <p>5. Improvement and stabilization of the resident's life are supported.</p>	<p>1.1 Community's information is disseminated periodically.</p> <p>1.2 Request and information of the world to Galapagos Islands are offered periodically.</p> <p>2.1 Campaigns are implemented.</p> <p>2.2 Environmental education materials for teachers and students are elaborated.</p> <p>3.1 Time-series monitoring data of marine life is accumulated.</p> <p>3.2 Time-series monitoring data of environmental survey is accumulated.</p> <p>4.1 Analyzed data is disclosed.</p> <p>4.2 A number of small-scale models for load reduction is increased.</p>	<p>1.1 Annual report of GNPS</p> <p>1.2 Reports of training</p> <p>2.1 Reports of campaigns</p> <p>2.2 Materials prepared</p> <p>3.1 Reports of monitoring</p> <p>3.2 Reports of monitoring</p> <p>4.1 Reports of investigation</p> <p>4.2 Reports of implementation</p>	<p>—Conflicts among stakeholders including local residents do not occur</p> <p>—The number of tourists is not increased rapidly</p> <p>—The number of local residents is not increased sharply</p> <p>—Fishing efforts for GMR are not increased largely</p>
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<p>Activities:</p> <p>1.1 Establish information network of community 1.2 Develop the feed-back system of information</p> <p>2.1 Support environmental education for local residents 2.2 Support environmental education for teachers 2.3 Support environmental education for tourism industry</p> <p>3.1 Establish the system to arrange the existing information of marine resources in order 3.2 Investigate marine life 3.3 Perform environmental survey in the sea</p> <p>4.1 Reduce discharged load caused by activities of local residents 4.2 Promote appropriate marine eco-tourism</p> <p>5.1 Investigate on multilateral income resources of the residents 5.2 Support the residents to conduct marine and marine life survey for the residents 5.3 Promote resident's comprehension for fisheries resource management</p>	<p>Inputs:</p> <p>(Japanese side)</p> <p>1. Personnel (1) Long-term experts 1) Chief Advisor/ 1 2) Coordinator/ 1 3) Other experts () (2) Short-term experts when necessary arises 2. C/P Training in Japan 3. Equipment necessary for the implementation of the Project 4. Local cost Part of expenses for project activities</p> <p>(Ecuadorian side)</p> <p>1. Personnel (1) Project Director (2) Project Manager (3) Counterparts Staff of the GNPS (4) Secretary (5) Administrative staff 2. Equipment including vehicles 3. Land, Buildings and Facilities including office for Japanese experts 4. Local cost Necessary budget for project activities</p>	<p>—Staff of GNPS do not change for a short period of time —Charles Darwin Foundation cooperates with the Project</p> <p>Preconditions: —Local residents cooperate with the Project</p>
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<Final Draft>

Plan of Operation (PO)

Output / Activity	Description of Activity	YEAR					Remarks	
		1	2	3	4	5		
1. Information network of community is established								
1.1 Establish 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						
1.1.2	Offer information of community outside	Offer collected information of communities, monitoring program and results						
1.1.3	Collect and offer information from outside	Collect and offer information of Galapagos Islands communities, eutrophication, fishery from the outside world						
1.2 Develop the feed-back information system								
1.2.1	Create internet discussion board	Create internet discussion board and put information from community, JMP and AIM news or report						
1.2.2	Up-date the information of the GMR	Up-date the information of the GMR, eutrophication and communities and so on						
2. Environmental understanding is promoted								
2.1 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						
2.1.2	With the understanding of community, create material of environmental education, posters and program	Create material of environmental education, posters and program at workshop-style training						
2.1.3	Implement campaign with participatory approach	Promote information exchange, program planning promotion of clean-up and campaign for GMR						
2.2 Support environmental education for teachers								
2.2.1	Support creating and implementing environmental education program	Create and implement environmental education program that meet the SLG						
2.2.2	Support improvement of curriculum	Support improvement of program to implement effectively						

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Output / Activity	Description of Activity	YEAR					Remarks
		1	2	3	4	5	
2.2.3 Implement training course for teachers	Create teaching method materials with teachers and implement training course for teachers						
2.2.4 Establish networks with/within teachers	Establish networks among stakeholders with participation of teachers						
2.3 Support environmental education for industry tourism							
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						
2.3.2 Implement training course of eco-tourism guide by PNGS	Implement training course including objectives and rules of actions of eco-tourism						
2.3.3 Implement questionnaire periodically	Implement questionnaire to tourists periodically and feed-back the results to the training course						
3. Investigation and monitoring marine life and ocean environment are implemented							
3.1 Establish the 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						
3.1.2 Exchange information with relevant organizations	Organize meetings periodically and exchange information of related research						
3.1.3 Open and distribute the Information	Through the publishment and/or internet, open the research datas to the public						
3.2 Investigate marine life							
3.2.1 Collect information of fish production	Survey fish & fish product through observation program of PNG						
3.2.2 Identified suitable field at sea and operate undersea monitoring	Operate periodical observation of field ecosystem at selected area						
3.2.3 Operate ecosystem survey at intertidal zone	Operate periodical monitoring of biota and environment at selected intertidal zone						
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						
3.3 Perform environmental survey in the sea							

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Output / Activity	Description of Activity	YEAR					Remarks
		1	2	3	4	5	
2.2.3 Implement training course for teachers	Create teaching method materials with teachers and implement training course for teachers						
2.2.4 Establish networks with/within teachers	Establish networks among stakeholders with participation of teachers						
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3.3 Perform environmental survey in the sea							

Output / Activity	Description of Activity	YEAR					Remarks
		1	2	3	4	5	
3.3.1 Implement actual survey of GMR use	Implement questionnaire survey to fishermen and tourism about the condition of utilization of the sea						
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.						
3.3.3 Implement training course of participatory ocean environmental survey	Operate survey at the intertidal zone and operate on board observation.						
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						
4. Discharged load to the GMR caused by activities of local residents is reduced							
4.1 Reduce discharged load caused by activities of local residents							
4.1.1 Conduct opinion research of local residents and information on reduction of discharged load	Conduct opinion research about discharged load to grasp the actual condition.						
4.1.2 Create and implement reduction program with residents	Create and implement program against waste and sewage water resulting from analysis of discharged load.						
4.1.3 Create and implement small-scale model case	Develop and operate practical water purification model.						
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.						
4.2 Promote appropriate marine eco-tourism for fisheries							
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.						
4.2.2 Organize joint workshop with communities and other relevant organizations	Hold joint work-shop with communities, environmental NGOs and other relevant organizations for improvement and exchanging of information on eco-tourism.						
4.2.3 Examine and evaluate the introduction of sports fishing in the outside of GMR baseline zone	Conduct feasibility study for sports fishing through the integrated data analysis						
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						

Output / Activity	Description of Activity	YEAR					Remarks
		1	2	3	4	5	
Improvement and stabilization of the residents are supported.							
5.1 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						
5.1.2 Investigate potential on production of handicraft using invaded materials	Conduct possibility survey for fascinating handicraft for the residents						
5.1.3 Implement introduction survey on small-scale sports fishing	Conduct feasibility study on sports fishing in substitution for artisanal fisheries						
5.1.4 Support to develop the product featuring popular Galapagos character	Exchange information to produce effective product to generate profit for Galapagos						
5.2 Support on marine life survey for the residents							
5.2.1 Support residents to collect catch report	Survey fish & fish product caught by residents.						
5.2.2 Support residents to participate in marine survey	Conduct survey trip for the residents						
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.						
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						
5.3 Promote resident's understanding for fisheries resource management							
5.3.1 Open fisheries management workshop with participatory of the residents	Conduct seminar for fisheries management periodically with the residents						
5.3.2 Establish watch/information system to cope with illegal fishing	Establish information network for controlling illegal fishing						
5.3.3 Feed back the results to relevant organizations, communities and schools	Offer information to stakeholders and arouse community's interest to fisheries resources						