

第5章 評価結果

5-1 評価5項目の評価結果

(1) 妥当性

妥当性は非常に高いといえる。

農務省（SEA）が2000年に策定した「農牧業セクターの10年戦略と中期開発計画」では、以下の4つの重点施策を打ち出している。

- 1) 成長と競争力を誘発する。
- 2) 農村社会の公平性を改善する。
- 3) 農牧業の制度を再編成する。
- 4) 農業環境の持続性を振興する。

これを受けて、水利庁（INDRHI）は、既存の灌漑施設のリハビリと維持管理の強化、灌漑利用者への水管理移管等の施策により、水利用効率の向上、灌漑農業の生産性向上をめざしている。また、現在、国会で水利権の法的な担保、慣行水利権から、許可水利権への変更を盛り込んだ「水法（Ley de Aguas）」が審議中であり、プロジェクト受益者への灌漑施設管理移管が促進されると予想される。本プロジェクトは、水管理、水利組織、施設維持管理、栽培の各分野で、重点施策に必要な人材を育成するものであり、INDRHI、SEAの政策に合致している。

(2) 有効性

有効性は高いといえる。

2003年6月より、カウンターパート（C/P）による3回の研修が実施されており、79名が参加している（第1回：INDRHI、水利組合連合技術者対象／32名、第2回：SEA技術者対象／25名、第3回：水利組合連合役員対象／22名）。79名の参加者は、アンケート調査によると約90%が研修の内容に高い満足度を示しており、研修は有効であったと述べている。プロジェクトの終了までに、INDRHI、水利組合連合技術者対象の研修を9回（190名）、SEA技術者対象の研修を7回（150名）、水利組合連合役員対象の研修を6回（85名）、及びニュークレオ対象の研修を6回（85名）開催する予定となっている。今後、研修受講者の追跡調査等により、技術普及の状況を調査することになっているが、これまでどおり、研修が順調に進めば、プロジェクト目標は達成されると思われる。

なお、予算、勤務体系、プロジェクト実施体制等を更に強化する必要があるため、有効性は「非常に高い」ではなく、「高い」と判断した。また、本調査では、プロジェクト目標レベルの新指標を改定したが、調査時点で新指標に関する情報を得られず、今後、モニタリングを実施し、情報収集をすることとなった。よって、中間評価では旧指標である、「研修回数・受講

生数」による評価を実施した。

(3) 効率性

以下の理由により、効率性は高いといえる。

1) 日本側の投入実績

日本側の投入は、質、量、タイミングの観点からほぼ計画どおりに実施されている。

a) 専門家派遣

2003年9月までに6名の長期専門家と、3名の短期専門家が派遣されており、当初の計画どおりである。

b) 機材供与

当初計画の機材をプロジェクトの開始後、当地の営農の実情を詳細に調査し、現地に適合しない機材（自走式田植機、自走式小型コンバイン、2条刈り取り機等）については、削減を図っているが、プロジェクト実施に大きな影響はない。

c) C/P研修

2003年9月までに11名のC/Pが日本で研修を受けており、おおむね当初の計画どおり、年間4名程度の研修を実施している。

d) ローカルコスト

2003年9月現在までに4,321万9,000円のローカルコストを投入している。

2) ドミニカ側の投入実績

ドミニカ側の投入は、質、量、タイミングの観点からほぼ計画どおりに実施されている。

a) C/P配置

当初計画に基づき、適切に配置されている。ただし、2つの勤務体系（I型：7：30～14：30、及びII型：7：30～17：00）があり、I型のC/Pの一部は、午後2時30分以降の勤務に対し、対価が支払われていない。

b) 施設

INDRHIの本部にプロジェクト事務室、国立稲作研修センター（CENACA）の事務室、及び宿泊施設、実証圃場の脇に機材倉庫兼集会場を提供している。この事務室及び宿泊施設は、INDRHI予算にて改修を行った。

c) ローカルコスト

2003年9月現在までに648万3,229RDのローカルコストを投入している。

3) 投入の効率性

プロジェクト・デザイン・マトリックス（PDM）の成果の達成は、以下のとおり進捗している。成果5以外は、ほぼ達成されていると考えられ、成果5のモニタリング手法

の確立についても、現在準備が進行しており、問題はないと考えられる。投入に関し、一部の供与機材の変更、及び天候不順による実証圃場の整備の遅れが生じたが、プロジェクトの活動に大きな支障はなく、成果の達成は投入の結果であると判断される。しかし、C/Pについては、数は確保されているものの、一部が午後2時30分以降の勤務に対価が支払われておらず、今後、勤務体系の改善が期待される。

(4) インパクト

インパクトはポジティブであると考えられる。

実証圃場では、プロジェクトの指導に基づいて水管理、水利組合支援、施設補修管理、及び栽培が実施され、アンケートによると、収量は増加し、農薬・肥料等の投入量が減少している。また、実証圃場の整備は、支線水路のライニング化、圃場の均平化、用水路の分離、農道の整備等で構成されているが、この実証圃場の整備手法が、米州開発銀行（IDB）の借款で実施されている「受益者による灌漑システム管理計画（PROMASIR）」の事業内容に影響を与え、これまで当エリアでは、計画されていなかった農道の整備等がその事業項目に取り入れられ、モデル地区の周辺で整備が実施されている。さらに、当初プロジェクトによる、研修を予定していなかった水利組合連合が、プロジェクトに技術的支援を要請するなどのポジティブなインパクトがあった。

(5) 自立発展性

全体的な自立発展性は、中程度であると考えられる。

1) 組織面

組織的自立発展性は、中程度であると考えられる。

INDRHI、SEAともに、プロジェクトの重要性を十分認識している。しかし、INDRHIには2つの勤務体系があり（I型：7：30～14：30、及びII型：7：30～17：00）、I型のC/Pの一部には、午後2時30分以降の超過勤務手当が支払われないため、研修の実施に支障が生じている。また、プロジェクトダイレクターは、合同調整委員会の議長として、年間活動計画の作成、進捗状況の検討、重要事項について検討することとなっているが、これまでの関与は低く、今後プロジェクトの円滑な実施のためには、プロジェクト実施体制の強化が不可欠である。

2) 技術面

技術的自立発展性は、比較的高いと考えられる。

訓練教材は、圃場で実証された技術を基にして作成されており、現実を反映するものである。また、C/Pは、既に3回研修を実施し、受講生から高い評価を受けており、講師とし

での自信をもちつつある。今後、C/Pが勤務を継続し、技術的に自立発展していくためには、上記のように、勤務体系、給与体系の見直しが必要である。

3) 財政面

財政的自立発展性は、中程度であると考えられる。

INDRHI、SEAともに、プロジェクトの予算確保の重要性を十分認識しているが、財政的自立発展性を保持するためには、以下の点に留意しなければならない。

a) テキスト代の削減：

現在テキストは研修ごとにカラーコピー等で作成している。テキスト代は研修費の約50%を占めているため、ある程度固定したテキストを用意するなど、コストの削減が必要である。

b) 研修参加者の費用負担

研修参加者への滞在費、交通費、日当等について参加者が属する機関から支払われていない場合が多く、費用負担者の明確化が必要である。

c) 財源の多角化

水利組合連合の研修費を研修費用の財源としたり、IDBによるPROMASIR、及び世界銀行による灌漑用地・流域管理プロジェクト(PROMATREC)の研修を、本プロジェクトが請け負うことも考えられる。

5-2 結論

上記のとおり、プロジェクトはPDM、及び活動計画に基づいて、順調に進捗していると判断される。プロジェクトの妥当性、有効性、効率性は高く、プラスのインパクトを伴っており、プロジェクト終了期間までにプロジェクト目標が達成されることは、ほぼ確実と思われる。しかし、自立発展性については、現時点で中程度と判断せざるを得ない。

今後の課題としては、第6章で詳しく述べるとおり、(1) 自立発展性の確保、(2) 他ドナーとの協力促進、(3) プロジェクト終了後の将来計画の作成などの対策・準備が必要である。

第6章 提言

(1) 持続発展性の確保

1) 適正な予算

プロジェクト終了以降は、研修に係る経費のすべてを水利庁（INDRHI）と農務省（SEA）が負担することになるため、プロジェクト終了に向けて、ドミニカ側の負担を逐次増加させていくことが、プロジェクトの持続発展性の確保のために必要である。

他方、ドミニカ側の財政事情も厳しいことから、次のような対策を併せて検討することを提言する。

- ・テキスト代の削減
- ・研修参加者の費用負担
- ・財源の多角化

2) 勤務体系の改善

INDRHI、及びSEAの一部のカウンターパート（C/P）には、午後2時30分以降の給与が支払われず、研修の円滑な実施に影響を及ぼしていることから、ドミニカ側がこれらの課題について、対策を講じる必要がある。

3) プロジェクト実施体制の再活性化

INDRHIのなかで組織再編を踏まえ、プロジェクトダイレクターが、技術系次官から事務系次官へと変更になったことを確認した（新体制図はミニッツのANNEX 11のとおりである）。

これまで組織再編の影響を受け、ドミニカ側プロジェクトダイレクターの関与が低かったことから、新しい体制でのプロジェクト実施体制の再活性化を提言した。

(2) 他ドナーとの連携の促進

現在、米州開発銀行（IDB）と世界銀行が、水利組合の設立と灌漑施設のリハビリに関する協力を、国際協力銀行（JBIC）が、灌漑施設のリハビリに関する協力を実施している。

人材育成に関する研修施設を拠点とした協力を実施しているのは、本件プロジェクトのみ（IDBと世界銀行は、INDRHIの職員を受益地区に派遣する形態）であることから、今後研修が本格化する段階にあたり、INDRHIが中心となって、これら各ドナーとの連携を促進することが望まれる。

(3) プロジェクト終了後の将来計画策定の準備

プロジェクト終了後も、当該プロジェクトで実施する研修を、ドミニカ側が継続して実施することが必要であることから、ドミニカ側がプロジェクト終了後の将来計画策定（協力終了後の研

修プログラム、人員配置、及び予算配置等)の準備を開始し、終了時評価調査実施までに、当該計画を完成することを提言した。

第7章 団長所感

自立発展性の確保に向けての更なる取り組みの必要性は、次のとおりである。

1) 予算措置

プロジェクトは、プロジェクトエリア、及び周辺情報の収集・分析、実証圃場の整備を通じ、当初の計画どおり、2003年6月から研修を開始した。プロジェクト前半の活動のための基盤整備を終え、後半の本格的な研修実施の段階に入っている。

実証圃場の整備においては、農家との交渉、軟弱地盤での工事、短い施工期間内での厳しい工程管理といった困難な問題に直面したが、プロジェクト専門家、ドミニカ側カウンターパート（C/P）、及びJICAドミニカ事務所の尽力により、年内に工事を完了することができた。

実証圃場での農家の収量が増加したこともあり、プロジェクトサイトの農家からの信頼も得、C/Pも自信を深めている。

他方で、ドミニカ側の予算不足、一部C/Pへの給与の支払いについての問題が、プロジェクトの自立発展に影響を与えることが懸念されている。

今回の中間評価で、これらの問題についてドミニカ側と問題意識を共有し、ドミニカ側が解決に向けて努力することを確認したが、具体的な対応策（いつ、どの機関が、どのくらいの経費を負担する必要があるか）については、研修実施予定の再レビュー、水利庁（INDRHI）と農務省（SEA）との負担割合についての検討、研修実施経費の節約、研修参加費の徴収制度の検討などを行ったうえで明らかにする必要がある、ミニッツでは明記していない。

INDRHI再編の動きのなかで、プロジェクトダイレクターの位置づけが不明確となっていたが、今回の評価で新たに事務系次官が、プロジェクトダイレクターとして確認できたことから、今後はプロジェクトダイレクターを中心に、ドミニカ側は対応策を検討し、その動向を日本側はフォローしていく必要がある。

2) プロジェクト終了後の将来計画

プロジェクト終了後の将来計画策定の準備については、INDRHI長官との協議の際、全国水利組合連合を議論に参加させつつ、具体的の中・長期計画策定の準備を始めるとのコメントがあった。

先方との協議のなかでは、現在のプロジェクトをINDRHI研修部のなかに位置づける、水利組合の負担で、他の稲作地区にもプロジェクトで実施している実証圃場を普及させる、などの提案が示された。

灌漑施設の移管に係る取り組みには、長期的視点が必要であると同時に、本プロジェクトは、米州開発銀行（IDB）や世界銀行が実施している灌漑施設移管に関する支援と比較し、研修施設、講師、教材などのソフト面でのインフラを有しているという、優位性があることか

ら、日本側もプロジェクト終了後の将来計画策定の準備に、積極的に参加していくことが望ましいと思われる。

3) 研修のモニタリングとフォローアップ

効果的に研修のモニタリングとフォローアップを実施するため、プロジェクトでは、毎年研修効果測定調査を実施する予定である。今回の評価調査で、プロジェクト目標の指標の具体化を図ったが、研修効果測定調査の調査設計を実施することが必要である。

付 属 資 料

1. ミニッツ（英文、西文）
2. 評価グリッド
3. 年間研修計画（案）

1. ミニッツ (英文、西文)

MINUTES OF MEETING
BETWEEN THE JAPANESE MID-TERM EVALUATION TEAM
AND THE AUTHORITIES CONCERNED OF
THE GOVERNMENT OF DOMINICAN REPUBLIC
ON JAPANESE TECHNICAL COOPERATION
FOR THE TECHNOLOGY IMPROVEMENT PROJECT FOR IRRIGATED AGRICULTURE

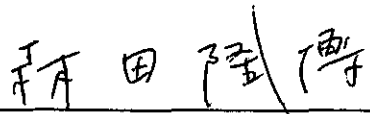
The Government of Japan dispatched the Japanese Team (hereinafter referred to as "the Japanese Team"), headed by Mr. Takahiro MORITA, to Dominican Republic. The Japanese team was dispatched through the Japan International Cooperation Agency (hereinafter referred to as "JICA") from September 8 to September 26, 2003, for the purpose of conducting mid-term evaluation of the Project Type Technical Cooperation for The Technology Improvement Project for Irrigated Agriculture as well as discussing the major issues related to the implementation of the Project.


During its stay in Dominican Republic, the Japanese Team and the authorities concerned of the Government of Dominican Republic formulated the Joint Evaluation Team (hereinafter referred to as "the Evaluation Team") to conduct mid-term evaluation of the Project by carrying out a field visit, exchanging views and holding a series of discussions with respect to desirable measures to be taken by both Governments for the successful implementation of the Project.

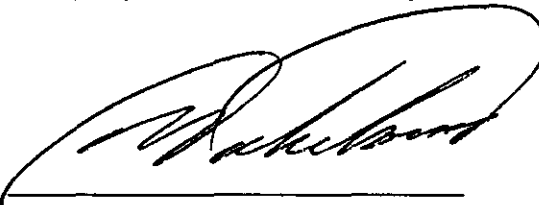
As the result of the evaluation, the Japanese Team and the authorities concerned of Dominican Republic shared the view and they would recommend to their respective Governments the matters referred to in the Joint Evaluation Report attached here to.

The document has been prepared in duplicate in English and Spanish, respectively, with each text being equally authentic. However, in case of any divergence of interpretation, the English text shall prevail.

Santo Domingo, September 23, 2003


Mr. Takahiro Morita
Team Leader
Japanese Mid-term Evaluation Team
Japan International Cooperation Agency
Japan


Ing. Silvio CARRASCO
Executive Director
Institute Nacional de Recursos Hidraulicos
Dominican Republic


Ing. Eligio JAQUEZ
Secretary of State
Secretaria de Estado de Agricultura
Dominican Republic

Attached Document

The Joint Evaluation Team consisting of 11 members from Japan and Dominican Republic concluded the result of its Mid-term Evaluation as follows.

Based on the evaluation, the Japanese Team particularly requested the Dominican side to take necessary measures in terms of "Enhancement of Sustainability" of the Project.

The Dominican side agreed that they deal with the recommendations the Joint Evaluation Team has made.



THE MID-TERM EVALUATION REPORT
FOR THE TECHNOLOGY IMPROVEMENT PROJECT
FOR IRRIGATED AGRICULTURE
IN DOMINICAN REPUBLIC

Santo Domingo, September 23, 2003

森田 隆博

Mr. Takahiro MORITA
Team Leader
Japanese Mid-term Evaluation Team
Japan International Cooperation Agency
Japan

Gerardo Mendez

Ing. Gerardo MENDEZ
Enc. Departamento de Operacion y
Mantenimiento de Districtos de Riego
Institute Nacional de Recursos Hidraulicos
Dominican Republic

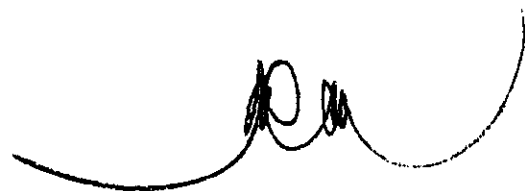


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ANNEX

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1. Evaluation of Project

1-1 Objective

The evaluation was conducted with the following objectives.

- (1) Evaluating degree of achievement based on the Record of Discussions, Project Design Matrix (hereinafter referred to as "the PDM") and the Plan of Operations (hereinafter referred to as "the PO") after two and a half years since the project commenced,
- (2) Reviewing and revising the PDM and the PO for the remaining cooperation term if necessary, and
- (3) Identifying problems on any aspects of the Project implementation and proposing necessary solutions.

1-2 Methodology

Project Cycle Management (PCM) method was applied to the evaluation. First, the Team focused on the modification of the PDM in order to clarify the project activities and outputs in a more appropriate way. Secondly, the evaluation was conducted by comparing the original plan and outcomes of the Project using the five evaluation criteria: relevance, effectiveness, efficiency, impact and sustainability. Information was mostly collected and analyzed through questionnaires and interviews with Dominican counterpart personnel at Instituto Nacional de Recursos Hidraulicos (hereinafter referred to as "INDRHI") and Secretaria de Estado Agricultura (hereinafter referred to as "SEA") as well as Japanese experts. The five evaluation criteria are:

(1) Relevance:

Relevance refers to the validity of the Project purpose and the overall goal in connection with the development policy of the Republic of Dominica as well as the needs of beneficiaries.

(2) Effectiveness:

Effectiveness refers to the extent to which the expected benefits of the Project have been achieved as planned, and examines if the benefit was brought about as a result of the Project.

(3) Efficiency:

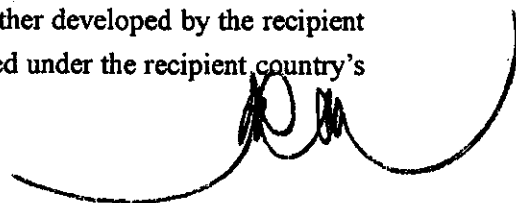
Efficiency refers to the productivity of the implementation process, examining if the input of the Project was efficiently convert into the output.

(4) Impact:

Impact refers to direct and indirect, positive and negative impacts caused by implementing the Project, including the extent to which the overall goal has been attained.

(5) Sustainability:

Sustainability refers to the extent to which the Project can be further developed by the recipient country, and the benefits generated by the Project can be sustained under the recipient country's policies, technology, systems, and financial state.



1-3 Members of the Evaluation

(1) Japanese Evaluation Team

Mr. Takahiro MORITA

Leader

**Deputy Director, Agricultural Technical
Cooperation Division, Agricultural
Development Cooperation Department, JICA**

Mr. Eisaku NOMURA

Irrigated Agriculture

**Deputy Director, Nishi Kanto Agricultural
Land & Water Planning and Management
Office, Kanto Regional Agricultural
Administration Bureau, The Ministry of
Agriculture, Forestry and Fisheries**

Mr. Yasuhiro ICHIHASHI

Rice Cultivation

**Section Chief, Crop Production Division,
Agricultural Production, Management and
Marketing Department, Chugoku-Shikoku
Regional Agricultural Administration, The
Ministry of Agriculture, Forestry and Fisheries**

Mr. Atau KISHINAMI

Evaluation Analysis

**Permanent Expert,
International Development Associates Co., Ltd.**

Atsuko YOSHIKAWA

Interpreter

Japan International Cooperation Center

(2) Dominican Evaluation Team

1) INDRHI

Ing. Gerardo MENDEZ

**Enc. Departamento de Operacion y
Mantenimiento de Distrito de Riego**

Ing. Danilo MORETA

Tec. Dep. Servicio al Regante

Ing. Ana PEREZ

Enc. Comp. De Estudios PEMERG

Lic. Jose Napoleon RAMIREZ

Planificacion

Ing. Jose NAVARRETE

Enc. Dep. De prevencion del-PEMERG

2) SEA

Ing. Jose Antonio DÍAZ

Director de Fomento Arrocerero

(3) Other Members

1) JICA Dominican Republic Office

Mr. Tomio TAKAHASHI

Resident Representative

Mr. Norio YONEZAKI

Deputy Resident Representative

Ms. Mari SHIMAZAKI de THEN

Project Coordinator

2) Japanese Experts

Mr. Kazunari MORIMOTO

Chief Advisor

Mr. Hiroyuki TAZAWA

Water Management

Mr. Junya YAMAUCHI

WUA Support/Operation and Maintenance

Mr. Yasushi MISAO

Rice Cultivation

Mr. Shinichi KONDO

Project Coordinator

3) Counterpart Personnel

Ing. Raúl ROMERO

Director de Proyecto

Ing. Raúl PEREZ

Director Asistente del Proyecto

Ing. Siomara FERNANDEZ

Coordinadora de Proyecto

Ing. Eustacio RIVERA ZAPATA

Componente de Operación y Manejo de
Agua

Ing. Luis BELLO MEDRANO

Componente de Operación y Manejo de
Agua

Ing. Silvio SUSANA

Componente de Operación y Manejo de Agua

Ing. Julio Cesar GARCIA OLLER

Componente de AUAs

Ing. Sonia MELAN MORA

Componente de Mantenimiento

Ing. Gabriel PEREZ	Componente de Mantenimiento
Ing. Santana CAMPO GELABEL	Componente de Cultivo
Ing. Rafael LEONIDAS MINAYA	Componente de Cultivo
Lic. Víctor GONZALEZ	Administrativo
Lic. Federico RODRIGUEZ	Auditor

2. Outline of the Project

2-1 Background and Proceeding of the Project

In Dominican Republic, the agricultural sector shares 12.7% of its GDP with 2,460,000 people, or approximately 31% of the population, engaging in agricultural activities. In addition, agricultural products account for 45% of Dominican Republic's total export. Agriculture, therefore, has played a very large role in Dominican Republic. In recent years, however, total agricultural production was unstable caused by a decrease in cultivation land and obsolete irrigation systems. Irrigated agriculture, in particular, has a problem of water shortage due to poor-conditioned facilities and improper water management.

Under these circumstances, the Government of Dominican Republic requested the Government of Japan for technical cooperation in order to improve the training programs of INDRHI and also to improve productivity of the agricultural sector by establishing an irrigation management system that aims to transfer INDRHI-owned irrigation canals and facilities to WUA.

In response to the above-mentioned request, JICA dispatched the Preparatory Study Team to confirm assistance needs and to discuss details of the Project. With regard to the Minutes of Meeting of the Preparatory Study Team, JICA signed the Record of Discussions for the Project on November 15, 2000. The Project started on March 1, 2001 for a five-year period.

2-2 Objective of the Project

Objective of the Project is "Leaders of WUA and staff of INDRHI/SEA improve their knowledge and skills on water management, WUA, Maintenance and rice cultivation through the training curriculum under the Project." and according to the result of discussions, the outputs of the Project are modified as discussed in 3-2.

3. Review of PDM and PO

3-1 General Review of PDM and PO

As a result of discussions, the PDM₁ (refer to ANNEX 1), attached to the M/M dated

December 12, 2001 is revised as shown in ANNEX 2 (hereinafter referred to as "PDMe"), with little change in the overall contents of the Project. In addition, PO is modified as shown in ANNEX 3, also with little change in the activities.

3-2 Modification of PDM

3-2-1 Project Purpose Level

Although the Project Purpose remains the same, its indicators have been changed as follows in order to assess the degree of achievement in a more concrete way. The indicators will start to be measured soon after the mid term evaluation.

1) Previous Objectively Verifiable Indicators

1. Nos. of training and trainees: perform xx Nos. trainings of water management, O&M, and cultivation of and xx Nos. trainees receive training respectively until the end of the Project period.
2. Improvement of knowledge, skills and attitude of trainees.

2) Modified Objectively Verifiable Indicators

1. At least, 30% of Nucleos who have taken the training courses introduce improved water management technologies (i.e. rotational water distribution system, reduction of irrigation water use, proper gate operation, and proper irrigation time management) in the Rincon Area.
2. At least, 30% of farmers who have taken the training courses introduce improved technologies regarding fertilizer reduction in the Rincon Area.
3. At least, 30% of farmers who have taken the training courses introduce improved technologies regarding apple snail control in the Rincon Area.
4. At least, 30% of leaders of WUAs, technical staff of INDRHI and SEA transfer knowledge, in respective organization, obtained by the training courses (i.e. presentation of training contents, invitation of trainers for training, survey trip to the pilot farm).

Above indicators are set at 30% and limited in the Rincon area because of the following reasons.

- i) according to various questionnaire by trainees, approximately 30% of them understand the contents as well as the effectiveness of the training courses very well ,
- ii) it usually takes a long time span to disseminate skills and knowledge, and
- iii) the area should be limited in order to make a practical follow-up survey.

The indicator of 30% is a minimum figure and is expected to rise after the completion of the Project.

3-2-2 Output Level

(1) Output 1

"Problems in the model area are comprehended and examples of technical improvement regarding water management, maintenance, and cultivation are presented in the pilot farm." is added as Output 1 in order to clarify the sequential process of the Output. Accordingly, the objectively verifiable indicators are added as follows.



1-1 Necessary conditions are established for training in the model irrigated area within 3 years from the commencement of the Project.

1-2 The number of cases of technical improvement in each field

1-3 Leveling is introduced in the pilot farm.

1-4 Direct sowing by machinery is introduced in the pilot farm.

1-5 Third fertilization (timing and amount) is improved in the pilot farm.

(2) Output 2

It corresponds to Output 1 in PDM₁ and remains the same. Objectively verifiable indicators are modified in order to more clearly assess the result.

1) Previous Objectively Verifiable Indicators

- Training programs are prepared within 3 years of the Project (including a plan of advanced evaluation and monitoring methods).
- Water management, WUA/Operation & Maintenance and cultivation manuals are prepared within 3 years from initiation of the Project.

2) Modified Objectively Verifiable Indicators

2-1 Four programs, including comprehension evaluation and monitoring methods, that target different groups are prepared within 3 years from the commencement of the Project.

2-2 Twenty four training materials on water control, WUA/maintenance and rice cultivation are prepared within 3 years from the commencement of the Project.

(3) Output 3

It corresponds to Output 2 in PDM₁ and remains the same. Objectively verifiable indicators are added in order to assess the result.

1) Previous Objectively Verifiable Indicators

None.

2) Added Objectively Verifiable Indicators

3-1 At least one C/P hold a diploma in teaching methods in each technical field.

3-2 Capability evaluation on carrying out training courses for those who have more than 2-year practical experience as a C/P.

(4) Output 4

It corresponds to Output 3 in PDM₁ and remains the same. Objectively verifiable indicators are modified in order to more clearly assess the result

1) Previous Objectively Verifiable Indicators

- Technical manuals of Water management, WUA/maintenance and cultivation are prepared within 3 years from the commencement of the Project.
- Training manuals are prepared within 3 years from the inception of the Project.
- Training circumstance in the model irrigation area is established within 3 years from the inception of the Project.
- Training is performed within 3 years from the inception of the Project.

2) Added/Modified Objectively Verifiable Indicators

4-1 Training methods are developed.

4-2 The minimum number of courses and participants : 9 courses for technical staff of INDRHI and the Federation of WUAs (190 participants), 7 courses for technical staff of SEA (150 participants), 6 courses for WUAs' Executive Committee members (85 participants), and 6 courses for Nucleos (85 participants) are conducted by the completion of the Project

(5) Output 5

Output 5 (previous Output 4) is changed as follows, as the previous output is considered Project-Purpose level.

1) Previous Output

Training result is performed in the irrigated areas.

2) Modified Output

Those who attended training courses improve their knowledge and skills on water management, WUA/maintenance, and cultivation through the training curriculum of the Project.

Accordingly, objectively verifiable indicators are added as follows.

1) Previous Objectively Verifiable Indicators

None.

2) Added Objectively Verifiable Indicators

5-1 Enhancement of understanding of trainees is confirmed.

5-2 Monitoring methods for trainees are established.

3-2-3 Activities Level

(1) Activity 3-5 is transferred to Activity 4 since the previous activity is applicable not only to cultivation and but to water management and maintenance. A new Activity "To verify appropriate cultivation methods in the pilot farm" is added as 3-4 as follows and the previous Activity 3-4 is transferred to Activity 3-5 accordingly.

3-2-4 Important Assumptions

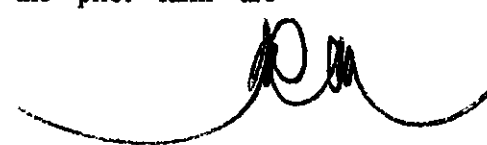
(1) Important Assumption at the Activities level is modified as follows in order to direct the specific site.

1) Previous Important Assumption

Understanding, consensus and cooperation from farmers in the model irrigation areas are obtained.

2) Modified Important Assumptions

Understanding, consensus and cooperation from farmers in the pilot farm are obtained.



4. Results of the Evaluation

4-1 Relevance

Relevance of the Project is considered very high for the following reasons.

The “Decade Strategy and Mid-term Development Plan of the Agricultural and Live Stock Sector” established in 2000 by SEA emphasizes the following four important policies; i) promotion of growth and competitiveness, ii) improvement of equality in the rural society, iii) institutional restructure of agricultural and live stock sector and iv) promotion of agro-ecological sustainability. INDRHI currently intends to improve productivity of the agricultural sector through rehabilitation of existing irrigations as well as establishment of an irrigation management system that aims to transfer management of INDRHI –owned irrigation canals and facilities to the Federation of WUAs. The Project was designed to train personnel in the field of water management, WUA/maintenance and cultivation and is clearly suited to the current governmental policy framework. Further, according to interviews, farmers in the pilot farm in the Rincon area have economically benefited from the Project with more rice production and less amount of fertilizer. The Project, therefore, is obviously suited to the national policies and needs of beneficiaries.

4-2 Effectiveness

Effectiveness of the Project is considered high for the following reasons.

Training sessions have started since June 2003 for technical staff of INDRHI and SEA and leaders of WUA. As of September 2003, three training courses have been conducted by Dominican counterpart personnel and 79 participants recognized these courses very useful. In fact, more than 90% of the participants stated that they are satisfied with the contents of the training courses carried out mainly by Dominican counterpart personnel. For the rest of the Project duration, at least, 9 courses for technical staff of INDRHI and the Federation of WUAs (190 participants), 7 courses for technical staff of SEA (150 participants), 6 courses for WUAs’ Executive Committee members (85 participants), and 6 courses for Nucleos (85 participants) are planned to be carried out by the completion of the Project. The Project purpose is expected to be achieved by the completion of the Project by conducting these courses, considering the number of courses as well as the satisfaction level of participants. Effectiveness is not evaluated “very high”, since there are some elements to be improved in terms of sustainability, as discussed in Section 4-5.

4-3 Efficiency

4-3-1 Inputs from the Japanese Side

1) Dispatch of Japanese Experts

Six long-term experts and two short-term experts have been dispatched in total in accordance with the original plan as shown in ANNEX 4.

2) Acceptance of Dominican Counterpart Personnel in Japan

11 Dominican counterpart personnel have been trained in Japan in total in accordance with the original plan as shown in ANNEX 5.

3) Provision of Machinery, Equipment and Materials

Machinery, equipment and materials have been provided in total in accordance with the original plan as shown in ANNEX 6.

4) Local Cost

Local cost of JPY43,219,000 has been provided to support the Project as shown in ANNEX 7.

4-3-2 Inputs from the Dominican Side

1) Assignment of Counterpart Personnel

14 Dominican counterpart personnel have been assigned in total in accordance with the original plan as shown in ANNEX 8.

2) Facilities

Main project office at INDRHI in Santo Domingo, sub-project office, training facilities and accommodation at CENACA in Banao, storehouse at the pilot farm

3) Local Cost

Local cost of RD\$6,483,229 has been provided as shown in ANNEX 9.

4-3-3 Efficiency of Inputs

Evaluation in terms of efficiency is considered high for the following reasons.

Inputs from both sides have generally been made as planned in terms of timing, quantity and quality. Provision of equipment and machinery, however, was revised based on a detailed study regarding the particular local conditions and elimination of several machines (i.e. automatic rice-planting machine, small automatic combine) from the initial list. In addition, the establishment of the pilot farm was delayed due to the irregular weather. Project activities, however, have not been affected by these changes to input as shown in ANNEX 10.

Regarding personnel, although qualified staff have been assigned as planned, there are those, whose working hours are from 7:30 to 14:30 and who, thus, are not able to work as an instructor in the afternoon. This is an issue to further be discussed in order to fully utilize trained personnel.

Table 1 shows the indicators within PDM and their progress.

Table 1: Indicators and Progress.

Indicators	Progress
1-1 Necessary conditions are established for training in the model irrigated area within 3 years from the commencement of the Project.	Necessary conditions have been already established for training in the pilot farm.
1-2 The number of cases of technical improvement in each technical field	The following six cases have been presented. - Improvement of apple snail control methods - Improvement of fertilization technologies (time and amount) - Improvement of control method of rice blast and rhizoctonia disease

	<ul style="list-style-type: none"> - Improvement of water management technologies (from deep water to shallow water) - Proper water management by setting up a gate at each pilot farm - Leveling technologies of top soil of its deepness of more than 15cm in the pilot farm
1-3 Leveling is introduced in the pilot farm.	Leveling has been already introduced in the pilot farm.
1-4 Direct sowing by machinery is introduced in the pilot farm.	Direct sowing has been already introduced in the pilot farm.
1-5 Third fertilization (timing and amount) is improved in the pilot farm.	The third fertilization (timing and amount) has been improved.
2-1 Four programs targeting different groups are prepared within 3 years of the commencement of the Project.	Four programs, for i) technical staff of INDRHI and the Federation of WUAs, ii) technical staff of SEA, iii) the Federation of WUAs' Executive Committee members, and iv) Nucleos, have already been prepared.
2-2 Twenty four training materials on water control, WUA/maintenance and rice cultivation are prepared within 3 years from the commencement of the Project.	24 training materials (five for water management, two for WUA support, four for Operation and maintenance and 13 for cultivation) have been prepared.
3-1 At least one C/P hold a diploma in teaching methods in each technical field.	8 counterpart personnel (water management: 3, WUA: 1, Maintenance: 3, cultivation: 2) have obtained INFOTEP diploma in teaching methods.
3-2 Capability evaluation on training courses for those who have more than 2-year practical experience as a C/P.	Majority of C/Ps has shown a fairly high aptitude as an instructor with regard to training courses.
4-1 Training methods are developed.	Training methods have already been developed.
4-2 The minimum number of times and participants: 9 times for technical staff of INDRHI and WUAs (190 participants), 7 times for technical staff of SEA (150 participants), 6 times for WUAs' Executive Committee members (85 participants) and 6 times for Nucleos (85 participants) are conducted by the completion of the Project	Three training courses (one time for technical staff of INDRHI and WUAs with 32 participants, one time for technical staff of SEA with 25 participants, one time for WUAs' Executive Committee members with 22 participants) have been conducted by Dominican counterpart personnel with 79 participants.
5-1 Enhancement of understanding by trainees is confirmed.	79 relevant people participated in training courses conducted by the Project. More than 90% of the participants stated that they are satisfied with the lectures/training courses.
5-2 Monitoring methods for trainees are established.	Monitoring methods for trainees is currently under preparation.

Overall, input from each side was effectively put into the Project and, as indicators show, utilized in order to produce the outputs.

4-4 Impact

Impact is observed mostly positive.

In the pilot farm, water management and cultivation are carried out based upon instructions by technical staff of the Project, and according to interviews, improved cultivation technologies such as grain combine have been introduced with the land leveling, yield has increased, and at the same time, use of fertilizer has reduced. Farmers in the pilot farm, therefore, have recognized a positive economic impact. The cultivation methods utilized in the farm are expected to spread into the neighboring farms. Activities of the pilot farm consist of i) lining of branch canals, ii) leveling-off, iii) separation of irrigation and drainage canals, and iv) reconstruction of agricultural roads. These features have influenced on the activities of a loan project by the Inter-American Development Bank (hereinafter referred to as "IDB"). The IDB project has incorporated improvement of on-farm roads, which had not been planned at an earlier stage. The Federation of WUAs, which are not originally planned to take training courses, requested the Project technical support for their member staff. These are considered an unexpected positive impact.

4-5 Sustainability

Overall sustainability is considered intermediate for the following reasons.

4-5-1 Organizational Aspect

Organizational sustainability is considered intermediate.

It is important to note that the Dominican government recognizes the importance of the Project. There are two working-hour systems, however, at INDRHI and SEA and it can be an impediment for part of counterpart personnel, whose working hours are from 7:30 to 14:30, to devote themselves into working as an instructor of the training courses in the afternoon.

4-5-2 Technical Aspect

Technivcal sustainability is considered relatively high for the following reasons.

Training materials have been prepared based upon the technologies verified in the pilot farm through diagonosis. As mentioned, counterpart personnel have conducted three training courses as an instructor for leaders of WUAs, technical staff of INDRHI and SEA and Nucleos. They are quite confident in teaching technical issues of each technical field. They, however, are required to learn updated technologies through trainings and improve the current technologies by themselves. Through these efforts, technical sustainability will positively be enhanced by the completion of the Project .

4-5-3 Financial Aspect

Financial sustainability is presently considered intermediate.

Both INDRHI and SEA fully recognize the importance of proper budget allocation to

the Project. Financial sustainability can be enhanced through several measures discussed in Section 6 (1) regarding the adequate budget.

5. Conclusion

As discussed above, the Project has been carried out quite successfully in accordance with PDM and PO. Relevance, Effectiveness and Efficiency are considered high with positive impacts. Project Purpose will surely be achieved by the completion of the Project, provided that the activities are carried out in accordance with PDM and PO. Sustainability, however, is not considered very high without improving several factors and is a factor to further be enhanced. Three major issues, that are i) Enhancement of Sustainability, ii) Promotion of Cooperation with other Donors and iii) Preparation of Future Plan after the Completion of the Project are suggested to overcome the problems as discussed in the next section.

6. Recommendations

(1) Enhancement of Sustainability

INDRHI and SEA are strongly requested to consider the following issues in order to maintain the positive results of the Project.

1) Adequate Budget

After the completion of the Project in 2006, INDRHI and SEA will completely be responsible for expenses. It is recommended, therefore, for them to gradually increase their budget for the rest of the Project period in order to maintain the effects of the Project Activities and the Outputs as well as to achieve the Project Purpose. It is not easy, however, to increase their budget due mostly to the national economic situations. The Dominican side is required to make every effort to assure adequate budget, alternatively, however, reduction of training costs and payment of training fees by participants can be considered. The latter half of the Project term will largely focus on carrying out training courses and therefore, the following measures can be considered for sustainability;

- i) to reduce the cost of preparing training materials, as approximately 50% of training costs is attributed to texts,
- ii) to make a disbursement of accommodation expense, daily allowance, transportation fee, and so forth by the organization that participants belong to, and
- iii) to make use of part of annual budgets that the Federations of WUAs allocate for training as well as financial resources available from other projects such as PROMASIR and PROMATREC for training by the Project.

2) Improvement of Working-hour System

As mentioned, there are two working-hour systems at INDRHI and SEA and according to the internal regulation, overtime work payment is not economically compensated, which can be an obstacle in maintaining the positive effects of the Project. It

is requested that INDRHI and SEA take any possible measures for all counterpart personnel to fully engage in the Project activities.

3) Re-activation of the Project Implementing Organization

The Project Implementing Organization is confirmed as shown in ANNEX 11. In order to effectively discuss and carry out the recommendations, it is essential to reactivate and re-strengthen the consultative and managerial functions of the project implementing organization.

(2) Promotion of Cooperation with other Donors

There are several ongoing projects in the irrigation sector by other donors. PROMASIR by IDB, which has mainly focused on the establishments of the WUAs, AGLIPO II by Japan Bank for International Cooperation, which has carried out the irrigation improvement, and PROMATREC by the World Bank, which has dealt with irrigation system improvement, are closely related to the Project. It is advisable for INDRHI to be a coordinating body for the further promotion of co operations and also for the avoidance of the duplications among other donor activities.

(3) Preparation of Future Plan after the Completion of the Project

In order to keep improving the technology and spread the improved technology throughout the country, it is essential for INDRHI and SEA to continuously carry out training courses by themselves after the completion of the Project. It is recommended, therefore, that INDRHI and SEA prepare a concrete future plan specifying training programs, personnel assignment, budget allocation and so forth before the Final Evaluation.



Tentative Project Design Matrix (PDM-1)
 Project name: Project Type Technical Cooperation for "The Technology Improvement Project for Irrigated Agriculture"
 Project area: the Dominican Republic (irrigation area)

Duration: 3 years from March 1, 2001
 Target group: Water Users' Association (WUA) and staff of INDRH/SEA Date: December 12, 2001

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal water management, O&M and subdivision techniques and skills are improved, and irrigation facilities are transferred smoothly.</p>	<p>increase of unit area yield in the irrigation areas where trainees belong to, improvement of increase of water charge collection rate in the model irrigation areas where trainees belong to. And improvement of WUA's management.</p>	<p>Field survey report/record of investigation Investigation Field survey report/record of investigation /Questionnaire/record of WUA's activities/WUA's accountings</p>	<p>Agriculture development policy in the Dominican Republic remains unchanged with respect to WUA and Abnormal weather not continue</p>
<p>Project Purpose Leaders of WUA and staff of INDRH/SEA improve their knowledge and skills on water management, O&M, and subdivision through the training curriculum under the Project</p>	<p>1) No. of training and trainees: per item 202. Trainings advisor management, O&M, and subdivision of and 202. No. trainees receive training respectively until the end of the Project period. 2) Improvement of knowledge, skill and attitude of trainees.</p>	<p>Record of the trainee center Self-evaluation, monitoring</p>	<p>Trained staff of WUA, INDRH/SEA continue working for their organizations</p>
<p>Outputs</p> <p>1) Training programs and materials for Water Management, WUA/Operation & Maintenance and Subdivision are prepared.</p> <p>2) Lecturers above-mentioned areas are trained</p> <p>3) Schedules for training are created on, and performed training.</p> <p>4) Training result is performed in the irrigated areas.</p>	<p>Training programs are prepared within 3 years from initiation of the Project (including a plan of sub-area evaluation and maintenance methods), water management, WUA/Operation & Maintenance, and subdivision manuals are prepared within 3 years from initiation of the Project.</p> <p>Technical records of Water Management, WUA/Operation & Maintenance and subdivision are prepared within 3 years from initiation of the Project.</p> <p>Training manuals are prepared within 3 years from initiation of the Project.</p> <p>Training circumstances in the model irrigation areas is established within 3 years from initiation of the Project.</p> <p>Training is performed within 3 years from initiation of the Project.</p>	<p>Syllabus, documents for Construction documents No. of training, trainees and lecturers</p>	<p>Trainees are dispatched continuously from WUA Trainees are dispatched continuously from INDRH/SEA Progress of WUA formation under on-going projects such as PROMATREC, PROMESIB do not become greatly delayed</p>
<p>Activities</p> <p>1. Water Management 1-1 To assess water intake status. 1-2 To examine water management method in the model irrigated areas. 1-3 To prepare water management guidelines. 1-4 To prepare appropriate training programs and materials for water management, and perform training. 1-5 To train lecturers.</p> <p>2. WUA support/Operation and Maintenance 2-1 To examine improvement on WUA in the model irrigated areas. 2-2 To prepare guidelines of WUA's activities enhancement. 2-3 To confirm and verify operation/maintenance system in the model irrigated areas 2-4 To prepare operation/maintenance methods. 2-5 To prepare operation/maintenance manuals. 2-6 To prepare inventory preparation method. 2-7 To prepare appropriate training program and materials for WUA/operation/maintenance, and perform training. 2-8 To train lecturers.</p> <p>3. Subdivision 3-1 To investigate present status of paddy subdivision in and around the Project areas. 3-2 To examine and assess suitable water management of the on-farm land. 3-3 To examine and propose appropriate subdivision management techniques. 3-4 To establish model farms in the irrigated areas. 3-5 To prepare appropriate training programs and materials for subdivision, and perform training 3-6 To train lecturers.</p> <p>4. To implement base line survey in the model irrigated areas. 5. To visit the irrigation areas and to monitor co-operation activities</p>	<p>Japan</p> <p>[Dispatch of Experts] Chief/Advisor 60(M/A) Project Coordinator 60(M/A) Water Management/WUA Support 60(M/A) Operation and Maintenance 60(M/A) Rice Cultivation 60(M/A) Short-term experts 60(M/A) (10/A) (10/A)</p> <p>[Provision of machinery, equipment and materials] 1) Vehicle No. 2) Equipment for Training Equipment for investigation Equipment for model farm operation Auto-transport equipment, etc. Equipment for training materials preparation</p> <p>[Constructing training in Japan]</p>	<p>the Dominican Republic</p> <p>1. Establishment of transfer post (INDRHI HQ) Project Coordinator 60(M/A) CP (Water management) 60(M/A) CP (O&M) 60(M/A) CP (Cultivation) 60(M/A) Administrative Chief 60(M/A) Secretary 60(M/A) (10/A) (10/A)</p> <p>[DONAD] CP (Water management) 60(M/A) CP (O&M) 60(M/A) CP (Cultivation) 60(M/A) (10/A) (10/A)</p> <p>Grand total 600(M/A)</p> <p>[Facilities] Office and working space for Japanese experts (INDRHI Central Office) Preparation of the operational form (Land Cost) Running cost for the implementation and management of the Project</p>	<p>Custom clearance and transport procedures do not get overly delayed Understanding, consensus and cooperation from farmers in the model irrigation areas are obtained. Friendliness Cooperation between INDRHI and Ministry of Agriculture is established.</p>

Project name: Project Type Technical Cooperation Cooperation for "The Technology Improvement Project for Irrigated Agriculture"

Duration: 5 years from March 1, 2001

Project area: the Dominican Republic (rice cultivated area) Model Irrigated Area Rincon Area (line western margin)

22-Sep-00

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal Water management, O&M and cultivation techniques and skills are improved, and irrigation facilities are transferred smoothly.</p>	<p>Increase of unit rice yield in the irrigation area where trainees belong to. Increase of water charge collection ratio in the model irrigation area where trainees belong to.</p>	<p>Field survey report/record of investigation/questionnaires Field survey report/record of investigation/questionnaire/record of WUA activities/WUA assessment</p>	<p>Agriculture development policy in the Dominican Republic remains unchanged with respect to WUA and facilities' transference Abnormal weather not occurred.</p>
<p>Project Purpose Leaders of WUA and staff of INDRH/SEA improve their knowledge and skills on water management, O&M, and cultivation through the raining curriculum under the Project.</p>	<p>1. At least, 30% of managers who have taken the training courses introduce improved water management technologies in the Rincon Area. 2. At least, 30% of farmers who have taken the training courses introduce improved technologies regarding fertilizer reduction in the Rincon Area. 3. At least, 30% of farmers who have taken training courses introduce improved technologies regarding apple snail control in the Rincon Area 4. At least, 30% of leaders of WUAs, technical staff of INDRH and SEA transfer knowledge, in respective organization, obtained by the training courses.</p>	<p>1. Questionnaire, etc. 2. Questionnaire, etc. 3. Questionnaire, etc. 4. Questionnaire, etc.</p>	<p>Trained staff of WUA, INDRH/SEA continue working for their organizations.</p>
<p>Outputs 1. Problems in the model area are comprehended and examples of technical improvement regarding water management, O&M, and cultivation in the pilot farm will be presented. 2. Training programs and materials for water management, O&M and cultivation are prepared. 3. Lecturers of above-mentioned areas are trained. 4. Training curricula are prepared and training courses are conducted. 5. Those who attended training courses, improve their knowledge and skills on water management, O&M, and cultivation through the raining curriculum under the Project.</p>	<p>1-1 Necessary conditions are established for training in the model irrigated area within 3 years from the commencement of the Project. 1-2 The number of examples of technical improvement in each technical field 1-3 Leveling is introduced in the pilot farm. 1-4 Direct sowing by machinery is introduced in the pilot farm. 1-5 Third fertilization (timing and amount) is improved in the pilot farm. 2-1 Four programs targeting different groups are prepared within 3 years from the commencement of the Project. 2-2 Twenty four training manuals on water control, O&M and rice cultivation are prepared within 3 years from the commencement of the Project. 2-3 At least one C/P field is diploma in teaching methods in each technical field. 2-4 Capability evaluation on training courses for those who have more than 2-year 2-5 Training methods are developed. 2-6 The minimum number of courses and participants: 8 courses for technicians of INDRH and the Federation of WUA (100 participants), 7 courses for technicians of SEA (100 participants), 6 times for WUA's Executive Committee members (25participants) and 8 courses for nucleus (80 participants) are conducted by the completion of the Project. 2-7 Enhancement of understanding of trainees is confirmed. 2-8 Monitoring methods for trainees are under preparation.</p>	<p>2-1. List of training programs/manuals, document list 2-2. List of training materials 2-3. Certificate 2-4. Evaluation report 2-5. Documents on training methods 2-6. The number of training courses and participants 2-7. Evaluation report 2-8. Reports</p>	<p>Trainees are dispatched continuously from WUA. Progress of WUA formation under on-going projects such as PROMATEC, PROMESER, do not become greatly delayed.</p>
<p>Activities 1. Water Management 1-1 To grasp water intake status. 1-2 To examine water management method in the model irrigated areas. 1-3 To prepare water management guideline 1-4 To prepare appropriate training programs and materials for water management. 1-5 To train lecturers 2. WUA support/maintenance 2-1 To examine issues to be improved on WUA in the model irrigated areas. 2-2 To prepare guideline of WUA's activities enhancement. 2-3 To confirm and verify maintenance system in the model irrigated areas. 2-4 To prepare maintenance methods. 2-5 To prepare inventory preparation method. 2-6 To prepare appropriate training programs and materials for WUA/maintenance, and perform training. 2-7 To train lecturers. 3. Cultivation 3-1 To investigate present status of paddy cultivation in and around the model irrigated area. 3-2 To examine and propose suitable water management at the on-farm level. 3-3 To examine and propose appropriate cultivation management techniques. 3-4 To verify appropriate cultivation management techniques. 3-5 To prepare training programs and materials and to perform training. 3-6 To train lecturers. 4. To establish the pilot farm in the irrigated area. 5. To implement baseline survey in and around the model irrigated areas. 6. To visit the irrigation area and to monitor and follow-up on-trainees activities.</p>	<p>Inputs Japan [Dispatch of Experts] (1) Long-term Experts Chief Advisor 80[H/M] Project Coordinator 80[H/M] Water Management 80[H/M] WUA Support and Maintenance 80[H/M] Rice Cultivation 80[H/M] (2) Short-term Experts [H/M] total [H/M] [Provision of Machinery, Equipment and Materials] 1) Vehicles 2) Equipment for Training Equipment for Investigation Equipment for model farm operation Audio-visual equipment, etc. Equipment for training materials preparation [Counterpart Training in Japan]</p>	<p>the Dominican Republic 1. Assignment of Counterpart Personnel [INDRH H/O] Project Coordinator 80[H/M] C/P (Water Management) 80[H/M] C/P (O&M) 80[H/M] C/P (Cultivation) 80[H/M] Administrative staff 80[H/M] Secretary 80[H/M] total 360[H/M] [BONAO] C/P (Water Management) 80[H/M] C/P (O&M) 80[H/M] C/P (Cultivation) 70[H/M] total 190[H/M] Grand total 550[H/M] [Facilities] Office and working space for Japanese expert (INDRH Central Office) Preparation of the experimental farm [Local Cost] Running cost for the implementation and management of the Project</p>	<p>Outlines electronic and transport procedures do not get greatly delayed. Understanding, consensus, cooperation from farmers in the pilot farm are obtained. [Pre-conditions] Cooperation between INDRH and Ministry of Agriculture is established.</p>

1. Water management

Modified PO

ANNEX 3

ACTIVITIES	GOAL	Program(japanese fiscal year)																				Person in charge	Imputation	Note
		2001				2002				2003				2004				2005						
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV			
1-1.To grasp water intake status. 1-1-1.To collect a hydrometeorologic and hydrometric data. 1-1-2.To realize water quality study 1-1-3.To realize study in the pilot farm 1-1-4.To calculate a balance of water 1-1-4-1.To study the irrigation and drain flow 1-1-4-2.To study the programmed consumptive water use 1-1-4-3.To examine irrigation efficiency	To be realized basic data processing for water management and use it to calculate a water balance. To be confirmed the state of the water charged by contaminations substances like domestic sewage,etc. To be taken and applied the characteristic soils,ponding depth,groundwater level,the actual irrigation and drain system, form the pilot farm and boundary ridges. To be realized an observation of flow on one or several plots, consequently it will be caught a quantity of the water at inlet and outlet on the surface. To be determined a programmed water consumption volume on each stage of growing according to combination with the soil water reduction method, real figure) and evapotranspiration volume by appropriate method. To be determined water use states in the corresponding project zone in order to as a reference of an effective management of irrigation water and reuse.																					Counterpart		
1-2.To examine water management methods in the model irrigated areas. 1-2-1. To examine and verify the system improvement in Jima Margen Izquierda. 1-2-1-1.To examine the management method, operation and surveillance of the irrigating system. 1-2-1-2.To examine water distribution annual plan 1-2-2.Examine and verify the system improvement on the pilot farms. 1-2-2-1.To examine water management operation during the germination stage on the practice of zero plowing cultivation. 1-2-2-2.To examine the operation and water management concerning the growth stage. 1-2-2-3.To examine the operation and water management at the leveled farm.	The appropriate application of the division works of the reservoir and also main channel are done and the improvement of the conveyance efficiency is planned. Carrying out the operation and monitoring of the proper irrigation facilities and optimum irrigation distribution pattern is established. A new method will be established corresponding to a new practical cultivation (zero plowing), specially in the first stage (sowing-rootage). A calendar for irrigation will be prepared and it responds to the growing stage after tillering and the users will comprehend water use time, and irrigation efficiency will be improved. The effect of the irrigation time decrease will be confirmed according to comparison with another none leveled farm(surface, inclination,wall,etc).																					Counterpart	Short term expert	
1-3.To prepare a water management guide Roe. 1-3-1.To know problematic points and examine the applications method. 1-3-2.To recognize problematic points mutually through the workshops. 1-3-3.To prepare an effective water management guide (draft).	The problematic points will be specified for the water management according to study, and compare and examine the same method. The situation of water management will be reflected by the exchanged opinions and inform elaboration. To be realized water management for appropriate level and to be tried improvement efficiency of irrigation and productivity.																					Counterpart		
1-4.To prepare an appropriate training programs and materials for water management, and to conduct training. 1-4-1.To prepare didactic programs and materials (manuals included). 1-4-2.To conduct training.	The techniques practiced in the model farm will be introduced and applied in the training through didactic materials and manuals(farmers and technicians).																					Counterpart		
1-5.To train lecturers. 1-5-1.To realize lecturers for the trainees.	To conduct training, workshops and seminars using audio-visuals equipment.																					Counterpart		

Support WUA/Maintenance

Activities	Expected results	Program (Japanese fiscal year)																				Person incharge	Input	Note				
		2001				2002				2003				2004				2005										
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV							
2-7.To prepare an appropriate training programs and materials for WUA/Maintenance, and to conduct training.																												
2-7-1.To prepare didactic training materials.	The obtained techniques in the model irrigated areas will be diffused by manuals.																									ALJA/CP		
2-7-2. To conduct training																										Ma/CP		
2-7-2-1.To conduct training for state engineers.	To be realized the train on methods of the WUA and Maintenance.																									ALJA/CP		
2-7-2-2.To conduct Training for water users.																										Ma/CP		
2-8.To train lecturers.	To conduct training, workshop and seminar, using audio visualis equipment, and diffuse to national level.																									ALJA/CP		
																										Ma/CP		

2

Cultivation Area

Activities	Expected results	Program (japanese fiscal year)																				Person in charge	※Imputation	Note
		2001				2002				2003				2004				2005						
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV			
3-1 To investigate present status of paddy cultivation in and around the Project areas.																								
3-1-1 To determine the farms to obtaining data.	To be used the dates of representative farms.																							
3-1-2 To investigate the productivity, sowing and growing in different varieties to test.	To be used the sowing method of high productivity.																					C/P		
3-1-3 To investigate the production cost for the variety of sowing	To be used a sowing method in reduced cost.																					C/P		
3-2 To examine and propose suitable water management at the on-farm level.																								
3-2-1 To examine an appropriate water management in different stages of cultivation.	To establish an appropriate water management																					C/P		
3-2-2 To examine and propose an appropriate water management to introduce a mecanized cultivation																						C/P		
3-3 To examine and propose an appropriate cultivation management techniques.																								
3-3-1 To study and propose a cultivation method of reduced cost.	To be used a cultivation method in reduced cost.																					C/P		
3-3-2 To study and propose a cultivation method of high productivity.	A cultivation method will be used for high productivity.																					C/P		
3-4 To verify cultivating method in the model farm																								
3-4-1 To determine the pilot farm.																								
3-4-2 To examine a demonstration plan in the pilot farm, coordinating with the farmers.	The theonics desired will be applied by the farmers.																					C/P		
3-4-3 To give a technic assistance for the farmers.	An appropriate technologies will be understood by the farmers.																					C/P		
3-4-4 To analize and evaluate the results of the demonstration.	The applicable technologies in a farm will be specified.																					C/P		
3-5 To prepare appropriate trainig programs and materials for cultivation, and to conduct training.																								
3-5-1 To prepare manuals for zero ploughing	To be specified the technics of zero ploughing.																					C/P		
3-5-2 To prepare phytosanitary manuals about helix	The method for disease and plague control will be specified.																					C/P		
3-5-3 To conduct the training.	To be obtained the knowledge about paddy cultivation by technicians.																					C/P		
3-6 To train																								
3-6-1 To celebrate different seminars on cultivation.	To be obtained an appropriate knowledge about cultivation technics.																					C/P	short period expert.	

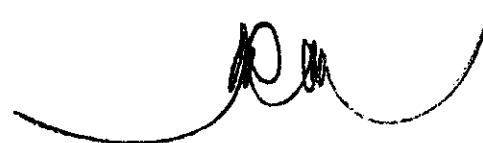
PO

Activities	Expected Results	Programa (año fiscal japonés)																				Responsables	*Inputation	Note
		2001				2002				2003				2004				2005						
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV			
4. Establish model farm in the model irrigated areas.	Alternatives of developed technology by the project on Water Management, o&m and cultivation are applied in pilot .																					Japanese Experts and all Dominican Counterparts		
5. Carry out Basic Studies in the model irrigated areas and nearby.	ActualCondition of soci-economical aspect of agriculture in model area will be recognized .																					Japanese Experts and all Dominican Counterparts		
6. Visit irrigated areas, participate and monitor activities of trainees.	Goals of transference by the extranees in their work place will be recognized.																					Japanese Experts and all Dominican Counterparts		

M

Name	Area of Specialty	Period of Dispatch
Long-term Experts		
Kazunari MORIMOTO	Chief Advisor	2001,03,01~2004,02,29
Akashi KITANO	Project Coordinator	2001,03,01~2003,06,30
Shinichi KONDO	Project Coordinator	2003,05,29~2006,02,28
Hiroyuki TAZAWA	Water Management	2001,03,01~2004,02,29
Junya YAMAUCHI	WUA/Operation & Maintenance	2001,03,01~2004,02,29
Yasushi MISAO	Cultivation	2001,03,01~2004,02,29
Short-term Experts		
Takashi WADA	Cultivation	2001,11,21~2001,12,19
Shizuo MURAMATSU	WUA Support	2002,08,21~2002,09,14
Third Country Expert		
Winston KANASHIRO	Construction Control & Manual	2002,11,15~2003,02,15





Acceptance of Dominican Counterparts for Training in Japan

ANNEX 5

Name	Training area	Period of Training
Ing. Raquel Abreu Tabar	Irrigated Agriculture	01/03/30~04/27
Ing. Eustacio Rivera Zapata	Agricultural Land Water Resources Development	01/05/21~07/29
Ing. Silvio Susaña	Water Management	02/10/14~11/02
Ing. Felix Genaro	Water Management	03/02/17~03/08
Ing. Julio Cesar G. Oller	The Role of Water's Associations in Rural Community	02/10/14~11/02
Ing. Sonia Melan Mora	Maintenance & Operation of Rural Irrigation System	01/09/10~10/06
Ing. José Gabriel Pérez	Farmer's Participation for Maintenance & Operation of Irrigation Facilities	03/05/20~06/13
Ing. Euribiades Jiménez	The Role of Water's Associations in Rural Community	03/05/20~06/13
Ing. Quirino Abreu Pérez	Paddy Rice Cultivation	02/06/06~06/28
Ing. Santana Campos Gelabel	Rural Development with Peoples' Participation & Maintenance of Irrigated Infrastructure	01/08/30~10/06
Ingo. Rafael Leonia's Malaya	Paddy Rice Cultivation	03/05/20~06/13

Over 1,300pesos

Provision of Equipment and Machinery

ANNEX 6

From March,2001 to February, 2006

Budget classification
C: training
E: equipment
G: general
R: expert equipment

Acquisition fiscal year	Equipment name and materials (Make, model, etc.)	Price (RD\$)	Price (Yen)	Quantity	Place of use	Condition	Maintenance	Pres.	Note
2000	Vehicle(Toyota, Runner)	556,894.65	4,176,700.00	1	Headquarters	Good	Good	E	
	Vehicle(Nissan, camioneta)	632,546.88	4,744,100.00	2	Headquarters	Good	Good	E	
	Computer	119,280.00	894,600.00	4	Headquarters	Good	Good	E	
	Monitor	17,200.00	129,000.00	4	Headquarters	Good	Good	E	
	Printer	15,000.00	112,500.00	2	Headquarters	Good	Good	E	
	UPS	20,000.00	150,000.00	4	Headquarters	Good	Good	E	
	photocopier(Canon)	242,790.00	1,820,900.00	2	Bonao office.	Good	Good	E	
	Faxmachine	25,330.00	190,000.00	2	Bonao office.	Good	Good	E	
	Safe	7,779.52	58,346.40	1	Headquarters	Good	Good	G	
	Petty cash	1,400.00	10,500.00	1	Headquarters	Good	Good	G	
	UPS	3,326.00	24,945.00	1	Headquarters	Good	Good	G	
	6 desks, 6 chairs	30,732.80	230,496.00	12	Headquarters	Good	Good	G	
	Computer table	6,484.20	48,631.50	3	Headquarters	Good	Good	G	
	Microsoft Office 2000	14,686.00	110,145.00	1	Headquarters	Good	Good	G	
	telephones	1,421.39	10,660.43	3	Headquarters	Good	Good	G	
	Bookshelf	1,849.34	13,870.05	1	Headquarters	Good	Good	G	
	5computers, 1printer	403,943.87	3,029,579.00	6	Headquarters	Good	Good	R	
	Sub-Total	2,100,664.65	15,754,973.38		Headquarters		Good		
2001	file cabinet	2,598.40	19,488.00	1	Headquarters	Good	Good	G	
	Cell phones	17,696.00	132,720.00	5	Headquarters	Good	Good	G	
	Bookshelf with doors	4,929.79	36,973.43	2	Headquarters	Good	Good	G	
	computer mouses	1,565.00	11,737.50	5	Headquarters	Good	Good	G	
	Refrigerator	1,662.25	12,267.41	1	Headquarters	Good	Good	G	
	secretary desk	6,875.90	50,744.14	1 kit	Bonao office.	Good	Good	G	
	Measure tape	1,351.84	9,976.58	2	Head quarter	Good	Good	G	
	cabin	7,700.00	58,212.00	2	Bonao office.	Good	Good	G	

	Fans	13,550.00	102,438.00	10	Bonao office.	Good	Good	G
	Vehicle(Nissan, pick up)	638,448.00	4,660,670.40	2	Head quarter	Good	Good	E
	Vehicle(Nissan, van)	713,160.00	5,206,068.00	1	Head quarter	Good	Good	E
	farm Tractor	485,000.00	3,855,750.00	1	Dist. Yuna	Good	Good	E
	Planter, fertilizing machine	290,000.00	2,305,500.00	1	Dist. Yuna	Good	Good	E
	scanner	5,700.00	42,066.00	2	Head quarter	Good	Good	E
	Printer	19,500.00	143,910.00	1	Head quarter	Good	Good	E
	(laptop) computer	49,790.00	367,450.20	2	Head quarter	Good	Good	E
	Computador(desktop)	41,550.00	306,639.00	3	Bonao office.	Good	Good	E
	Monitor	9,000.00	66,420.00	3	Bonao office.	Good	Good	E
	CD-ROM	2,500.00	18,450.00	1	Head quarter	Good	Good	E
	All weather Camera	3,599.00	26,560.62	1	Head quarter	Good	Good	E
	overhead projector	4,500.00	33,210.00	1	Head quarter	Good	Good	E
	small camera	4,999.00	36,892.62	2	Head quarter	Good	Good	E
	Camera	8,155.20	60,185.38	1	Head quarter	Good	Good	E
	Lens	3,163.20	23,344.42	1	Head quarter	Good	Good	E
	UPS	5,550.00	40,959.00	3	Head quarter	Good	Good	E
	Television	18,219.45	134,459.54	2	Head quarter	Good	Good	E
	VHS	5,187.88	38,286.55	2	Head quarter	Good	Good	E
	Chairs for meeting room	13,440.00	99,187.20	20	Head quarter	Good	Good	E
2002,01,10	Drawing table	1,800.00	14,004.00	1	Head quarter	Good	Good	G
	electric scales	34,026.71	264,727.80	1	Head quarter	Good	Good	E
	Bomba Mochila	2,200.00	17,116.00	2	Bonao office.	Good	Good	E
	Mochila Motorizada	14,584.00	113,463.52	2	Bonao office.	Good	Good	E
	manual granulator	3,000.00	23,340.00	2	Bonao office.	Good	Good	E
	communication Radio	5,088.00	40,449.60	2	Head quarter	Good	Good	E
	Gauge	6,300.00	50,085.00	10	Rincón, Alm.	Good	Good	G
	white marker board	11,550.00	91,822.50	3	Bonao office.	Good	Good	E
	Refrigerator	26,670.22	212,028.25	2	Bonao office.	Good	Good	E
	power generator	189,000.00	1,502,550.00	1	Bonao office.	in custody	Good	E
	Transit(digital theodolite)	52,069.50	413,952.53	1	Head quarter	Good	Good	E
	digital level	84,000.00	667,800.00	1	Head quarter	Good	Good	E
	Tripod	4,284.00	34,057.80	1	Head quarter	Good	Good	E
	hand digital level	1,456.00	11,575.20	1	Head quarter	Good	Good	E
	levelling staff	16,049.60	127,594.32	1	Head quarter	Good	Good	E
	Planimeter	38,886.40	309,146.88	2	Head quarter	Good	Good	E
	Bookshelf	9,246.72	73,511.42	5	Bonao office.	Good	Good	E

	Bookshelf with door	12,324.48	97,979.62	5	Bonao office.	Good	Good	E
	Concrete mixer	33,600.00	264,432.00	1	Bonao office.	Good	Good	E
	Pavement breaker	36,960.00	290,875.20	1	Bonao office.	in custody	Good	E
	concrete vibrator	14,448.00	113,705.76	1	Bonao office.	in custody	Good	E
	Material de ricimímetro	6,031.55	47,468.30	1 kit	IDIAF	Good	Good	E
	Pole	9,750.00	76,732.50	10	Head quarter	Good	Good	E
	measuring tape	4,150.00	32,660.50	5	Head quarter	Good	Good	E
	Curvímtero, curvígrafo	1,700.00	13,379.00	4	Head quarter	Good	Good	E
	portable power generator	78,000.00	613,860.00	1	Bonao office.	Good	Good	E
	Carrito de planta	1,800.00	14,166.00	1	Bonao office.	Good	Good	E
	evapotranspiration tank	14,280.00	112,383.60	1	Rincón,Alm.	Good	Good	R
	Soil permeability tester	8,640.41	68,000.00	1	Head quarter	Good	Good	R
	Sacamuestra de suelo	8,703.94	68,500.00	1	Head quarter	Good	Good	R
	Sacamuestra de suelo adicional	1,499.36	11,800.00	1	Head quarter	Good	Good	R
	Sentry box	15,628.97	123,000.00	1	Rincón,Alm.	Good	Good	R
	Pluviógrafo y accesorio	32,636.59	256,850.00	1	Rincón,Alm.	Good	Good	R
	Termo-higrógrafo y accesorio	8,443.46	66,450.00	1	Rincón,Alm.	Good	Good	R
	Registro de evapotranspiración y acc.	26,944.09	212,050.00	1	Rincón,Alm.	Good	Good	R
	Espectrofotómetro y adicionales	18,589.58	146,300.00	1	Head quarter	Good	Good	R
	Grader tow truck	19,500.00	153,465.00	1	Bonao office.	Good	Good	E
	Water pump and hose	10,600.03	83,420.00	1	IDIAF	Good	Good	E
	Tool box for pick up	6,600.00	51,942.00	2	Head quarter	Good	Good	E
	Sub-Total	3,250,432.52	24,787,210.29					
2002	Adapter	1,700.00	13,200.00	1	Head quarter	Good	Good	G
	Billboard at Padre Cabero warehouse	2,600.00	18,430.00	1	Rincón,Alm.	Good	Good	G
	Table for Main warehouse	1,280.00	9,011.20	2	Rincón,Alm.	Good	Good	G
	pick up tire 19448	7,200.00	50,688.00	4	Bonao office.	Good	Good	G
	Technical books	1,345.00	9,092.20		Head quarter	Good	Good	G
	Closet for Bonao office	2,822.40	19,446.34	1	Bonao office.	Good	Good	G
	Power Acabado de caseta planta	3,605.00	25,451.30	1	Bonao office.	Good	Good	G
	UPS brought from japan	4,627.00	32,666.62	1	Head quarter	Good	Good	G
	Battery for the tractor	2,200.00	15,532.00	1	Rincón,Alm.	Good	Good	G
	Pick up tires 19869	2,352.00	16,605.12	1	Head quarter	Good	Good	G
	Increase of tractor Hydraulic pump	29,000.00	204,740.00	2	Rincón,Alm.	Good	Good	G
	Transit(Digital Theodolite)	30,693.60	218,538.43	1	Head quarter	Good	Good	E
	PC with regulator for office in Bonao	11,237.00	80,007.44	1	Bonao office.	Good	Good	G
	lawnmower	12,924.00	92,018.88	2	Rincón,Alm.	Good	Good	E

W

	GPS	90,300.00	642,936.00	1	Head quarter	Good	Good	G
	Digital level	92,635.20	648,446.40	1	Head quarter	Good	Good	E
	Pole	9,950.00	69,650.00	10	Head quarter	Good	Good	E
	Battery for digital level	4,368.00	30,576.00	1	Head quarter	Good	Good	G
	Materials for electric installation	13,385.32	93,697.24	1 kit	Bonao office.	Good	Good	G
	pick up tire 19448	2,300.35	16,102.45	1	Bonao office.	Good	Good	G
2003,01,13	pump hose	1,800.00	12,510.00	1 kit	Bonao office.	Good	Good	G
2003	Farm tractor parts	54,372.50	195,000.00	1 kit	Rincón, Alm.	Good	Good	E
	Sub-Total	382,697.37	2,514,345.62					
	Total	5,733,794.54	43,056,529.29					

Local Cost by the Japanese Side

ANNEX 7
(Thousand Yen)

Items	Year 2001	Year 2002	Year 2003	Total
General expenses Office and expert activities expenses	5,522	5,116	2,814	13,452
Technical exchanges Travel to third countries		1,270	873	2,143
Topography	1,579			1,579
Basic line study	2,309			2,309
Designs	917			917
Pilot farm arrangement		15,242		15,242
Training material preparation		3,308		3,308
Training Courses organization			4,269	4,269
Total	10,327	24,936	7,956	43,219

Assignment of Counterpart Personnel

ANNEX 8

Name	Position	Start Date	Finish Date
Ing. Raquel Abreu Tabar	Coordinator	11/10/2000	10/06/2002
Ing. Siomara Fernandez	Coordinator	10/06/2002	
Ing. Freddis Perez	Water management Tech	27/10/2000	28/10/2002
Ing. Gil Manuel Fernandez	Cultivation technician	26/09/2000	31/10/2002
Ing. Rafael Leonidas	Cultivation technician(SEA)	20/05/2002	
Ing. Santana Campos	Cultivation technician(SEA)	05/11/2000	
Ing. Eustacio Rivera Zapata	Water management Tech	27/10/2000	
Ing. Silverio Susaña	Water management Tech	27/10/2000	
Ing. Julio Cesar Oller	Technical support WUA	03/10/2000	
Ing. Sonia Meran	Water management Tech	06/02/2001	
Ing. Luis Bello	Water management Tech	19/02/2003	
Ing. Jose Gabriel Perez	Water management Tech	27/10/2000	
Lic. Victor A. Gonzalez	Administrative chief	27/10/2000	
Lic. Federico Rodriguez	Auditor	28/03/2001	

Local Cost by the Dominican Side

ANNEX 9

**Expenses Report of the Project from March 1st, 2001 to August 31st, 2003
(INDRHI)**

wages and salaries	RD\$	4,984,772.50
Miscellaneous(food)	RD\$	114,270.00
Fuels and Lubricants	RD\$	153,062.14
Expenditures by petty cash	RD\$	47,747.31
Reconstruction of CENACA	RD\$	268,416.85
Construction of Corral for the weather station	RD\$	33,367.00
Construction of little house for power generator	RD\$	35,956.19
Repair of gate of contraembalse for the Rincon Dam	RD\$	264,136.32
TOTAL	RD\$	5,901,728.31

**Expense Report of the Project from March 1st, 2001 to August 31st, 2003
(SEA)**

Wages and Salaries	RD\$	464,298.64
Total	RD\$	581,501.14

The secretary of state of Agriculture has facilitated the use of the facilities in the Centro de Capacitación Arrocera (CENACA) in order to perform the technical Training of PROMTECAR and the facilities of the Instituto Dominicano de Investigacion Agroforestales (IDIAF) in order to perform the test for determining the technical parameters to be used on the model farm of PROMTECAR.

Progress of Activities

ANNEX 10

Water management

Activities	Program(Japanese fiscal year)					PERSON IN CHARGE		DEVELOPMENT OF ACTIVITY		GOAL	PROGRESS (%)		
	*****FIRST PLAN ----- MODIFIED					Japan	Dominican Republic	ACTIVITY	RESULT				
	2001	2002	2003	2004	2005								
1. Water management													
1-1. To grasp water intake status.						HIROYUKI TAZAWA	Eustacio Rivera Zapata						
1-1-1. To collect a hydrometeorologic and hydrologic data.	■	■	■	■	■					To gather daily data by C/P and arrange them in excel.	Hydrometeorology and hydrometric data (temperature, humidity, evaporation, precipitation and velocity of the wind).	To be realized basic data processing for water management and use it to calculate a water balance.	50
1-1-2. To realize water quality study.	■	■	■	■	■				Luis Bello Medrano	To realize water quality study once a month(8 places of the model areas under irrigation, main canals, lateral canals, tertiary canals, drain).	water quality data gathering and arrange	To be confirmed the state of the water charged by contaminations substances like domestic sewage, etc.	50
1-1-3. To realize study in the pilot farm.	■	■	■	■	■				Silvario Florentino Susana	<ul style="list-style-type: none"> Investigation of the groundwater level for 4 wells. Investigation of current status(soil, canal and drain, wall, intake and outlet) Measurement of ponding depth. 	<ul style="list-style-type: none"> To show a ponding depth and groundwater level graphically. To draw a map of position of canals and drains, boundary ridge, inlet and outlet map. To calculate field water balance 	To be taken and applied the characteristic soils, ponding depth, groundwater level, the actual irrigation and drain system, form the pilot farm and boundary ridges.	50
1-1-4. To calculate a water balance													
1-1-4-1. To study the irrigation and drain flow	■	■	■	■	■					Measurement of irrigation and drain flow(for Parshall flume) on farm level.	To collect data(at inlet and outlet on the plot).	To be realized an observation of flow on one or several plots, consequently it will be caught a quantity of the water at inlet and outlet on the surface.	50
1-1-4-2. To study the programmed consumptive water use		■	■	■	■					<ul style="list-style-type: none"> To calculate the field capacity in accordance with the physical-chemical soil test. To calculate the unit water requirement monthly(L/S/ha) 	To prepare the results of the programmed consumptive water use each growth stage.	To be determined a programmed water consumption volume on each stage of growing according to combination with the soil water reduction method(real figure) and evapotranspiration volume by appropriate method.	58

Water management

Activities	Program(Japanese fiscal year)					PERSON IN CHARGE		DEVELOPMENT OF ACTIVITY		GOAL	PROGRESS (%)
	-----FIRST PLAN ----- MODIFIED					Japan	Dominican Republic	ACTIVITY	RESULT		
	2001	2002	2003	2004	2005						
1-1-4-3.To examine irrigation efficiency								Measurement on 20 observation points of stream flow on the model area under irrigation monthly.	<ul style="list-style-type: none"> To make model map of irrigation and drain system including results of flow observation and surface area. Calculate the irrigation efficiency 	To be determined water use states in the corresponding project zone in order to as a reference of an effective management of irrigation water and reuse.	36
1-2.To examine water management methods in the model irrigated areas.											
1-2-1.To examine and verify the system improvement in Jima Margen izquierda.											
1-2-1-1.To examine the management method, operation and surveillance of the irrigating system.						HIROYUKI TAZAWA	Luis Bello Medrano	<ul style="list-style-type: none"> To hold interviews about operation and maintenance with members of the WUA. Installation of the water level gauges by lateral and tertiary canal to measure water flow and level. 	<ul style="list-style-type: none"> Preparation of report. Installation of the water level gauges. Preparation of H-Q rating curve. 	The appropriate application of the division works of the reservoir and also main channel are done and the improvement of the conveyance efficiency is planned.	58
1-2-1-2.To examine water distribution annual plan							Silverio Florentino Susafo	<ul style="list-style-type: none"> To calibrate the relations between the opening in of the gate and the discharge of the lateral and tertiary canals. To investigate accumulative area irrigated by each lateral canal. 	<ul style="list-style-type: none"> Establishment of optimum discharge management of sluice gate to grasp model and graph. To modulate the water requirement in the canal system. 	Carrying out the operation and monitoring of the proper irrigation facilities and optimum irrigation distribution pattern is established.	36
1-2-2.Examine and verify the system improvement on the pilot farms.											
1-2-2-1.To examine water management operation during the germination stage on the practice of zero plowing cultivation.						HIROYUKI TAZAWA	Eustacio Rivera Zapata	To measure irrigation water requirement (inlet and outlet) and the groundwater level on zero plowing farm.	Data collection of water balance at zero plowing cultivation and the groundwater level.	A new method will be established corresponding to a new practical cultivation(zero ploughing), specially in the first stage(sowing-rootage).	43

Water management

Activities	Program(Japanese fiscal year)					PERSON IN CHARGE		DEVELOPMENT OF ACTIVITY		GOAL	PROGRESS (%)
	*****FIRST PLAN ----- MODIFIED					Japan	Dominican Republic	ACTIVITY	RESULT		
	2001	2002	2003	2004	2005						
1-2-2-2.To examine the operation and water management concerning the growth stage.		■ ■ ■ ■ ■ ■ ■ ■				HIROYUKI TAZAWA	Eustacio Rivera Zapata	<ul style="list-style-type: none"> Programmed unit water requirement (L/S/ha) that correspond to the growth stage Investigation of lysimeter in order to measure ponding depth in detail in IDIAF. 	<ul style="list-style-type: none"> To confirm the basic condition of water management/"When(growth stage)?"/"How much(volume or ponding depth)?"/"How long (daily irrigation time)?"/"How many days(irrigation interval)?" Basic data - consumptive water use and the crop , evapotranspiration,percolation for a rice variety. 	A calendar for irrigation will be prepared and it responds to the growing stage after the tillering and the users will comprehend water use time, the irrigation efficiency will be improved.	58
1-2-2-3.To examine the operation and water management at the leveled farm.			■ ■ ■ ■ ■ ■ ■ ■					Silverio Florentino Susaŕa	<ul style="list-style-type: none"> To measure the time and volume of field water supply , ponding depth to compare with before and after the model farm construction. 	Data Collection of the time and volume of field water supply , ponding depth,etc.	The effect of the irrigation time decrease will be confirmed according to comparison with another none leveled farm (surface, inclination,wall,etc).
1-3.To prepare a water management guideline.						HIROYUKI TAZAWA	Eustacio Rivera Zapata Luis Bello Medrano Silverio Florentino Susaŕa				
1-3-1.To know problematic points and examine the applications method.		■ ■ ■ ■ ■ ■ ■ ■						<ul style="list-style-type: none"> To identify the problematic items of operation and water management according to study. 	To prepare reports in accordance with the results of the investigation.	The problematic points will be specified for the water management according to study, and compare and examine the same method.	71
1-3-2. To recognize problematic points mutually through the workshops.			■ ■ ■ ■ ■ ■ ■ ■					<ul style="list-style-type: none"> The first workshop was held on December 5, 2002 and about 60 people took part - INDRHI, SEA, BANCO AGRICOLA AND IRRIGATION BOARD. 	The results of the evaluation questionnaire of the workshop were "Very Good" and "Good."	The situation of water management will be reflected by the exchanged opinions and inform elaboration.	25
1-3-3.To prepare an effective water management guide(draft).			■ ■ ■ ■ ■ ■ ■ ■							To be realized water management for appropriate levels and to be tried improvement efficiency of irrigation and productivity.	0

Water management

Activities	Program(Japanese fiscal year)					PERSON IN CHARGE		DEVELOPMENT OF ACTIVITY		GOAL	PROGRESS (%)	
	*****FIRST PLAN ——— MODIFIED					Japan	Dominican Republic	ACTIVITY	RESULT			
	2001	2002	2003	2004	2005							
1-4.To prepare an appropriate training programs and material for water management, and to conduct training.						HIROYUKI TAZAWA	Eustacio Rivera Zapata Luis Bello Medrano Silverio Florentino Susafa					
1-4-1.To prepare didactic programs and materials(manual included)	■	■	■						Prepare a program and didactic materials based on results which they researched by themselves .	To prepare a program and didactic material (6) of the training course.	The techniques practiced in the model farm will be introduced and applied in the training through didactic materials and manuals(farmers and technicians).	56
1-4-2.To conduct training.			■	■	■				Trainings are carried out from June,2003.	3 trainings have been carried out(August, 2003).		9
1-5.To train lecturers.												
1-5-1.To realize lecturers for the trainers.	■	■	■	■	■				C/P comprehend task and problem to pursue instructors training through everyday charges .	Instructors were prepared on the training course utilizing audio visual equipment. Number of participants: -First training 32 -Second training 25 -Third training 22 .	To conduct trainings, workshops and seminars using audio visual equipments.	50

3. Chart of the development of the activities of Project (Support WUA and Maintenance).

Activities	accomplished advance First Plan (broken line) Modified plan (line)					Responsible for		Development of the activities		Goal	% of Progress
	2001	2002	2003	2004	2005	Japanese part	Dominican Part	Activities	Results		
						
2-1.To examine Improvement of the WUA in the model irrigated area.											
2-1-1.To study current state of the activities and extract problems of WUA in Jima Margen Izquierda.						Yamauchi	Eng. Oller	<p>1.To carry out investigations related with the organization system of WUA in the model area.</p> <p>2.To make responsible for the cleaning and water management of the canals of the plots the nucleos, and we carried out questionnaire to the nucleos. in addition a list of the nucleos in J.M.I.</p> <p>3.To confirm the current status of the activities and the existing charges on each organization level from the executives to the nucleos.</p> <p>4.Verify the content of the statutes of WUA.</p>	<p>1. Originally and in accordance with the statutes of WUA, it is stated that the cleaning of the canals and the water management on the plots will be under the nucleos. In fact, this has not been carried out, for which this has become a problem in WUA of the model area.</p> <p>2. In order to confirm who are the responsible for the water management and cleaning of the canals, a list with the members of the nucleos was made. Through this list the presence of the nucleos was recognized. This list has been used to carry out a socio-economical investigation.</p> <p>3. The consolidation of the tasks to be performed and the activities on each level, starting by the directive members and ending with the nucleos. Also we made up the report.</p> <p>4.To understanding about the items that make up the existing statutes of WUA.</p>	To identify the actual problems of the WUA.	100
2-1-2.To carry out workshops for the Directors of the WUA in Jima Margen Izquierda.						"	"	<p>1.The workshop aimed to the executives of WUA was held on May 1st 2001.</p> <p>2.Participating an executive committee of the association of J.M.I.</p> <p>3.With the intention to solve the problems of the pollution in the area, the official institutions and the community representatives held a meeting in the model area, in which we participate as project.</p> <p>4.The execution of a diagnostic about the pollution in the irrigating canals in 10 communities in the area of Rincon.</p>	<p>1. To listen to the existing problematic with the administration of WUA, brought up by the directive members of WUA. Similarly to explain the content of the activities that PROMTECAR will carry out in the model area in order to get to an agreement between the parts.</p> <p>2. Before starting the project, the directive members of WUA in J.M.I will not hold meeting periodically, but the directive members will have conversations the first Wednesday of each month. In addition, the annual plan of activities is approved by the membership..</p> <p>3. The official institutions of the model area and the representatives of the residents of the communities, stated the problematic of the pollution on the irrigation canals..</p> <p>4. The residents of the community were informed about the current pollution.</p>	The Directors will understand the significance and advantages of the water users organizations.	50

3. Chart of the development of the activities of Project (Support WUA and Maintenance).

Activities	accomplished advance First Plan (broken line) Modified plan (line)					Responsible for		Development of the activities		Goal	% of Progress
	2001	2002	2003	2004	2005	Japanese part	Dominican Part	Activities	Results		
						
								<p>5. Carrying out the diagnostic of the pollution of the irrigation canals aimed to WUA at the rice producing zone all over the nation.</p> <p>6. Taking into consideration as the focal point WUA, the project plans the incorporation of the residents of the communities to the activities to the reduction of disposal of filthy waters as well as the garbage. As an example we have the visit of a short term expert of the MEIJI Land Improvement District with whom we celebrated a seminar called "To incorporate WUA and the residents to the activities of the conservation of the environment" as an example of the activity.</p>	<p>5. The summary of the result of the survey realized in the 49 WUA in the national territory was reported to the joint committee.</p> <p>6. Total of 190 peoples including government staffs, WUA members and local community representatives participated in the seminar.</p>		
2-1-3. To realize meetings respect to activities plan and contents with nucleus.						Yamauchi	Eng. Oller	<p>1. To hold a meeting as a communication way among the members of the association.</p> <p>2. The farmers will participate on the construction of the model farm and will coordinate it.</p>	<p>1. The existence of the nucleus was confirmed.</p> <p>2. We explained the involved farmers about the contents of the land preparation at the Model Farm, coming of agreement between the parts.</p>	To achieve the communications between the users and the leaders for the definition of the WUA activities.	25
2-2. To prepare a guideline for WUA activities enhancement.											
2-2-1. To examine the use of the user's inventory in Jima Margen Izquierda.						Yamauchi	Eng. Oller	<p>1. This project had previously the intention to perform investigation in the management of the census of users prepared by PROMASIR, but because of the delays of PROMASIR, this activity is at a standstill.</p>	<p>1. We will start that activity at the beginning of 2004.</p>	To renovate appropriately the users inventory and it will specify the users location in the irrigated system and it will be used for the collecting of the water charge.	0
2-2-2. To prepare a diagrams of the water use.						"	"	<p>1. No started due to the reasons stated above.</p>	<p>1. We will start that activity at the beginning of 2004.</p>	The water used state will be recognized by the WUA and will apply for the water used program.	0
2-2-3. To prepare a guideline (draft) for the activities of the nucleus.						"	"	<p>1. We are still preparing a survey to apply it to the 8 WUA on the rice producing zones of the country concerning the solutions of the problem between the association and members ,etc.</p>	<p>1. An improvement guideline of the activities of the group of the nucleus elaborated will be consulted with the result of that survey.</p>	To prepare an enhancement guideline for the WUA activities and it will be used for the near future.	20

3. Chart of the development of the activities of Project (Support WUA and Maintenance).

Activities	accomplished advance First Plan (broken line) Modified plan (line)					Responsible for		Development of the activities		Goal	% of Progress
	2001	2002	2003	2004	2005	Japanese part	Dominican Part	Activities	Results		
	■	■	■	■	■						
2-3. To confirm and verify the maintenance system in the model irrigated areas.											
2-3-1. To examine and verify the maintenance system improvement in Jima Margen Izquierda.											
2-3-1-1. To realize study of actual irrigation and drainage systems.						Yamauchi	Eng. Gabriel Eng. Marcelo Eng. Sonia	1. Field investigation of the current irrigating and drainage conditions used at the model farm and its surroundings.	1. There was an agreement on the irrigation and drainage system in the secondary canal and the main canal at the model area.	To confirm the drainage and irrigation systems for the plan scale 1:10,000.	100
2-3-1-2. To prepare a network of the actual irrigation system.						#	#	1. No started	1. Due to the component of water management prepared a network of the actual irrigation system This activity will be omitted.		-
2-3-1-3. To prepare a network of the actual drainage system.						#	#	1. No started	1. Due to the component of water management prepared a network of the actual drainage system This activity will be omitted.		-
2-3-1-4. To examine and verify the maintenance system improvement in Jima Margen Izquierda.						#	Eng. Gabriel Eng. Marcelo Eng. Sonia Eng. Zapata Eng. Luis	1. Reconstruction of the staff gauge at the main canal in J.M.I y J.M.D. 2. Installation of a water measuring device in order to check the water level at the regulating reservoir. 3. Design and construction of Long-throated flumes. 4. Design of bar screen in V shape for the collection of garbage.	1. The water flow measurement was made possible. 2. To utilize the calculation of runoff discharge at the regulating reservoir. 3. Transference of technology regarding the works of construction as well as the betterment of water measuring device. 4. The no littering policy improvement against the disposal of garbage into the canals.	To be established an appropriate plan of the maintenance system for Jima Margen Izquierda.	50
2-3-2. To establish the pilot farm in Jima Margen Izquierda.											
2-3-2-1. To select the place of the pilot farm in Jima Margen Izquierda.						Yamauchi	Eng. Olier Eng. Gabriel Eng. Marcelo Eng. Sonia	1. Of the 2 places proposed for Pilot Farm, selected one. 2. Negotiation with the owners of Pilot Farm.	1. It was determined that the Ceibita of Rincon (with an area of 34ha) was the appropriate place for in site training and as Pilot Farm. 2. The farmers and people involved got the pertinent explanation regarding the Pilot Farm, the farmers' ideas were positively adopted and the design and construction ran smoothly.	It will be understood participatory type project with the agriculturists from the beginning stage.	100

3. Chart of the development of the activities of Project (Support WUA and Maintenance).

Activities	accomplished advance First Plan (broken line) Modified plan (line)					Responsible for		Development of the activities		Goal	% of Progress
	2001	2002	2003	2004	2005	Japanese part	Dominican Part	Activities	Results		
2-3-2-2. To realize a topographic survey, designing and construction of the pilot farm.						#	#	1. To carry out topographic survey and designing land consolidation for paddy field of the Pilot Farm. We prepared technical specifications and supervised the construction of Pilot Farm. 2. Transference of technology to the C/P over the control of the construction by a short term of the third country expert. 3. Installation of a meteorology station. 4. Repair of the machinery and equipment facility.	1. The Pilot Farm has been completed for the rice cultivation and water management, becomes into the model for the irrigated areas. 2. One (1) manual containing the important items to be checked on the construction control when is supervised was prepared. 3. The utilization of the evapotranspiration to calculate irrigation requirement. 4. The utilization as a community meeting center and as a warehouse for the storage of machinery and equipment.		100
2-4. To propose an maintenance method.											
2-4-1. To examine an maintenance system by user.						Yamauchi	Eng. Gabriel Eng. Marcelo Eng. Sonia	1. To carry out the weeding process of the canals and the cleaning of the sediments a meeting was held where the farmers, WUA and that of the District of INDRHI took part. At that meeting the system for the cooperation regarding the labor was talked over.	1. Cleaning of the tertiary canals was carried out.	The maintenance system for the good management will be established.	40
2-5. To prepare maintenance manual.											
2-5-1. To analyze and study the problem of maintenance manual existents.						Yamauchi	Eng. Gabriel Eng. Marcelo Eng. Sonia	1. Collection of data and understanding in the didactic contents for the preparation of manuals on behalf of the INDRHI.	1. Currently we are preparing didactic materials which will be used in the trainings.	To improve the existing maintenance manuals.	100
2-5-2. To calculate the expenses for irrigation facility maintenance.						#	#	1. We are collecting the necessary materials and data.	1. Currently we are preparing didactic materials which will be used in the trainings.	An appropriate water charge will be established to calculate the expenses necessary for maintenance.	50
2-5-3. To prepare maintenance manuals.						#	#	1. We are collecting the necessary materials and data.	1. Currently we are preparing didactic materials which will be used in the trainings.	Manuals will be prepared by the practice in the Pilot Farm.	50

3. Chart of the development of the activities of Project (Support WUA and Maintenance).

Activities	accomplished advance First Plan (broken line) Modified plan (line)					Responsible for		Development of the activities		Goal	% of Progress
	2001	2002	2003	2004	2005	Japanese part	Dominican Part	Activities	Results		
	-----	-----	-----	-----	-----						
2-6.To propose an inventory preparation method.											
2-6-1. To realize a study of an structure function.						Yamauchi	Eng. Gabriel Eng. Marcelo Eng.Sonia	1.In the zone of J.M.I we are carrying out the diagnostic study of the irrigation infrastructure.	1.The C/P prepared a form of the inventory about the irrigating infrastructure operation. 2.The investigations regarding the specifications of every water intake and the internal structure of the irrigating canals on 1395ha in J.M.I were carried out as an investigation of the diagnostic of the operation of the irrigation works we elaborated a report.	To comprehend the actual state of the irrigation facilities.	100
2-6-2.To prepare data base for maintenance in model irrigation area.						#	#	1.No started yet.	1. Because WUA is preparing the basic data with the GIS system for the maintenance of the structures, this activity will be omitted.	it will be used for the rehabilitation of the infrastructure for the future.	
2-7.To prepare appropriate training programs and materials for WUA/Maintenance,and to conduct training.											
2-7-1.To prepare didactic training materials.						Yamauchi	Eng.Olier Eng.Gabriel Eng.Marcelo Eng.Sonia	1.To examine who the course will be aimed to. 2.To examine the curriculum of the training. 3.Revision of the didactic materials for the training.	1.It was determine who will be the beneficiary of the training. 2.The content of the academic curriculum of the training was elaborated. 3.We made a revision of the important items to be dealt at the training. Up to now, 4 didactic materials of WUA have been made, and regarding the maintenance 4 others have been made.	The obtained techniques in the model irrigated areas will be diffused by manuals.	45
2-7-2. To conduct training.										To be realized the trains of methods of the WUA and Maintenance.	
2-7-2-1. To conduct training for state Engineers.						Yamauchi	Eng.Olier Eng.Gabriel Eng.Marcelo Eng. Sonia	1.The first technical training was held and was directed to the INDRHI and SEA technicians.	1. 32 technicians of the INDRHI participated, 2. 25 technicians of SEA participated.		11
2-7-2-2.To conduct training for water users.						#	#	1.The first training was held and was directed to the executive of WUA.	1. 22 executives of WUA participated.		6
2-8.Train lecturers.						Yamauchi	Eng.Olier Eng.Gabriel Eng.Marcelo Eng.Sonia	1. At the technical aimed to the INDRHI and SEA technicians, executives of WUA where each C/P became an instructor, teaching his own class.	1.The training was carried out by the 4C/P. each C/P taught one subject per class.	To conduct training, workshop and seminar, using the audio visual equipment an diffuse to national level.	50

Chart of the advance of the activities of the Project

CULTIVATION AREA

Activities	Advance accomplished						Person in charge		Development of Activity		Goal	% of progress
	First Plan (broken line)						Japanese part	Dominican part	Activities	Results		
	Modified Plan (line)											
	2001	2002	2003	2004	2005	2006						
3-1 To investigate the present status of paddy cultivation in and around the project area.							Ing. Misao	Ing. Santana, Rafael, Quirino				
3-1-1 To determine the farm to obtaining data.	***	***	***	***	***	***	Ing. Misao	Ing. Santana, Rafael, Quirino	pilot farm and two farmers(zero plowing and minimal plowing) in the neighborhood as sample for the investigation.	The plots have been defined in order to obtain the data.	The growth data can be used periodically.	100%
3-1-2 To investigate the productivity sowing and growing in different varieties to test.	***						Ing. Misao	Ing. Santana, Rafael, Quirino	We have investigated the sowing stage and the behaviour of the variety, one is prosequisa4 that has been sown in the surroundings and the others are the developed ones by IDIAF called JUMAS7 and IDIAF-1	we have studied the characteristic of each rice cultivation variety(see attachment)and we are making use of the data for training.	A sowing method for the high productivity can be established.	100%
3-1-3 To investigate the production cost for the variety of sowing.	***						Ing. Misao	Ing. Santana, Rafael, Quirino	We have investigated the cost of paddy rice production on each sowing by interviewing a technician of B.A and the farmers.	We have learned that the zero plowing method is less costly than the other plowing methods.	The sowing method for the low cost can be established	100%
3-2 To examine and propose suitable water management at the on-farm level.							Ing. Misao	Ing. Santana, Rafael, Quirino				
3-2-1 To examine and propose water management in different stages of cultivation.		****					Ing. Misao	Ing. Santana, Rafael, Quirino	We have established a water management applied on the growing of the cultivation of rice.	We have prepared a manual of the relationship between the growth of roots of the paddy rice cultivation and the water film.	An appropriate water management can be established.	50%
3-2-2 To examine and propose an appropriate water management to introduced a mechanized cultivation.		*****					Ing. Misao	Ing. Santana, Rafael, Quirino	We have learned the water management for the fertilization and control of pest.	We have learned the water management in the variety of Prosequisa4.	An appropriate water management can be established.	50%
3-2-3 To examine and propose the appropriate water management for the mechanization.		*****					Ing. Misao	Ing. Santana, Rafael, Quirino	We have examined and proposed the direct sowing with equipment on the pilot farm.	We have prepared a manual of the relationship between the growth of roots of the rice and the water film.	2000 taresa with zero plowing on the pilot farm will have been cultivated.	7.50%
3-3 To examine and propose an appropriate cultivation management technique.							Ing. Misao	Ing. Santana, Rafael, Quirino				
3-3-1 To study and propose a cultivation method to reduce costs.		*****					Ing. Misao	Ing. Santana, Rafael, Quirino	We verified that the cost of production went up because the frequency of application of fertilization and fumigation had to be increased due to the susceptibility to the plague of the cultivation, with a high density of plowing, the plate control of deep water and the excess of fertilizer.	We have prepared manuals related with the factors of occurrence of the plagues and the falling down of the plant.	A low cost cultivation can be examined and proposed.	
3-3-2 To study and propose a cultivation method of high productivity.		*****					Ing. Misao	Ing. Santana, Rafael, Quirino	We have verified the characteristic of the varieties of rice, amber, crystal100 and Proseca3. And we have also explained to the users regarding the characteristic of IDIAF-1.	A rice cultivation with good result and price for the market sale and substitute it for the variety Prosequisa4 has not been developed yet.	A high productivity cost cultivation can be examined and proposed.	
3-4 Verify an appropriate cultivation management technique in the pilots farm.							Ing. Misao	Ing. Santana, Rafael, Quirino				
3-4-1 To determine the pilot farm	***						Ing. Misao	Ing. Gil, Quirino, Ana Maria	Between two candidates of the pilot farm, we have selected a plot with 34.4 hectares in Santa Clara that was grouped by the small farmers through the extension of the rice cultivation technology practiced on that pilot farm.	A pilot farm has been defined.	The rice cultivation tests can be shown as a pilot farm for training.	100%

3-4-2 To examine a demonstration plan in the pilot farm, coordinated with the farmers.									Ing.Misao	Ing.Santana,R afael,Quirino	We are accomplishing with the quinquennial plan holding meetings and attaining agreements with the farmers regarding the rice cultivation management and the administration of the pilot farm before the planning. The frequency of gathering was 12, the number of participants was 80.	We have practiced a test on which 3rd fertilization was appropriately applied and then the Dominican counterparts learned the 3rd fertilization theory.	Clarification on technology that the farmers might want to know will be made.	50%
3-4-3 To give a technique assistance for the farmers.									Ing.Misao	Ing.Santana,R afael,Quirino	The recommended frequency is 23, and the number of participant farmers 60, the contents of the recommendation were the irrigation of the plant nursery and the control of Piricularia, fertilization and 3rd fertilization.	We believe that we have achieved confidece on the users.	The farmers will learn the management of the rice cultivation.	25%
3-4-4 To analyze and evaluate the results of the demonstration.									Ing.Misao	Ing.Santana,R afael,Quirino	We have learned the characteristic of each variety, Jum67 and IDIAF-1 on the lisimetro and prosequisa4 on the pilot farm.	We have prepared a report(see attachment) and we are also making use of it in order train and recommend it to the farmers.	Technologies that will be applied currently on the farm will be clarified.	100%
3-5 To prepare appropriate training programs and materials for cultivation, and to conduct training.									Ing.Misao	Ing.Santana,R afael,Quirino				
3-5-1 To elaborate manual for zero plowing.									Ing.Misao	Ing.Santana,R afael,Quirino	We could not perform the zero plowing on the pilot farm, however we are performing the zero plowing on the Board of Irrigators Vice-President farm.	The operator learned the speed of the tractors, the sowing speed and the fertilization speed for the zero plowing.	The advantages of the direct sowing with machines will be explained.	20%
3-5-2 To prepare phytosanitary manuals about helix.									Ing.Misao Dr.Wada	Ing.Santana, Ana Maria, Quirino	We have investigated the density in square meters of snails on the farm and the canal before the trasplant and also we practiced the exploitation of citric oil to control it and the attraction of the snails by the product, Metaldehido. Then we have applied the product including Metaldehido on the pilot farm.	We have achieved good result on the affect of the product that includes Metaldehido with its application after the trasplant. We have prepared manuals regarding the control of snails, Piricularia, Rhizoctonia, false coal and weevils.	A plague control method, hard to control, is taught.	50%
3-5-3 To conduct training.									Ing.Misao	Ing.Santana,R afael,Quirino	We have held a conference regarding the control of snails in La Vega and Bonao to 135 participants who were technicians and farmers, we have also recommended 60 people regarding the growth of roots and water plate during the month of December of 2002 in la	The training frequency were 3 times, the number pf participants were 195 people.		100%
3-6 To train lecturers.									Ing.Misao	Ing.Santana,R afael,Quirino			The technicians will get the appropriate	50%
3-6-1 To celebrate different seminars on cultivation.									Ing.Misao	Ing.Santana,R afael,Quirino	We have trained 32 technicians of the INDRB-II, 25 technicians of the CEA, and 22 directive of the Boardof Irrigators, on the rice cultivation, the control of snails and the theory of the scame.	The training capacity that the Dominican counterparts presented were 3 times, the participants in the training were 79 people.	The technicians can give seminars to the farmers regarding the general rice cultivation.	8%

Activities for all members

Activities	Program Start ***** Change -----					Responsible		Development of activities		goal	Progress (%)
	2001	2002	2003	2004	2005	Japan	Dominican Republic	Activities	Result		
4. Establis pilot farm in irrigated ares						AI	AI	The Pilot Farm has been established.The farmers have cultivated with their own resources with the assistance of the technician of the project.	Alternatives in developed technology in each component has been organized.	Alternative of developed technology by the project on water management, o&m and cultivation are applied in model farm.	100
5. Carry out Basic Studies in pilot irrigated ares and nearby.						AI	AI	Basic Studies Reference Terms have been elaborated and carry out by the consultancy.	Actual conditions of socio-economical aspect of agriculture in model area have been recognized.	Actual conditions of socio-economical aspect of agriculture in model area will be recognized.	100
6. Visit irrigated areas. Participate and monitor the activities of trainees.						AI	AI	It has not been started yet No se ha empesado.		Goals of transference by the extranees in their work place will be recognized.	0

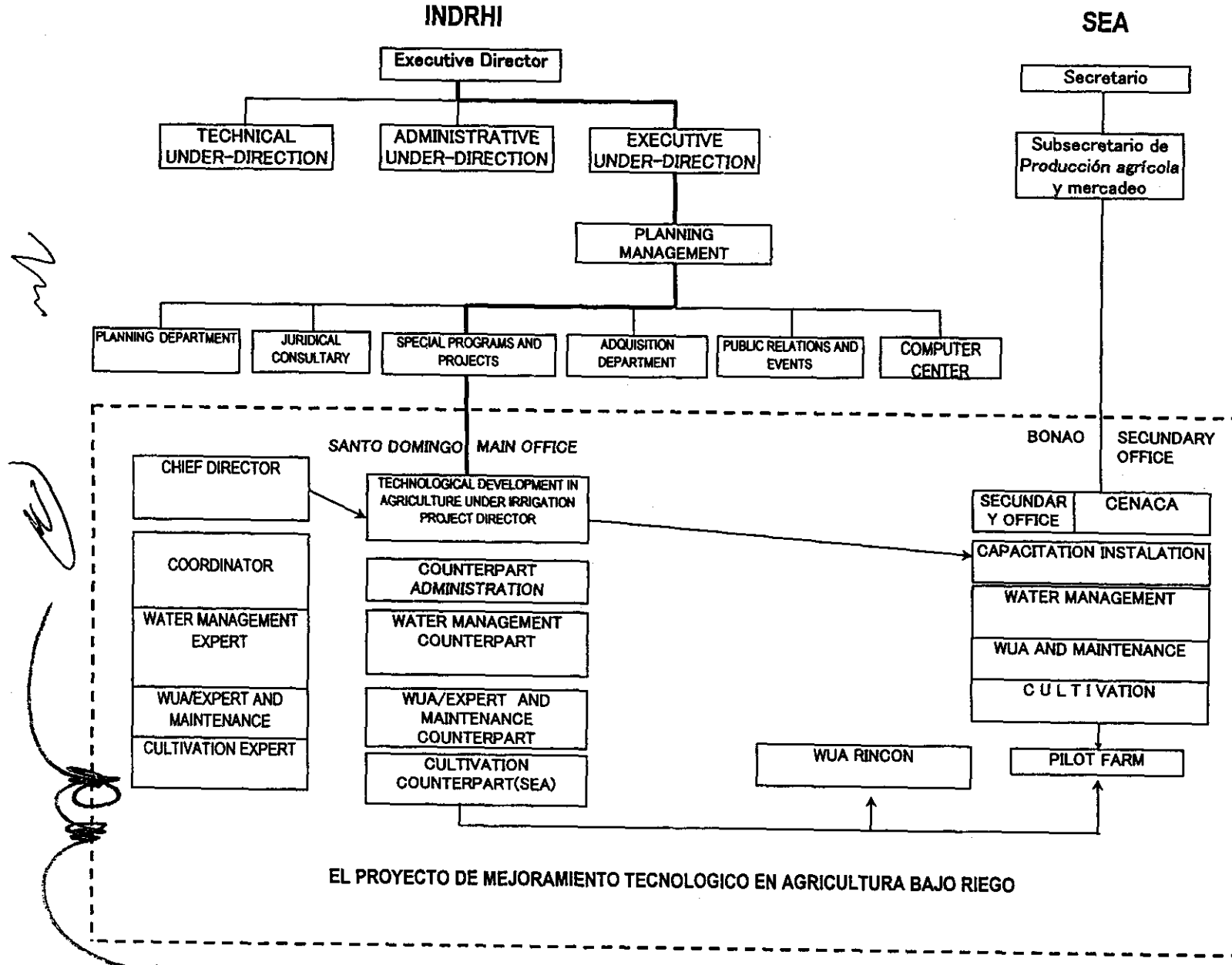
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Project Implementing Organization Chart

ANNEX 11



MINUTA DE REUNIONES
ENTRE EL EQUIPO JAPONES DE EVALUACION INTERMEDIA
Y LAS AUTORIDADES COMPETENTES DEL GOBIERNO
DE LA REPUBLICA DOMINICANA
SOBRE COOPERACION TECNICA JAPONESA
PARA EL PROYECTO DE MEJORAMIENTO TECNOLOGICO EN
AGRICULTURA BAJO RIEGO

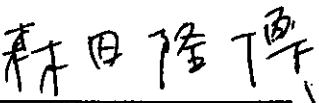
El Gobierno de Japón envió el equipo Japonés (en lo adelante denominado “el Equipo Japonés”) dirigido por el Ing. Takahiro Morita a la República Dominicana. Este equipo fue enviado a través de la Agencia de Cooperación Internacional del Japón (en lo adelante denominada “JICA”) del 8 de Septiembre al 26 de Septiembre de 2003 con la intención de realizar la Evaluación Intermedia del Proyecto de Cooperación Técnica Tipo Proyecto para el Mejoramiento Tecnológico en Agricultura bajo Riego, así como discutir sobre principales asuntos relacionados con la implementación de dicho Proyecto.

Durante su estadía en la República Dominicana, el Equipo Japonés y las autoridades competentes del Gobierno Dominicano formularon el Equipo de Evaluación Conjunta(en lo adelante denominado el “Equipo de Evaluación”) para ejecutar la evaluación intermedia del Proyecto realizando visita de campo, intercambiando puntos de vista y celebrando una serie de reuniones relacionadas con medidas favorables a ser implementadas por ambos gobiernos para la implementación exitosa del Proyecto.


Como resultado de la evaluación, el Equipo Japonés y las autoridades competentes de la República Dominicana compartieron los puntos de vista y recomendarían a sus respectivos Gobiernos los asuntos mencionados en el Informe de Evaluación Conjunta anexa.

El documento está preparado en dos versiones: inglesa y española, siendo ambos textos igualmente auténticos. No obstante, en caso de alguna divergencia en su interpretación, prevalecerá la versión inglesa.

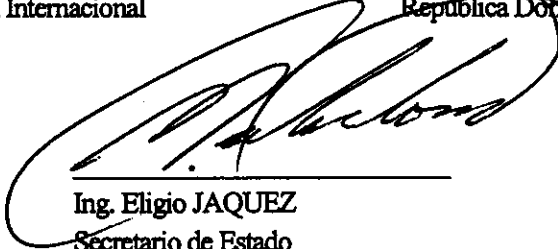
Santo Domingo, 23 de Septiembre de 2003



Ing. Takahiro Morita
Líder
Equipo de Evaluación Japonés
Agencia de Cooperación Internacional
del Japón
Japón



Ing. Sergio Carrasco
Director Ejecutivo
Instituto Nacional de Recursos Hidráulicos
República Dominicana



Ing. Eligio JAQUEZ
Secretario de Estado
Secretaría de Estado de Agricultura
República Dominicana

Documento Adjunto:

El Equipo de Evaluación Conjunta compuesto por 11 miembros de la República Dominicana y del Japón concluyó el resultado de Evaluación Intermedia como el Informe anexado.

Basado en la Evaluación, el Equipo Japonés enfatizó a la Parte Dominicana particularmente en la toma de medidas necesarias en términos de la "Consolidación de la Sostenibilidad" del Proyecto.

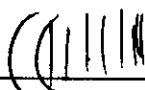
La Parte Dominicana acordó tomar medidas ante las recomendaciones hechas por el Equipo de Evaluación Conjunta.



INFORME DE LA EVALUACION INTERMEDIA
PARA EL PROYECTO DE MEJORAMIENTO TECNOLOGICO
EN AGRICULTURA BAJO RIEGO
EN LA REPUBLICA DOMINICANA

Santo Domingo, 23 de Septiembre de 2003

Ing. Takahiro MORITA
Líder
Equipo Japonés de Evaluación
Agencia de Cooperación Internacional
del Japón
Japón



Ing. Gerardo MENDEZ
Enc. Deprt. Operación y Mantenimiento
de Distritos de Riego
Instituto Nacional de Recursos
Hidráulicos
República Dominicana




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ANEXO

1. PDM₁
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4. Asignación de los Expertos Japoneses de Plazos Largo y Corto
5. Aceptación del Personal Contraparte Dominicana para Capacitación en Japón
6. Lista de Adquisición de Equipos y Materiales
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9. Costo Local Financiado por la Parte Dominicana

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11. Organigrama de Implementación del Proyecto



1. Evaluación de Proyecto

1-1 Objetivo

La evaluación fue realizada con los siguientes objetivos:

- (1) Evaluación del grado de los logros basada en el Acta de Discusiones, Diseño Matriz del Proyecto (en lo adelante denominado el "PDM") y el Plan de Operación (en lo adelante denominado "PO") después de dos años y medio a partir de inicio del Proyecto,
- (2) Revisar y actualizar el PDM y el PO para el período de cooperación restante si es necesario, y
- (3) Identificar problemas de cualquier índole en la implementación del Proyecto y proponer soluciones necesarias.

1-2 Metodología

Se aplicó la metodología del Manejo del Ciclo de Proyecto (PCM) para la evaluación. Primero, el Equipo enfocó la modificación del PDM para aclarar las actividades y resultados del Proyecto en una forma más adecuada. Segundo, se realizó la evaluación comparando el diseño original y la situación actual del Proyecto, utilizando los cinco criterios de evaluación: Relevancia, Efectividad, Eficiencia, Impacto y Sostenibilidad. La información fue recabada y analizada principalmente a través de cuestionarios y entrevistas con el personal de contraparte dominicana en el Instituto Nacional de Recursos Hidráulicos (en lo adelante denominado "INDRHI") y la Secretaría de Estado de Agricultura (en lo adelante denominada "SEA") así como con los expertos Japoneses. Los cinco criterios de evaluación son:

(1) Relevancia:

Se define como Relevancia la coherencia del Propósito del Proyecto y la Meta Superior frente a la política de desarrollo de la República Dominicana así como las necesidades de los beneficiarios.

(2) Efectividad:

Se define como Efectividad el grado de alcance que han logrado los beneficios esperados del Proyecto como lo planeado, y evalúa si el beneficio fue aportado como fruto del Proyecto.

(3) Eficiencia:

Se define como Eficiencia la productividad del proceso de implementación, evaluando si el Insumo del Proyecto se ha transformado eficientemente a los Resultados esperados.

(4) Impacto:

Se definen como Impacto los impactos directos e indirectos, positivos y negativos causados por la implementación del Proyecto, incluyendo el alcance obtenido de la Meta Superior.

(5) Sostenibilidad:

Se define como Sostenibilidad el grado de alcance al que el país receptor de la cooperación pueda desarrollar en el futuro y al que los beneficios generados por el Proyecto puedan ser

sostenidos por las políticas, tecnologías, sistemas y estado financiero del país receptor.

1-3 Miembros del Equipo de Evaluación

(1) Equipo de Evaluación Japonés

Ing. Takahiro MORITA Líder,
Sub-Director de Cooperación,
Departamento de Cooperación de Desarrollo Agrícola,
JICA

Ing. Eisaku NOMURA Area de Agricultura bajo Riego,
Sub-Director,
Oficina de Planificación y Administración
de Tierras Agrícolas y Riego en Nishi-Kanto,
Dirección Regional de Kanto,
Ministerio de Agricultura, Silvicultura y Pesca

Ing. Yasuhiro ICHIHASHI Area de Cultivo de Arroz,
Jefe de Maquinaria de Producción,
Div. Producción Agrícola,
Dept. Producción, Explotación y Comercialización Agrícolas,
Dirección Regional de Chugoku-Shikoku,
Ministerio de Agricultura, Silvicultura y Pesca

Lic. Atau KISHINAMI Area de Análisis/Evaluación,
Experto Permanente,
International Development Associates Co., Ltd.

Lic. Atsuko YOSHIKAWA Traductora,
Centro de Cooperación Internacional del Japón

(2) Equipo de Evaluación Dominicana

1) INDRHI

Ing. José Gerardo MENDEZ Enc. Depto. Operación y Mantenimiento,
Gerencia de Manejo de Recursos Hídricos

Ing. Ana PEREZ Enc. Componente de Estudios PEMERG

Lic. José Napoleón RAMIREZ Téc. Dpto. Planificación

Ing. José NAVARRETE Enc. Componente de Obras PEMERG
Ing. Danilo MORETA Tec. Depto. Operaciones del Dpto. de Usuarios

2) SEA

Ing. José Antonio DIAZ Director de Fomento Arrocerero

(3) Otros miembros

1) Oficina de JICA en la República Dominicana

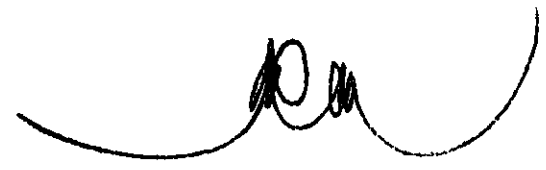

Lic. Tomio TAKAHASHI Representante Residente
Lic. Norio YONEZAKI Sub-Representante Residente
Lic. Mari SHIMAZAKI de THEN Coordinadora del Proyecto

2) Expertos Japoneses

Ing. Kazunari MORIMOTO Asesor Principal
Ing. Hiroyuki TAZAWA Manejo de Agua
Ing. Junya YAMAUCHI Apoyo a AUA/ Operación y Mantenimiento
Ing. Yasushi MISAO Cultivo de Arroz
Ing. Shinichi KONDO Coordinador de Proyecto

3) Personal Contraparte Dominicana

Ing. Raúl ROMERO Director de Proyecto
Ing. Raúl PEREZ Director Asistente del Proyecto
Ing. Siomara FERNANDEZ Coordinadora de Proyecto
Ing. Eustacio RIVERA ZAPATA Componente de Operación y Manejo de Agua
Ing. Luis BELLO MEDRANO Componente de Operación y Manejo de Agua
Ing. Silvio SUSANA Componente de Operación y Manejo de Agua
Ing. Julio Cesar GARCIA OLLER Componente de AUAs
Ing. Sonia MELAN MORA Componente de Mantenimiento
Ing. Gabriel PEREZ Componente de Mantenimiento
Ing. Santana CAMPO GELABEL Componente de Cultivo
Ing. Rafael LEONIDAS MINAYA Componente de Cultivo
Lic. Víctor GONZALEZ Administrativo
Lic. Federico RODRIGUEZ Auditor



2. Bosquejo del Proyecto

2-1 Antecedentes y Procedimiento del Proyecto

En la República Dominicana, el sector agrícola contribuye con un 12.7% al PIB con 2,460,000 personas, aproximadamente el 31% de la población involucrados en las actividades agrícolas. Además, los productos agrícolas representan el 45% del total de las exportaciones del país. La agricultura, por consiguiente, ha jugado un gran papel en la República Dominicana. En años anteriores, sin embargo, la producción total de la agricultura era inestable causado por una disminución de las áreas bajo cultivo y sistemas de irrigación obsoletos. La agricultura bajo riego, en particular, tenía inconveniente por la escasez de agua debido a instalaciones en mal estado y un manejo de agua inadecuado.

Bajo estas circunstancias, el Gobierno de la República Dominicana solicitó cooperación técnica al Gobierno del Japón para mejorar los programas de capacitación del INDRHI y también para mejorar la productividad del sector agrícola estableciendo un sistema de manejo de irrigación a fin de transferir los canales e instalaciones de riego bajo propiedad del INDRHI a AUA.

En respuesta a la solicitud mencionada arriba, JICA envió el Equipo de Estudio Preparatorio para confirmar las necesidades de asistencia y discutir los detalles del Proyecto. Con relación a las Minutas de Reunión del Equipo de Estudio Preparatorio, JICA firmó el Acta de Discusiones para el Proyecto el 15 de Noviembre de 2000. El Proyecto comenzó el 1 de Marzo de 2001 por un período de cinco años.

2-2 Objetivo del Proyecto

El Objetivo del Proyecto es: "Líderes de AUA y técnicos de INDRHI/SEA mejoran sus conocimientos y habilidades sobre la operación y manejo del agua, AUA, O&M y cultivo de arroz a través de capacitación bajo el Proyecto". Y luego de las discusiones, los resultados del Proyecto son modificados como muestra el inciso 3-2.

3. Revisión del PDM y del PO

3-1 Revisión General del PDM y del PO

Como resultado de las discusiones, el PDM₁(Véase el ANEXO 1), documento adjunto al M/M de fecha del 12 de Diciembre de 2001, es revisado como muestra el ANEXO 2 (en lo adelante denominado "PDM-e"), con poco cambio en la totalidad del contenido del Proyecto. Incluso el PO es modificado como indica el ANEXO 3, también con poco cambio en las actividades.

3-2 Modificación del PDM

3-2-1 A Nivel de Propósito del Proyecto

A pesar de que el Propósito del Proyecto queda como estaba, sus indicadores han sido modificados como aparecen más adelante a fin de evaluar los niveles alcanzados de forma más concreta. Los indicadores empezarán a medirse después de la Evaluación Intermedia.

1) Indicadores Anteriores Objetivamente Verificables

1. Número de cursos y cursillistas: Números de cursos ejecutados y cursillistas en Operación y Manejo de agua, O&M y Cultivo antes del término del Proyecto.
2. Mejoramiento de conocimiento, habilidades y actitud de cursillistas.

2) Indicadores Modificados Objetivamente Verificables

1. Por lo menos, un 30% de los núcleos del área de Rincón capacitados en el Proyecto aplica tecnologías mejoradas de manejo de agua como distribución de agua por turno, disminución de la lámina de riego, operación adecuada de compuerta, reducción del tiempo de riego adecuado a la necesidad del cultivo.
2. Por lo menos, un 30% de los productores del área de Rincón capacitados en el Proyecto aplica tecnologías mejoradas relacionadas a la reducción de fertilizante.
3. Por lo menos, un 30% de los productores del área de Rincón capacitados en el Proyecto aplica tecnologías mejoradas de control del caracol.
4. Por lo menos, un 30% de los líderes de AUAs, técnicos de INDRHI y SEA capacitados en el Proyecto realizan actividades en sus áreas correspondientes de trabajo para transferir los conocimientos técnicos adquiridos (ej. Presentación del contenido de capacitación, invitación de instructores para profundizar la capacitación en sus áreas de trabajo, organización de una visita a la finca piloto).

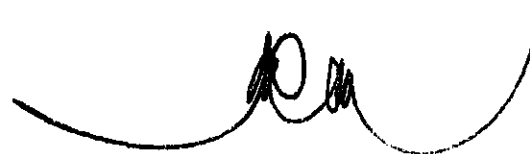
Los indicadores arriba mencionados han sido fijado en un 30%, además de limitarse al área de Rincón debido a las siguientes razones:

- i) Conforme a varias encuestas realizadas a los participantes en los cursos, aproximadamente 30% de ellos han entendido muy bien el contenido y la efectividad de la capacitación.
- ii) Normalmente se requiere cierto período de tiempo para la difusión de conocimientos y habilidades, y
- iii) El área objeto debería ser limitada como para ser viable a la hora de hacer un estudio de seguimiento.

La cifra del 30% es la mínima evaluada y se espera que se incremente después de la culminación del Proyecto.

3-2-2 A Nivel de Resultados

(1) Resultado 1



Se agrega la frase: "Los problemas en el área de modelo son identificados y se presentan ejemplos de mejoramiento tecnológico relacionado con la operación y manejo de agua, operación y mantenimiento y cultivo en la finca piloto." como Resultado 1 a fin de aclarar el proceso de la secuencia de los Resultados. Por consiguiente, se agregan los siguientes indicadores objetivamente verificables:

- 1-1 Se establecen condiciones necesarias para la capacitación en el área modelo dentro de tres años desde el inicio del Proyecto.
- 1-2 El número de casos de mejoramiento tecnológico en cada componente
- 1-3 La nivelación es introducida en la finca piloto.
- 1-4 La cero labranza mecanizada es introducida en la finca piloto.
- 1-5 La tercera fertilización (momento y volumen) es mejorada en la finca piloto.

(2) Resultado 2

Este corresponde al Resultado 1 en PDM₁ y queda como estaba. Los indicadores objetivamente verificables son modificados para evaluar el resultado de forma más precisa.

- 1) Indicadores Anteriores Objetivamente Verificables
 - Programas de capacitación son preparados dentro de los 3 años de inicio del Proyecto (incluido un plan de evaluación de avance y metodología de monitoreo).
 - Manuales de Operación y Manejo de Agua, AUA/Mantenimiento y Cultivo son preparados dentro de los 3 años de inicio del Proyecto.
- 2) Indicadores Agregados Objetivamente Verificables
 - 2-1 Cuatro programas que apuntan a grupos diferentes son preparados dentro de los tres años de inicio del Proyecto.
 - 2-2 Veinticuatro materiales de capacitación sobre la Operación y Manejo de agua, AUA/Mantenimiento y Cultivo de arroz son preparados dentro de los tres años de inicio del Proyecto.

(3) Resultado 3

Este corresponde al Resultado 2 en PDM₁ y queda como estaba. Los indicadores objetivamente verificables son agregados para evaluar el resultado.

- 1) Indicadores Anteriores Objetivamente Verificables
 - Ninguno
- 2) Indicadores Modificados Objetivamente Verificables
 - 3-1 Por lo menos, una persona de C/Ps por cada componente tiene el diploma en la

metodología didáctica.

3-2 Evaluación de la capacidad de ejecución de la capacitación a aquéllos con una experiencia superior a dos años como C/P del Proyecto.

(4) Resultado 4

Este corresponde al Resultado 3 en PDM1 y queda como estaba. Los indicadores objetivamente verificables son modificados para evaluar el resultado de forma más precisa.

- 1) Indicadores Anteriores Objetivamente Verificables
 - Manuales técnicos de Operación y Manejo de Agua, AUA/Mantenimiento y Cultivo son preparados dentro de los tres años de inicio del Proyecto
 - Materiales didácticos son preparados dentro de los tres años de inicio del Proyecto
 - Circunstancia de capacitación en las áreas de irrigación modelo es establecida dentro de los tres años de inicio del Proyecto
 - Capacitación es ejecutada dentro de los 3 años de inicio del Proyecto
- 2) Indicadores Modificados Objetivamente Verificables
 - 4-1 La metodología de capacitación es desarrollada.
 - 4-2 El número mínimo de cursos y participantes: 9 cursos para técnicos de INDRHI y Juntas de Regantes (190 participantes), 7 cursos para técnicos de la SEA (150 participantes), 6 cursos para directivos de Juntas de Regantes (85 participantes) y 6 cursos para núcleos (85 participantes) son ejecutados antes del término del Proyecto.

(4) Resultado 5

El Resultado 5 (el anterior Resultado 4) se modifica como se indica a continuación, puesto que el anterior Resultado es considerado a nivel del Propósito del Proyecto.

1) Resultado anterior

El resultado de la capacitación es ejecutado en las áreas bajo riego.

2) Resultado modificado

Los participantes de capacitación mejoran sus conocimientos y habilidades sobre la Operación y Manejo de Aguas, AUA/Mantenimiento y Cultivo a través de la capacitación arriba mencionada.

Por consiguiente, se agregan los indicadores objetivamente verificables como lo siguiente:

1) Indicadores Anteriores Objetivamente Verificables

Ninguno

- 7 -

2) Indicadores Agregados Objetivamente Verificables

5-1 Mejoría del nivel de entendimiento de los participantes es confirmada por la evaluación.

5-2 Metodología de monitoreo de los participantes es establecida.

3-2-3 A Nivel de Actividades

(1) La Actividad 3-5 se traspasa a la Actividad 4 actual, puesto que es aplicable no sólo al cultivo, sino también a la Operación y Manejo de Agua además del Mantenimiento . Y se agrega una nueva actividad 3-4: "Verificar metodología de cultivo apropiada en la finca piloto", pasado, por consiguiente, la actividad anterior 3-4 a la 3-5.

3-2-4 Hipótesis Importantes

(1) Una Hipótesis Importante a nivel de las Actividades se modifica para puntualizar el lugar específico como sigue:

1) Hipótesis Importante anterior

Entendimiento, consenso y cooperación desde agricultores en las áreas de irrigación modelo son obtenidos

2) Hipótesis Importante modificada

Entendimiento, consenso y cooperación de los agricultores en la finca piloto son obtenidos.

4. Resultados de la Evaluación

4-1 Relevancia

La Relevancia del Proyecto es considerada muy alta por las siguientes razones:

"La Estrategia Decenal y Plan de Desarrollo de Mediano Plazo del Sector Agropecuario" elaborada en el año 2000 por la SEA enfatiza las cuatro siguientes políticas importantes: i) Incentivar el Crecimiento y la Competitividad, ii) Mejorar la Equidad Social Rural, iii) Reestructurar la Institucionalidad Agropecuaria, y iv) Promover la Sostenibilidad Agroecológica. El INDRHI actualmente intenta mejorar la productividad del sector agrícola mediante la rehabilitación del sistema de irrigación existente así como el establecimiento de un sistema de manejo del agua que apunte al traspaso de los canales e instalaciones de riego, propiedad del INDRHI, a las Juntas de Regantes. El Proyecto fue diseñado para capacitar al personal en las áreas como operación y manejo de agua, AUA/Mantenimiento, y Cultivo, y se adapta obviamente al esquema actual de la política gubernamental. Además, según entrevistas, los agricultores en la finca piloto en el área de Rincón se han beneficiado económicamente del

Proyecto con mayor producción de arroz y menor volumen de fertilizantes. El Proyecto, por consiguiente, es obviamente conforme a las políticas nacionales y necesidades de los beneficiarios.

4-2 Efectividad

La Efectividad del Proyecto es considerada alta por las siguientes razones:

Las sesiones de capacitación comenzaron en junio del 2003 para técnicos de INDRHI y la SEA y directivos de las Juntas de Regantes. En este momento de Septiembre del 2003, se han ejecutado tres cursos de capacitación por el personal contraparte dominicana y sus 79 participantes reconocieron la gran utilidad de esos cursos. En realidad, más de 90% de los participantes manifestaron la satisfacción con el contenido de los cursos de capacitación impartidos principalmente por el personal de contraparte dominicana. Para el período que resta del Proyecto, se plantea, por lo menos, llevar a cabo 9 cursos para técnicos de INDRHI y Juntas de Regantes (190 participantes), 7 cursos para técnicos de la SEA (150 participantes), 6 cursos para directivos de Juntas de Regantes (85 participantes) y 6 cursos para núcleos (85 participantes). Se espera que el Propósito del Proyecto sea alcanzado para el término del Proyecto mediante la ejecución de dichos cursos, considerando el número de cursos y el nivel de satisfacción de los participantes. La Efectividad no ha sido evaluada "muy alta", debido a que existen algunos elementos por mejorar en términos de sostenibilidad como se mencionan en el inciso 4-5.

4-3 Eficiencia

4-3-1 Insumo de la Parte Japonesa

1) Envío de Expertos Japoneses

Han sido enviados seis expertos de largo plazo en total conforme al plan original. Han sido enviados dos expertos de corto plazo según el plan original. (Véase el ANEXO 4)

2) Aceptación de Personal de Contraparte Dominicana en el Japón

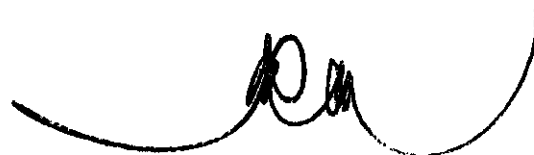
Un total de once personas de contraparte dominicana se han capacitado en el Japón conforme al plan original como muestra el ANEXO 5.

3) Provisión de Maquinaria, Equipos y Materiales

Se han provisto de maquinaria, equipos y materiales conforme al plan original como muestra el ANEXO 6.

4) Costo Local

Ha sido otorgado un monto de ¥43,219,000 de costo local para apoyar al Proyecto como se muestra en el ANEXO 7.



4-3-2 Insumo de la Parte Dominicana

1) Asignación del Personal de Contraparte

Ha sido asignado un total de 14 personas como contraparte dominicana conforme al plan original como muestra el ANEXO 8.

2) Instalaciones

La oficina principal del Proyecto ubicada en el INDRHI en Santo Domingo, la sub-oficina de Proyecto, instalaciones de capacitación y dormitorio en CENACA en Bonao, y un almacén en la finca piloto

3) Costo Local

Ha sido otorgado un monto total de RD\$6,483,229 como muestra el ANEXO 9.

4-3-3 Eficiencia de Insumo

La Evaluación en términos de Eficiencia es considerada alta por las siguientes razones:

Los insumos provenientes de ambas partes se han ejecutado generalmente como planeados en términos de momento, cantidad y calidad. La Provisión de equipos y maquinaria, sin embargo, fue revisada basada en un estudio detallado sobre las condiciones locales particulares y la eliminación de varias máquinas (por ejemplo, trasplantadora automática de arroz y pequeña cosechadora combinada automática) del listado inicial. Además, la habilitación de la finca piloto fue demorada debido a cambios en las condiciones climáticas. No obstante, las actividades de Proyecto no han sido afectadas por esos cambios en el insumo, como muestra el ANEXO 10).

En cuanto al personal, a pesar de que han sido asignados funcionarios cualificados como lo planeado, entre ese personal de contraparte, los hay que tienen horario de trabajo de 7:30 a 14:30 y que no pueden laborar como instructores por la tarde. Este es un aspecto a discutir a fin de aprovechar en forma plena los recursos humanos capacitados.

La Tabla 1 muestra los indicadores del PDM y sus respectivos progresos.

Tabla 1. Indicadores y Avance

Indicadores	Avance
1-1 Se establecen condiciones necesarias para la capacitación en el área modelo dentro de tres años desde el inicio del Proyecto.	Ya han sido establecidas condiciones necesarias para la capacitación en la finca piloto.
1-2 El número de casos de mejoramiento tecnológico en cada componente.	Han sido presentados los siguientes seis casos: - Mejoramiento de metodología sobre el control del caracol - Mejoramiento en tecnología de fertilización (momento y volumen)

	<ul style="list-style-type: none"> - Mejoramiento en metodología de control de enfermedades como piricularia y rizoctonia - Mejoramiento de tecnologías sobre manejo de agua (reduciendo la lámina de riego aplicada) - Manejo de agua apropiado tras instalar compuertas en cada melga - Tecnologías sobre nivelación en capa vegetal con un espesor superior a 15 cm. en la finca piloto
1-3 La nivelación es introducida en la finca piloto.	La nivelación ya se ha introducido en la finca piloto.
1-4 La cero labranza mecanizada es introducida en la finca piloto.	La cero labranza mecanizada ya se ha introducido en la finca piloto.
1-5 La tercera fertilización (momento y volumen) es mejorada en la finca piloto.	La tercera fertilización (momento y volumen) ya se ha mejorado en la finca piloto.
2-1 Cuatro programas que apuntan a grupos diferentes son preparados dentro de los tres años de inicio del Proyecto.	Cuatro programas, para: i) Técnicos del INDRHI y Juntas de Regantes, ii) Técnicos de la SEA iii) Directivos de las Juntas de Regantes, y iv) Núcleos, han sido ya preparados.
2-2 Veinticuatro materiales de capacitación sobre la Operación y Manejo de agua, AUA/ Mantenimiento y Cultivo de arroz son preparados dentro de los tres años de inicio del Proyecto.	Veinticuatro materiales de capacitación (cinco sobre Operación y Manejo de Agua, dos en AUA, cuatro en Mantenimiento y trece en el Cultivo de arroz) han sido preparados.
3-1 Por lo menos, una persona de C/Ps por cada componente tiene el diploma en la metodología didáctica.	Ocho personas que forman parte del personal C/P han obtenido el diploma del INFOTEP en la metodología didáctica.
3-2 Evaluación de la capacidad de ejecución de la capacitación a aquéllos con una experiencia superior a dos años como C/P del Proyecto.	La mayoría del personal de contraparte ha mostrado un alto grado de aptitud como instructor.
4-1 La metodología de capacitación es desarrollada.	Ya se ha desarrollado la metodología de capacitación.
4-2 El número mínimo de veces de cursos y participantes: 9 veces para técnicos de INDRHI y Juntas de Regantes (190 participantes), 7 veces para técnicos de la SEA (150 participantes), 6 veces para directivos de Juntas de Regantes (85 participantes) y 6 veces para Núcleos (85 participantes) son ejecutados antes del término del Proyecto.	Ya se ha ejecutado la capacitación en tres veces (una vez para técnicos de INDRHI y Juntas de Regantes con 32 participantes, otra para técnicos de la SEA con 25 y otra para Directivos de Juntas de Regantes con 22) por el personal de contraparte dominicana, formando un total de 79 participantes.
5-1 Mejoría del nivel de entendimiento de los participantes es confirmada.	79 personas participaron en los cursos de capacitación dirigidos por el Proyecto. Más de un 90% de ellos han manifestado estar satisfechos por las enseñanzas y prácticas de la capacitación.

5-2 Metodología de monitoreo de los participantes es establecida.	Se está preparando en la actualidad.
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En general, los insumos provenientes de cada parte fueron colocados efectivamente en el Proyecto y utilizados para producir los resultados.

4.4 Impacto

El Impacto es observado generalmente positivo.

En la finca piloto, el manejo de agua y el cultivo son ejecutados basados en las instrucciones de los técnicos del Proyecto, y según entrevistas realizadas, se han introducido las tecnologías de cultivo mejoradas como cosechadora de granos con la nivelación de parcela, la producción se ha incrementado, y al mismo tiempo, se ha reducido el uso de fertilizantes. Por lo tanto, los agricultores en la finca piloto han reconocido un impacto económico positivo. Se espera que los métodos de cultivo utilizados en la finca se extiendan a las fincas circundantes. Las actividades de la finca piloto consisten en: i) Revestimiento de canales laterales y terciarios ii) Nivelación, iii) Separación de canales de riego y drenaje, y iv) Reconstrucción de camino de acceso. La implementación del Proyecto ha motivado el inicio de actividades del proyecto de préstamo del Banco Interamericano de Desarrollo (en lo adelante denominado "BID"). El proyecto BID ha incorporado el mejoramiento de caminos de acceso, lo cual no se había contemplado para una etapa temprana. Juntas de Regantes que no eran contempladas como objeto de capacitación, envió solicitud de asistencia técnica al Proyecto para sus miembros. Todo esto es considerado un impacto positivo inesperado.

4-5 Sostenibilidad

La Sostenibilidad en sentido general es considerada mediana por las siguientes razones:

4-5-1 Aspecto Organizacional

La Sostenibilidad organizacional es considerada mediana.

Es interesante destacar que el Gobierno dominicano reconoce la importancia del Proyecto. Y sin embargo, hay dos sistemas de horario de trabajo en el INDRHI y la SEA, lo que puede impedir a una parte del personal contraparte, cuyo horario de trabajo es de 7:30 a 14:30, a que se dediquen al desempeño como instructor de cursos de capacitación en la jornada de la tarde.

4-5-2 Aspecto Técnico

La sostenibilidad técnica es considerada relativamente alta por las siguientes razones:

Los materiales de los cursos se han preparado basados en las tecnologías verificadas en la finca

piloto mediante el diagnóstico. Como se ha mencionado, el personal de contraparte ha impartido tres cursos como instructores para directivos de Juntas de Regantes, técnicos del INDRHI y la SEA, y Núcleos. Se sienten muy seguros de enseñar temas técnicos de cada componente. Y sin embargo, les falta adquirir la capacidad de actualizar tecnologías adquiridas por ellos mismos y de aprender nuevas tecnologías mediante una capacitación continuada. Con sus esfuerzos, se consolidaría la sostenibilidad técnica de modo positivo antes del término del Proyecto.

4-5-3 Aspecto Financiero

La sostenibilidad financiera es considerada actualmente mediana.

Tanto el INDRHI como la SEA reconocen perfectamente la importancia de la asignación de presupuesto adecuado al Proyecto. La Sostenibilidad financiera puede mejorarse mediante varias medidas mencionadas en el Inciso 6.

5. Conclusión

Como se mencionó arriba, el Proyecto se ha ejecutado en forma sumamente exitosa conforme al PDM y el PO. Su Relevancia, Efectividad y Eficiencia son consideradas altas con Impactos positivos. El Propósito del Proyecto se conseguirá con seguridad al cumplirse el Proyecto, si las actividades se llevan a cabo de acuerdo con el PDM y el PO. Su Sostenibilidad, sin embargo, no se considera muy alta sino se mejoran varios factores y es un factor que requiere mayor consolidación. Se sugiere tres temas principales a fin de resolver los problemas tal como se menciona en el siguiente inciso. Estos son: i) Consolidación de la Sostenibilidad, ii) Promoción de Cooperación con otros organismos de financiamiento, y iii) Preparación de Plan Futuro para después del Cumplimiento del Proyecto.

6. Recomendaciones

(1) Consolidación de la Sostenibilidad

Es sumamente importante que el INDRHI y la SEA consideren los siguientes temas a fin de mantener los resultados positivos del Proyecto:

1) Presupuesto Adecuado

Una vez culminado el Proyecto en febrero de 2006, el INDRHI y la SEA se responsabilizarán totalmente de sus gastos. Por lo tanto, es recomendable que vayan incrementado gradualmente sus presupuestos para el resto de período del Proyecto para mantener los efectos de las Actividades y Resultados del Proyecto así como para alcanzar el Propósito del mismo. No será fácil, sin embargo, el incremento de sus respectivos presupuestos debido principalmente a la situación económica del país. Es muy importante que la parte dominicana haga todos los esfuerzos para asegurar su presupuesto adecuado, y

sin embargo, podrían considerarse como posibles medidas alternativas, tales como la reducción de costos de capacitación y el pago de matrícula de cursos por los participantes. En la segunda mitad del período de Proyecto se enfocará principalmente a la ejecución de cursos de capacitación, y por consiguiente, podrían analizarse las siguientes medidas para su sostenibilidad:

- i) Preparar materiales didácticos en forma más económica a fin de reducir sus costos que corresponden aproximadamente a un 50% de los costos de capacitación, y
- ii) Que las organizaciones a que pertenecen los participantes se encarguen de cubrir todos sus gastos como, dietas, viáticos y transporte.
- iii) Aprovechar recursos que contemplan las Juntas de Regantes en sus respectivos presupuestos anuales para fines de capacitación, en adición a otros proyectos tales como PREMASIR y PREMATREC para la capacitación del Proyecto.

2) Mejoramiento del Sistema de Horarios de Trabajo

Como se mencionó, hay dos horarios de trabajo en el INDRHI y la SEA, y de acuerdo con sus reglamentos internos, horas extras no están compensadas económicamente, lo que puede obstaculizar de modo significativo el mantenimiento de los efectos positivos del Proyecto. Es sumamente importante que ambas instituciones tomen algunas medidas viables para que todo el personal de contraparte dominicana puedan concentrarse completamente en las actividades del Proyecto.

3) Reactivación de la Organización para Implementación del Proyecto

La organización para la implementación del Proyecto se ha confirmado como muestra el ANEXO 11. A fin de consultarse y ejecutar recomendaciones en forma efectiva, es esencial reactivar y reforzar las funciones de asesoramiento y gerencia de la organización del implementación del Proyecto.

(2) Promoción de Cooperación con Otros Organismos de Financiamiento

Hay varios proyectos en ejecución en el sector de riego en manos de otros organismos de financiamiento. Son estrechamente relacionados al Proyecto algunos como PROMASIR, por el BID, que enfoca principalmente el establecimiento de AUAs, y AGLIPO II, por el Banco de Cooperación Internacional del Japón, que apunta al desarrollo de proyectos de riego, y PROMATREC, del Banco Mundial, que trabaja en la mejora de los sistemas de riego. Se sugeriría al INDRHI ser ente coordinador para mayor promoción de cooperación e incluso para

evitar la duplicidad de esfuerzos con actividades de otros organismos de financiamiento.

(3) Preparación de Plan Futuro Posterior a la Culminación del Proyecto

A fin de seguir mejorando la tecnología y divulgar la tecnología mejorada a lo largo del país, es crucial que el INDRHI y la SEA continúen cursos de capacitación por sus esfuerzos luego de la culminación del Proyecto. Se recomienda, por lo tanto, que el INDRHI y la SEA preparen un plan concreto para el futuro, especificando la asignación de recursos humanos y económicos entre otras cosas, antes de la Evaluación Final.

