

Summary of the Terminal Evaluation

I. Outline of the Project	
Name of Country: The Republic of Ecuador	Project Title: Project for Reactivation of “Catarama River Basin Irrigation Project” (PRORRICAT)
Issue/Sector: Agriculture Development	Cooperation Scheme: Technical Cooperation Project
Office In-Charge: Agricultural and Rural Development Group 2, Rural Development Department, JICA Head Quarters	Cost: 530 million yen
The Project Period: June 30 th , 2013– June 29 th , 2016 (three (3) years)	Partner Country’s Implementing Organization: Decentralized Autonomous Provincial Government of Los Rios (GADPLR)
	Related Institutions (Japan): KOKUSAI KOGYO CO., LTD
<p>1-1. Background of the Project</p> <p>Improvement of agricultural productivity has been one of the crucial issues of agricultural sector in Ecuador since 1980’s. In order to handle the issues, agricultural development has been proceeding especially in the coastal area, Costa. As part of the development, “Catarama River Basin Irrigation Project” (hereinafter referred to as “CRBIP”) was implemented with the Japanese yen loan from 1988 to 2003. CRBIP aimed to improve agricultural productivity and farmers’ income in Costa through construction of irrigation and drainage facilities. The ex-post evaluation of CRBIP in 2005 by Japan International Cooperation Agency (hereinafter referred to as “JICA”), however, revealed that expected effect such as increase of planting area was limited due to insufficient utilization of the irrigation facilities and shortage of techniques for irrigated agriculture. Furthermore, responsible organizations for operation and maintenance of irrigation and drainage facilities have been changed three times; from Study Commission for the Development of the Guayas River Basin (CEDEGE) to National Institute of Irrigation (INAR) in 2008, from INAR to Ministry of Livestock, Agriculture and Fisheries (MAGAP) and from MAGAP to Decentralized Autonomous Provincial Government of Los Rios (GADPLR) in 2012. Frequent changes of the organization prevent the Government of the Republic of Ecuador (hereinafter referred to as “GOE”) from implementing continuous activities to solve the issues.</p> <p>Under such circumstances, JICA implemented “Support for Planning of Catarama River Basin Irrigation Reactivation Project” from April to July, 2011 and proposed (1) to promote a farming model based on effective water used with existed tertiary canals, and (2) to elaborate strategy to expand irrigation area to neighbouring areas (hereinafter referred to as “the Proposal”).</p> <p>Based on the Proposal, GADPLR set reactivation of Catarama Irrigation as one of the main purposes of agricultural development, and requested JICA for support to reactivate the CRBIP through utilizing the Proposal. JICA received the request and commenced the Project in June, 2013. The Project has been implementing for three years from June 2013 to June 2016, following the signing of the R/D on 12th December, 2012.</p> <p>The Terminal Evaluation Survey was conducted by the joint team organized by Japanese and Ecuadorian sides to review the achievements and progress of the Project using the five evaluation criteria to make recommendations for the remaining period of the Project and extract lessons learned for similar JICA projects in the future.</p> <p>1-2. Project Overview</p> <p>(1) Overall Goal: Land use of target area of CRBIP is enhanced.</p> <p>(2) Project Purpose: Agricultural promotion structure using irrigation agricultural model suitable for the target area is established.</p> <p>(3) Outputs:</p> <p>1) Operation and maintenance (hereinafter referred to as “O&M”) of the irrigation system in secondary canals to which demonstration plots belong is implemented.</p> <p>2) Technique of irrigation agricultural management is diffused to farmers through the activities in the demonstration plots.</p>	

3) Irrigation Area Expansion Plan (hereinafter referred to as “IAEP”) in the target area of CRBIP is elaborated.

(4) Inputs:

Japanese Side: (Total disbursement: 530 million Yen)

Experts: 9 persons (total 52 times of dispatches) Equipment: 2.9million yen (25,902.24US\$)

Local Operation Cost:50million yen (449,585.95US\$)

Training in Japan for Counterpart Personnel: 9 participants

Ecuadorian Side (Total disbursement: 89,194.55US\$ (9.9million Yen)

Counterpart (29 personnel in GADPLR)

Costs for office space, vehicles, JCC meeting, and experimental plots equivalent to 9.9 million Yen (89,194.55USD)

II. Evaluation Team

Ecuadorian Side	Mr. Edison David Egas Ochoa (Team Leader), Productive Development Coordinator North Zone, Decentralized Autonomous Provincial Government of Los Rios (GADPLR) Ms. Ana Cristina Zevallos (Evaluation Cooperation), Coordinator of Infrastructure Development North Zone, GADPLR	
Japanese Side	Mr. Kazuo SHIMAZAKI (Team Leader), Executive Technical Advisor to the Director General, Rural Development Department, JICA Mr. Hiroyuki HANADA (Cooperation Planning), Group 2, Team 4, Rural Development Department, JICA Ms. Kazuko SHIRAI (Evaluation Analysis), Consultant, Kaihatsu Management Consulting, Inc. Ms. Aki HIGUCHI (Translator), Japan International Cooperation Center	
Period of Evaluation	May 8 th , 2016 to May 28 th , 2016	Type of Evaluation: Terminal Evaluation

III. Results of Evaluation

1. Project Performance

1-1. Achievement of the Project Purpose:

Achieved:

Indicator 1: A model of irrigation agriculture based on the suitable techniques for agricultural families of small and medium scale of each target area is proposed. (Achieved)

Based on knowledge and experiences accumulated during the project period, the Project established the irrigation agriculture model¹ for small and farmers who own less than 20ha.

Indicator 2: IAEP as a policy of GADPLR is adopted. (Achieved)

The IAEP was preliminary approved by the Prefectural Council as a part of the Prefectural Irrigation and Drainage Plan on March 31, 2016. That was finally approved by the Council on May 11, 2016.

1-2. Achievement of Outputs

Since the Consultation Survey from March to April 2015, the Project has implemented its activities in line with the revised PDMVer.2.1 and POver2.1, and achieved the goals of Output 1-3.

Output 1: Operation and Maintenance (hereinafter O&M) of the irrigation system in secondary canals to which demonstration plots belong is implemented: Achieved

¹ The irrigation agricultural model includes the following three points:

i. The proper O&M by GADPLR of major irrigation facilities of the Catarama Irrigation System

ii. Following O&M activities by the farmers in the irrigation blocks;

a) Cleaning of tertiary canals

b) Proper water distribution to farmers’ plot

c) Water fee payment

d) Prevention of contraventions (specifically drilling canal lining and cultivation on canal embankments)

iii. Organizing farm plots and seminars by the GADPLR for demonstrating profitability of irrigation agriculture to the local farmers and for promoting request of new tertiary canal construction by farmers’ groups through the JGU

Indicator 1: At least 50% of farmers who share the use of secondary canals to which demonstration plots belong are satisfied with the O&M of irrigation system after one (1) dry season, and at least 70% after two (2) dry seasons. (Achieved)

As the result of the end line survey in two target irrigation blocks, 93.3% of farmers who participated two crop seasons and 82.4% in one crop season expressed that they were satisfied with the O&M of irrigation system by DRDD. 80% of farmers who participated from the 1st project year and 52.9% from the 2nd year were satisfied with their own O&M of irrigation system.

Indicator 2: The area of farmers paying the water collection fee, who share use of secondary canals to which the demonstration plots belong, is over 50% of land. (Achieved)

The latest water collection rate reached to 51.9% in two areas with existing tertiary canals covering 72.08ha out of 139ha.

The Output 2: Techniques of irrigation agricultural management to farmers through the activities in the demonstration plots: Achieved.

Indicator 1: At least 40% or 240 farmers of the target area participate in the seminars of irrigation agricultural techniques in the demonstration plots and at least 70% of the participants are satisfied with the contents of seminars. (Achieved)

The Project provided 15 seminars including three field days, in which 402 farmers (67% of 600 target farmers) participated. Among 776 participants who partially participated in more than two seminars/field day, but responded to questionnaire, 81.9% were satisfied with the contents of seminars or field days.

Indicator 2: The construction of tertiary canals at least in four irrigation blocks are requested to the Prefecture by General Board of Users (JGU). (Achieved)

The Output 3: Irrigation Area Expansion Plan (IAEP) in the target area of CRBIP is elaborated: Achieved

Indicator: IAEP is approved by the Joint Coordinating Committee (JCC) (Achieved)

DRDD and DDP took strong initiatives to make overall strategy and implementation plan for IAEP. IAEP was approved in the 4th JCC of February 2, 2016.

2. Summary of Evaluation by Five Criteria

(1) Relevance: High

- IAEP was adopted in the Irrigation and Drainage Provincial Plan which is based on the Irrigation and Drainage National Plan (2012-2017).
- The Project met the needs of GADPLR staff and target farmers in terms of diffusion of O&M by farmers and irrigation agriculture.

(2) Effectiveness: High

- The Project Purpose has been already achieved.
- Logicality between Outputs 1-3 and the Project Purpose is valid at present.

(3) Efficiency: Relatively High

- Output 1-3 have been achieved.
- Japanese experts were appropriately dispatched. Most of provided machineries and equipment were well used. Training in Japan was properly conducted for 9 participants from GADPLR
- Reflected to the recommendation from the Consultancy Survey mission in 2015, GADPLR additionally appointed one Supervisor to enhance communication between DRDD and DDP. This appointment functioned for smooth implementation of the project activities.

(4) Impact: Relatively High

1) Prospect of Achievement of the Overall Goal

- The target figures for Overall Goals were set as 1,800ha out of 4,400ha² (40%) in IAEP and it is expected to be achieved by 2019. The PDM Ver.2.2 with these figures was approved at the 5th JCC (May 25th 2016).

² The target area for Overall Goal was originally set as 5,760 ha of CRBIP. After the Project commenced, GIS survey revealed that the actual area to be irrigated should exclude 1,360ha, the area owned by large scale farmers and non-arable land. Accordingly, the target area for Overall Goal was re-set as 4,400ha (5,760ha – 1,360ha), which was agreed among the Evaluation team, Japanese experts and C/P.

2) Other impacts

- GIS data developed by the Project, enabled GADPLR to make policy level decisions for irrigation development, and utilize for outsourced construction works.
- Collaboration between GADPLR and MAGAP and or INIAP enhanced abilities of MAGAP and INIAP staff.

3) Negative impact

There was no negative impact identified at the time of the terminal evaluation survey.

(5) Sustainability: Medium

1) Policy Aspect

- The Irrigation and Drainage Provincial Plan (2012-2027) will likely be remained. IAEP is approved as a part of the Irrigation and Drainage Provincial Plan.

2) Institutional Aspect

- It is uncertain that staff members at DRDD who are mostly contract based employees, will remain in DRDD in the future.

3) Financial Aspect

- Budget allocation from the central government has been delayed. In order to compensate it, GADPLR has provided 50% of recurring cost for DRDD. GADPLR confirmed to take possible actions by summer 2016 to start construction of one tertiary canal planned in 2014.

4) Technical Aspect

- Although the rules of O&M of tertiary canals are basic, it would take more time for some farmers to understand the importance of O&M of tertiary canals by themselves.
- The Project identified that peanuts would be feasible to apply in the target area from the points of view in cultivation techniques, marketability and weather conditions. It is expected that some farmers continue to cultivate it for their additional income.

5) Ownership of C/P and Target Group

- The ownership of GADPLR to expand irrigation area is observed. Some farmers expressed they would continue to O&M by themselves and cultivate newly introduced crop such as peanuts.
- JGU's ownership was strong enough to promote O&M of tertiary canals by farmers. However, JGU needs to improve its financial status to make their activities sustainable.

3. Factors Promoting better Sustainability and Impact

(1) Factors concerning to Planning:

The revision of PDM in the Consultancy Survey was appropriate as the revised PDM was logically sorted out and had more appropriate indicators to measure the progress of the Project.

(2) Factors concerning to the Implementation Process:

The Project formed three working teams (Organizational Reinforcement Team, Cultivation Technology/Agricultural Management Team and Irrigation Planning Technology Team). These teams systematically functioned to facilitate farmers to form farmers' group and to participate in irrigation agriculture and O&M activities.

4. Factors inhibiting better Sustainability and Impact

(1) Factors concerning to Planning:

Considering climate characteristics, farming processes and situation of pests and diseases in the target area, 2 years of the project period is considered as too short for verification and dissemination of irrigation agriculture model.

(2) Factors concerning to the Implementation Process:

The Evaluation Team identified that there were some hindering factors for smooth implementation of the project activities, such as delays in construction of tertiary canal due to budget deficit, pest and diseases, flood, and robbery of crops.

5. Conclusion

The Project largely contributed to the establishment of irrigation agriculture model and formulation of IAEP. IAEP was adopted in the Irrigation and Drainage Prefectural Plan, and became a part of ordinary work of GADPLR. This means tertiary canal will be expanded by using the existing irrigation facilities, and it is expected that O&M of canals will be sustainably conducted by farmers. Considering these factors, the

Evaluation Team confirms that the Project achieved its objectives, and concludes that it will be completed in June 2016 as planned with remaining issue of budget.

6. Recommendations

(1) Development of Tertiary Canals

It is strongly recommended for GADPLR to make maximum efforts to secure necessary budget for construction of tertiary canals especially those in SC2-13 where the construction plan was already established.

(2) Implementation System and Utilization of Manuals

It is recommended for GADPLR to disseminate prepared Irrigation Agriculture Manual, cultivation manuals for C/P and texts for farmers to utilize in seminars and training.

(3) Maintenance of Catarama Pump Station

It is expected that GADPLR tackles immediately existing four issues regarding the Catarama pump station which were established by Japanese yen loan project "CRBIP".

(4) Monitoring and Evaluation System

It is required that GADPLR takes the leadership to continue irrigation projects actively, and monitor and report the progress to JICA Ecuador Office semi-annually.

7. Lessons Learned

(1) Project period

It is essential that similar irrigation agriculture project set appropriate project period based on cultivation period and seasonal characteristics of the target area.

(2) Introduction of New Crop

It is necessary for new crop selection in the target area of project to collect and analyse detailed information such as conditions and feasibility before commencement of project.