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AAF-924-F1

CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

1. PROJECT TITLE REMOTE SENSING PILOT PROJECT			2. PROJECT NUMBER 515-0144	3. MISSION/AID/W OFFICE USAID/Costa Rica
5. KEY PROJECT IMPLEMENTATION DATES			4. EVALUATION NUMBER Enter the number maintained by the reporting unit e.g., Country or AID W Administrative Code, Fiscal Year, Serial No. beginning w th No. 1 each FY) 79-3	
A. First PRO-AG or Equivalent FY78	B. Final Obligation Expected FY 78	C. Final Input Delivery FY 79	<input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION	
6. ESTIMATED PROJECT FUNDING			7. PERIOD COVERED BY EVALUATION	
A. Total \$ 610,000			From (month/yr.) 1/78	
B. U.S. \$ 250,000			To (month/yr.) 12/78	
			Date of Evaluation Review	

B. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
Project manager should determine: 1. Need to extend the Pro/Ag. 2. Potential effects of a hiatus between the Pilot and National projects.	Project Manager	Jan. 1979

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

<input type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan e.g., CPI Network	<input checked="" type="checkbox"/> Other (Specify): See above
<input type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	<input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

A. <input type="checkbox"/> Continue Project Without Change
B. <input type="checkbox"/> Change Project Design and/or
<input checked="" type="checkbox"/> Change Implementation Plan See above
C. <input type="checkbox"/> Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles).

Sandy Del Prado *Sandy Del Prado*
 Heriberto Rodríguez, General Engineer (approved in draft)

12. Mission/AID/W Office Director Approval

Signature	<i>Steve Knaebel</i>
Typed Name	Steve Knaebel, Director

19 DEC 78

AIRGRAM

DEPARTMENT OF STATE

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For each address check one ACTION | INFO

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315-0144
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DATE SENT
20 Dec. 78

TO . AID/WASHINGTON TOAID A- 55 X

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FROM . USAID/SAN JOSE
E.O. 12065: N/A

SUBJECT . Project Evaluation Summary-Remote Sensing Pilot Project
(0144) PES No. 79-3

REFERENCE .

Attached please find one copy of PES facesheet and continuation sheets for subject project.

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Attachment: a/s

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PAGE 1 OF PAGES

DRAFTED BY Acting <i>MK</i> AD:MCKilgour:mce	OFFICE Program	PHONE NO. 341	DATE 12-18-78	APPROVED BY: <i>[Signature]</i> MDIR:SPKnaebel
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AID AND OTHER CLEARANCES

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13. SUMMARY

The Remote Sensing Pilot Project represents Stage II of a three stage (Demonstration, Pilot, and National) Program of natural resources information gathering and analysis. This evaluation covers the first 12 months of the Pilot (January-December, 1978), with project completion expected by March, 1979. This includes an anticipated extension of approximately 6 weeks. Stated purpose of the pilot is "to cooperate with the Government of Costa Rica in the execution of a Remote Sensing Pilot Project affecting the development of natural resources and the course of urban expansion."

Findings indicate that the project, nearing completion of Stage II, has achieved considerable progress in relation to program design. Specifically:

- (1) From May 29-June 23, 1978, five Costa Rican professionals representing the Ministry of Agriculture (MAG); the National Housing Institute (INVU); the Planning Office (OFIPLAN); the University of Costa Rica (UCR); and the Technical Institute of Costa Rica (ITCR) completed one week of intensive training at the Earth Resources Observation Systems (EROS) Application Assistance facility at the National Space Technology Laboratories in Bay-St. Louis, Mississippi and three weeks at the Geography Department at San Jose State University in San Jose, California. The latter was combined with real-time training in digital data analysis and Landsat image processing at Electro-Magnetic Systems Laboratories in Sunnyvale, California.
- (2) Approximately two weeks of training in aerial photographic techniques, aircraft operations and color infrared photography was provided to personnel of the National Geographic Institute by Resources Development Associates (RDA) staff in January.
- (3) Data collected on approximately 5,000 Km² (10% of the country), which includes satellite imagery (LANDSAT), aerial photography and field survey is currently being utilized by participants in the preparation of maps of the project area.
- (4) Six Costa Rican professionals (the five previously referred to and a participant from the National Geographic Institute) spent two weeks in November at the office of Resources Development Associates in Los Altos, California where they

received training in data interpretation, digital analysis, and map preparation.

- (5) The utilization of maps produced by the Pilot Project in the participating institutions, and their planned reproduction and distribution should insure data transmittal to potential users.

Project participants were found to be enthusiastic and a solid working relationship appears to exist between participants; the IGN (project coordinator for the Costa Rican Government); RDA (the technical assistance contractor); and AID.

While no major problems were encountered, RDA progress reports indicate that late arrival of Landsat data resulted in a reduced amount of time available to work with the material. Additionally, the failure of EROS's Digital Image Processing System in September resulted in a lack of high quality, computer enhanced visible images.

Intensive agency work assignments of participants resulted in a postponement and reduction in the scheduled on-the-job training at RDA. This training, originally scheduled for six weeks to begin in October was shortened to two weeks and conducted in November. The change in scheduling will probably require a six week project extension.

Current project status indicates successful achievement of purpose "to cooperate with the Government of Costa Rica in the execution of a Remote Sensing Pilot Project affecting the development of natural resources and the course of urban expansion" by March, 1979, and following an in-depth technical evaluation, readiness for implementation of Stage III, the National Project.

14. EVALUATION METHODOLOGY

This evaluation was conducted by AID as scheduled in the Mission Evaluation schedule for FY1979, and as called for in the Project Agreement. The evaluation focused on progress toward outputs and end of project indicators of Stage II of a three stage program and included analysis of data relating to project administration and coordination; training; data acquisition; institutional participation; progress reports and project documentation.

Subjects interviewed included participants from MAG, INVU and OFIPLAN; the Costa Rican Government Project Coordinator from IGN; and the AID Project Manager.

15. EXTERNAL FACTORS

No major changes were found to exist in the project setting. However, heavy work loads of participants did result in a postponement of and reduction (from six to two weeks) in training time, as well as causing some difficulties in the execution of project related assignments. This apparently is a matter of work volume, as participants felt their institutions to be supportive of the project.

All project assumptions are considered to remain valid.

16. INPUTS

Generally training and technical assistance were perceived by the recipients to be of high quality. Some expressed disappointment in regards to the curtailed on-the-job training portion, while others felt the time to be sufficient.

The rescheduling of this training, from October to November, will have an impact on the project completion date, and probably require a six-week extension.

Contractor progress reports were found to be informative and submitted in a timely manner.

In addition to the present evaluation which monitors progress against planned activities, an in-depth evaluation is scheduled following project completion, to assess success of the pilot and to determine the feasibility of moving on to the Stage III National Project.

No changes in inputs appear necessary to produce outputs.

17. OUTPUTS

Measurable progress has been made towards projected outputs targets. Specifically:

A. Training

- (1) Five Costa Rican professionals, as a result of the project, are now familiar with the diverse systems of remote sensing, their operational characteristics, limitations, advantages and applications. This training was conducted at the EROS Application Assistance facility at the National Space Technology Laboratories in Bay-St. Louis, Mississippi.

- (2) Participants spent three weeks in June at the Geography Department at San Jose State University in San Jose, California, combined with real-time training in digital data analysis and Landsat image processing at Electro-Magnetic Systems Laboratories in Sunnyvale, California.
- (3) With the field data they obtained, six Costa Rican professionals spent two weeks (although originally anticipated as eight weeks in the Project Paper and six weeks in the Project Agreement) at the contractor's offices working on data interpretation, digital analysis and preparation of maps of the project area. This training was postponed from the planned September 15-October 30 date due to the intensive workloads of participants, their not having completed assignments by the above date, and resulted in a reduction in time for the on-the-job portion of training.
- (4) In January IGN personnel received two weeks training in the techniques of aerial photography, color infrared photography and aircraft operations.

B. Data Collection and Analysis

- (1) Approximately 5,000 Km² (10% of the country) was selected as the Pilot Project Study area.
- (2) Data collection of the project area includes satellite imagery, aerial photography and field survey. Data has been interpreted and is currently being utilized in the preparation of detailed maps at varying scales covering virgin, culled, and second growth forest land; improved or unimproved range land; annual, perennial, or pasture land used for agriculture; and urban land used for industry, residential, institutional, etc.

C. Data Utilization

- (1) Data has been analyzed by user agencies (MAG, INVU, OFI-PLAN, UCR, ITCR, and IGN) and indications are that the maps generated by the project will, by project completion, be adapted to specific needs.
- (2) Project participants are presently discussing ways to develop an institutional system for data collection, analysis and utilization.

Progress toward goal can be largely attributed to purpose achievement, to the coordinating efforts of both the IGN Coordinator and AID Project Manager, to the diligent work of the participants, and to the quality of technical assistance provided by the contractor.

20. BENEFICIARIES

The total population of Costa Rica is expected to benefit directly or indirectly from the project, in that long range benefits should include among others, a reduction in soil and water losses, more effective land utilization, and a reduction of social and economic ills related to uncontrolled urbanization.

21. UNPLANNED EFFECTS

Not pertinent at this time.

22. LESSONS LEARNED

Allowance should be made in planning for possible difficulties in obtaining aerial photography due to cloud cover and potential delays in obtaining Landsat data from NASA and EROS, as well as for the fact that participating professionals have existing intensive work assignments which can affect completion of assignments and time available for training activities.

23. SPECIAL COMMENTS OR REMARKS

Since the program agreement contains no estimated final contribution date, it is recommended that the Program Manager determine the need for an extension of the document, as well as the potential effects of a hiatus between the Pilot and National projects.