PD-AAH-671

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CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) — PART I

Report Symbol U-447

1. PROJECT TITLE	2. PROJECT NUMBER	3. MISSION/AID/W OFFICE
Rural Water Systems - CARE OPG	511-0479	USAID/Bolivia

4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 81-7

☒ REGULAR EVALUATION ☐ SPECIAL EVALUATION

5. KEY PROJECT IMPLEMENTATION DATES	6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION
A. First PRO-AG or Equivalent FY 77	A. Total $2,254,125	From (month/yr.) 7/77
B. Final Obligation Expected FY 80	B. U.S. $ 450,000	To (month/yr.) 2/81
C. Final Input Delivery FY 80		Date of Evaluation Review 8/5/81

8. 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
1.* CARE will fully implement the training component of the areas of health and nutrition and will provide follow-up activities in water system maintenance.	M. Schwarz	8/81
2.* CARE will complete the installation of chlorinators where water treatment is required in order to assure water potability in all systems.	M. Schwarz	7/81
3.* CARE will provide the necessary additional technical and promotional personnel in order to satisfactorily complete project purpose, system maintenance follow-up activities and health and nutrition training.	M. Schwarz	3/81
4. USAID/Bolivia will complete a site inspection of the project and will prepare a completion of project report to include: a) a description of the project's accomplishments, lessons learned and problems encountered during the period 7/80 to 8/81, and b) a description of the maintenance systems to be utilized by CODETAR, CORDECH and the communities to assure the proper functioning of the installed potable water systems. The report will serve as the final evaluation and will be incorporated as an Annex to this PES.	L. Hougen H. Handler	8/81

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9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

- ☐ Project Paper
- ☐ Financial Plan
- ☐ Logical Framework
- ☐ Project Agreement
- ☒ Implementation Plan e.g., CPI Network
- ☐ PIO/T
- ☐ PIO/C
- ☐ PIO/P
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

- A. ☒ Continue Project Without Change
- B. ☐ Change Project Design and/or ☐ Change Implementation Plan
- C. ☐ Discontinue Project

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

CARE:MSchwarz
DPE:SAranibar
Evaluation Consultants
DPE:HPHandler
DPE:RLeón de Vivero
EE : LOdle

12. Mission/AID/W Office Director Approval

Signature: Malcolm Butler

Typed Name: Malcolm H. Butler
Acting Director

Date: 8/7/81

AID 1330-15 (3-78)

SUBSQUENT ACTIONS (2/81 - 6/81)

1.* In January 1981, CARE signed agreements with CORDECH and FOMO to carry out a two month training program in Chuquisaca on water system maintenance, cooperativism, nutrition and health. The training took place in January and February 1981. A similar agreement was signed with FOMO in June 1981 to carry out similar training in Tarija in July and August 1981.

2.* CARE informed the Mission that 8 of the 22 required chlorinators had been installed as of June 30, 1981. CARE further informed that the installation of the remaining 14 chlorinators would be completed by July 31, 1981.

3.* CARE hired two additional full time technicians as of October 1981 to assist in the implementation of the project, one in Chuquisaca and one in Tarija.

This PES is based on the findings of the evaluation conducted in June 1980 covering the period 7/77 to 6/80. This introduction and the action decisions listed on the face sheet, however, reflect not only the evaluation but the results of a series of working sessions held between CARE and USAID/Bolivia through February 1981, based on the findings of the evaluation and subsequent actions taken to comply with project requirements.

Although the actual evaluation took place in June 1980, the report was not submitted until October 1980. The delay was due to the fact that the computer facilities in Sucre required to process the evaluation data were closed as a result of the July 17, 1980 coup.

The PES was prepared by the Mission in December 1980 and a copy sent to CARE for review. CARE disagreed with several of the Mission's observations and was given the opportunity to present its rebuttal. The present modified PES reflects the consolidated viewpoints of both CARE and USAID/Bolivia.

All U. S. funds under the project had been disbursed and accounted for by the project termination date of 9/80, but since several project activities were behind schedule, the date for the final delivery of goods and services under this project was extended to 8/81, at which time a final site inspection will take place and a project completion report will be prepared covering the activities carried out from 7/80 to 8/81. The report will serve as the final evaluation and be incorporated as an Annex to this PES.

The project site inspection and completion report will be a condition precedent to the Mission's consideration and approval of any future OPG assistance to CARE.

13. SUMMARY

The dual purpose project was designed to provide approximately 45 potable water systems and to implement health and nutrition education training programs in small rural communities in the Departments of Chuquisaca and Tarija. Under the first purpose, construction, 73% or 33 water systems had been completed as of the evaluation period (25 in Chuquisaca and 8 in Tarija). The second purpose, training, received attention by CARE, but considerably more effort was still required as of 6/80 if adequate results were to be achieved by the project completion date.

The weakness of the health and nutrition training programs required under the project was a result of over-concentration of effort on construction of water systems and insufficient number of appropriate technical/extension personnel. However, it must be stated that as of the evaluation date, community members in 21 of the 33 sites where water systems were completed had received on-the-job training (e.g. water systems maintenance, cooperativism, health and nutrition).

In brief, the Mission believes that the project purposes can be achieved by the project completion date (8/81). To achieve this, however, the positive results of the recently improved implementation process will have to continue to increase and CARE will have to take the corrective measures indicated in this PES. Among the positive results of the project are the decreases in infant mortality rates and incidence of diarrhea (see Section 18) and the positive attitude of the participating communities, which successfully embraced the self-help philosophy of the project. Finally, the experience gained by the water service committees and/or cooperatives in the communi-

nities is expected to facilitate the implementation of other future self-help endeavors in these communities.

Other general findings of the evaluation included the following:

- Counterpart Contributions. During the evaluation period, the Departmental Development Corporations (DDCs) averaged a 22.1% contribution of the 20-30% required counterpart. As of this evaluation, the project only had several months prior to completion; thus, no problems were foreseen in reaching the stipulated counterpart contributions of the project by the project completion date.
- Disbursements. As of the evaluation date, CARE had disbursed 59% of the grant. A good portion of the funds were utilized for materials and equipment for construction of the water systems.
- Institutional Agreements. The evaluation revealed that the implementation agreements between CARE and the cooperating institutions were thorough, detailed and legally sound--more so than other OPGs the Mission had evaluated to date. These agreements, which were signed with the Chuquisaca Development Corporation (CORDECH) and the Tarija Development Corporation (CODETAR) before the initiation of the project, clearly outlined the areas of responsibility of each of the participants in a legally binding agreement compatible with the project purpose. Notwithstanding these agreements, however, the DDCs did not entirely fulfill their training responsibilities.

14. EVALUATION METHODOLOGY:

The primary purpose of the evaluation was to measure progress and to verify the strengths and deficiencies of the project in order to recommend necessary corrective actions. The evaluation was carried out by a team of Bolivian

professionals which included one physician specializing in health and nutrition, two economists, and one geologist. The evaluation criteria were established by CARE and approved by USAID/Bolivia. The evaluation team developed the methodology of the follow-up testing required by the original health and nutrition baseline survey conducted in 1978 by CARE. The evaluation was conducted in June 1980 at a total cost of $10,000, financed under the project.

The methodology used by the team included an institutional review of all participating agencies; field review of nutrition and health conditions; and analysis of certain socio-economic aspects, cooperatives and post project activities. Thirteen communities within the project area were selected at random and visited by the evaluation team. The team was divided into two groups--the first spent 23 working days in eight communities, and the second spent 19 days in seven communities. The data was compiled and processed in the computer facility at the San Francisco Xavier University in Sucre and is included in the Annex of the final evaluation report. The data provides information on health, nutritional and financial aspects of the project's impact.

15. EXTERNAL FACTORS:

- Cement Availability. The nearest and most reasonably priced cement source for the project is the "Fancesa" factory in Sucre. The frequent unavailability of cement from this source and the unwillingness of the factory to sell (in expectation of the approval of higher prices by the GOB) were factors causing significant delays in the implementation of the construction component during calendar years 1979 and 1980.

- Political Unrest. The slow-down or even paralysis of national activities for long periods of time following both the November 1979 coup and the pre and post election periods in 1979 and 1980 adversely affected tha travel of both counterpart and CARE personnel. Campesino road blockades in December 1979 prevented the travel of personnel and the transportation of materials for almost a month, and a trucking strike delayed deliveries of construction materials to the project sites during a two month period in 1980.

- Unavailability of Construction Materials and Accessories. The unstable political situation during the project period severely reduced the availability of imported construction materials and accessories, directly causing the paralysis of construction activities on several occasions.

- Selection of Communities. According to the project paper, community selection was to be based on the following criteria: need; site accessibility to facilitate delivery of materials; community interest in introducing a potable water system; community commitment to provide the labor; locally available materials; and prior experience and success of community-initiated projects. These criteria were applied to most of the communities selected in the Department of Chuquisaca. However, the selection of communities in the Department of Tarija was based mainly on previous unfulfilled commitments by the Government of Bolivia (GOB) to provide potable water. The justification for the latter approach was that those communities had already organized water committees, which would facilitate project implementation. In one case (Concepción), project funds were used to complete a water system in which a tank had already been constructed by community labor.

16. INPUTS:

The inputs planned for the life of the project included the following:

a) Budget: $450,000 - The budget was adequate.

b) Equipment and Commodities: $299,923 - Materials for water systems. Except for two unresolved problems, there have been no significant issues with regard to equipment and commodities. The first problem was the lack of insurance coverage by CORDECH for the drilling equipment purchased under the project. CORDECH claimed it was due to financial constraints and turned this responsibility over to CARE. The second problem was community rejection of chlorinators, which were being used in only two communities as of the date of the evaluation was prepared. (The reasons for the rejection of chlorinators is discussed under Section 22.A. of this report.)

c) Technical Services: $33,000 - Technical staff salaries and travel expenses. The institutional review demonstrated that CARE hired insufficient personnel.

to adequately carry out the technical and community promotional activities necessary for achieving success in the training component of the project.

d) Water Systems Maintenance: $44,000 - During the system construction phase, an average of two selected members per community received on-the-job training in system care and maintenance by supervisors provided by the DDCs. The evaluation team's findings indicate that 75% of the systems visited were being adequately maintained. The follow-up training in water system maintenance required by the project agreement was not carried out during the evaluation period. CARE indicated that compliance with this aspect of the training had since been assured by means of contracting a private entity to do the follow-up training.

The first five water systems finished by mid-1978 were functioning satisfactorily as of the evaluation date, demonstrating community interest in keeping the systems properly maintained and the appropriateness of the different water system designs used in the project.

c) Other Costs: $73,077 - Vehicles, regional office equipment and overhead.

Equipment and vehicles were provided on schedule due to CARE's previous procurement experience.

17. OUTPUTS:

Progress made against planned project outputs is as follows:

a) Water Systems by Category:

Type	Planned	Completed as of June 1980
#1 - Mechanized pumps and storage tank	15	12
#2 - Gravity flow including treatment and balancing tank	15	13
#3 - Gravity flow without treatment but including balancing tank	15	8
	45	33

Note: Type #1 includes any system with a mechanized, pump-drilled well system, excavated well systems, and superficial captation systems where motorized pumps were installed. A total of four systems in this category will have water treatment equipment (two have already been installed).

b) Water Systems by Cost

Type	Planned	Actual Average
#1 - Mechanized pump and storage tank	$39,419	$27,830*
#2 - Gravity flow including treatment and balancing tank	$30,728	$17,998
#3 - Gravity flow without treatment, but including balancing tank	$26,590	$ 8,163

* The average unit cost of the drilled well systems included in this category is $36,968.

c) Water Systems (completed as of June 1980) by location:

Type #1	Type #2	Type #3
Pampa Heredia	San Pedro	Huayllas
Cerrillos	Ocurí	Abra Khasa
Pata Pampa	Cumandaití	Pintantorilla
Sta. Rosa de Cuevo	Monte Grande	Potolo
Ivo	Tarabuquillo	Janacuchu
Villa Charcas	Alcalá	Quesere
Concepción	San Juan de Piraí	Huaylla Pampa
Palmar Norte	Rosario del Ingre	Iscayachi
Palmar Sur	Tarvita	
San José de Pocitos	Candelaria	
Tomatitas	Rincón Lupiara	
Chocloca	Iguembe	
	Tolomosa	

d) Health Education Training

The health education training component of this project is intended to reinforce the health improvement effects of the water systems installed in approximately 45 communities. Initial but minimal progress had been made on this planned output during the evaluation period.

18. PROJECT PURPOSE:

The purpose of the grant is as follows:

> "to provide potable water and health education simultaneously to small rural communities in the Departments of Chuquisaca and Tarija."

To accomplish the purpose, the project was divided into two phases: the selection of communities and construction of water systems; and the carrying out of health and nutrition education programs in each of the participating communities. Progress made as of the evaluation date towards achieving the purpose is as follows:

a) Delivery of Potable Water Services:

Thirty three (or 73%) of the potable water systems were completed. Twenty two of these required the installation of chlorinators following tests

conducted to assure acceptable water purification levels. Of these, only two had been installed at the time of the evaluation, primarily due to unforeseen problems such as community reluctance to accept chemical treatment procedures (see Section 22.A.).

b) Health and Nutrition Education:

The implementing agencies responsible for this component, CORDECH and CODETAR, did not adhere to their respective project agreements with CARE by failing to provide training courses in all project sites and/or by having provided deficient courses in a limited number of sites. In an effort to remedy this situation, CARE directly undertook training activities and conducted courses in health and nutrition in 21 (or 64%) of the 33 sites completed.

c) Project Impact:

Although the impact of the potable water project to date has been limited because the educational component of the project has not been fully implemented, the project design can be considered a good model for health and nutrition interventions in small rural communities.

As part of the institutional agreements entered into by CARE with CORDECH and CODETAR, a basic study in ten communities in Tarija and Chuquisaca was carried out in 1978 to provide baseline data upon which to measure project impact. The evaluation team conducted sample surveys in eight of these communities (six in Chuquisaca and two in Tarija) in which water systems had been built. One of the findings of the evaluation team showed that the rate of diarrhea in children under five decreased from 26.5% (1978 survey) to 9.0% (1980 survey). As no other interventions from either the DDCs or other

institutions had been implemented in any of the beneficiary communities since the 1978 survey, it can be concluded that the improved health status is at least partially attributable to this project.

As a result of this project, the Departments of Water Resources of CORDECH and CODETAR, which received technical assistance and training from CARE and USAID/Bolivia, have increased their capability in the planning and implementation of small community water systems.

The positive attitude of the participating communities which accepted and successfully implemented the self-help philosophy of this project is noteworthy, despite the fact that, in many instances, this was the first such project ever introduced in the participating communities. Finally, the experience gained by the project-formed water service committees and/or cooperatives can be expected to facilitate the implementation of future self-help endeavour in these communities.

19. PROJECT GOAL:

The goal of the project is as follows:

> "the achievement of a 20% reduction in mortality and a 40% reduction in morbidity rates and a 25% reduction in malnutrition in the project target areas (where water-borne diseases are the primary cause of such ailments)."

Currently, an insufficient period of time has elapsed since the construction of the first 33 water systems to assess the project impact on goal achievement. However, preliminary findings of the evaluation team relating to the decreased incidence of diarrhea in children under five years of age suggest that the project is contributing to lower rates of morbidity and mortality as a result of the improvement of health conditions.

20. BENEFICIARIES:

Although the project has not been completed, there are indications that the rural poor in the selected communities of 200 to 1,999 inhabitants will receive significant benefits from the project. As of the date of the evaluation, the total number of rural beneficiaries in the Departments of Chuquisaca and Tarija were 6,500 and 6,400, respectively. The 1978 survey, conducted prior to project implementation, collected a vast amount of data to serve as indicators of achievement of the project impact. Using this data the evaluation report illustrates the benefits of the project, including but not limited to: improved sources of water used by the communities; reduced incidence of water-borne gastrointestinal diseases; reduction of time spent in water collection; and decreased walking distances to water sources.

21. UNPLANNED EFFECTS:

Unplanned positive effects of the project included: a noticeable growth of confidence among the beneficiaries regarding their own capability to improve their living standards and the desire expressed by the communities to further improve their lives through self-help projects.

22. LESSONS LEARNED:

a) Chlorinators. The installation of treatment plants encountered considerable community resistance as a result of the general belief that the equipment related to population control measures. This situation demanded substantial time and effort on the part of CARE to change the attitudes of the communities, including the carrying out of training sessions not called for in the project paper. Projects of this nature should ascertain the probable acceptance of new processes/technologies during the design stage so as to

avoid delays in implementation. If proven necessary, specific promotional activities can then be incorporated into the implementation process.

b) Latrines. Experience has demonstrated that projects of this nature should be complemented with basic sanitation services in order to have a more significant impact on improving health conditions.

c) PVO Personnel. The institutional review demonstrated that the personnel hired by CARE (CARE and AID-financed) for the implementation of the project and called for in the project paper was insufficient to adequately carry out the activities described in the agreement. The lesson learned is that small scale PVOs have a tendency to underestimate personnel requirements, due to their limited scope of activities and experience.

23. SPECIAL COMMENTS OR REMARKS:

The full evaluation report which this PES summarizes, "Proyecto Rural Integrado de Salud y Nutrición", is on file in the Office of Development, Planning and Evaluation, USAID/Bolivia.