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Department of State

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ACTION AID-31

INFO OCT-01 TGA-02 /034 W

108606

D 151925Z NOV 76  
FM AMEMBASSY LA PAZ  
TO SECSTATE WASHDC PRIORITY 3130

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AIDAC

REF: 116521 N/A  
SUBJECT: CARE GPG PROPOSAL FOR RURAL WATER

RE: STAFF 269495

1. CARE RESPONSE TO ISSUES AND CONCERNS RAISED  
REFTEL HAND-CARRIED TO AID/W BY L. HAUSMAN, MISSION  
DEVELOPMENT RESOURCES OFFICER. RESPONSES NUMERICALLY  
KEYED TO PARAGRAPHS IN REFTEL.

2. MISSION URGES RAPID AID/W REVIEW  
IN LIGHT OF RESPONSES TO AID/W'S  
SUBSEQUENT NOTIFICATION TO MISSION OF  
ASAP.  
STAFF

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**SUBJECT: Proposed OPG CARE Rural Water Systems**

**REFERENCE: (A) State 268495, (B) Stockman-Grader  
Conversation, October 29, 1976**

Mission offers the following responses to questions raised in Reference A on subject OPG. Responses are keyed to the sequence of questions raised by AID/W in Reference A. Mission trusts this responds to the concerns and clarifications discussed in Reference B.

## A. Other Experience

OPG will not duplicate other donor efforts primarily because the CARE project is based on drawing maximum participation from communities and counterpart and because CARE will combine several components which have not been integrated in previous water programs in Bolivia. This project is designed to 1) Maximize community inputs, 2) Form a legally based community users coop, 3) Train coop members to maintain water system, 4) Establish users fee for water system repair and maintenance, 5) Coordinate Health education programs with water system implementation, 6) and provide feedback information to national and international agencies which are currently implementing or contemplating implementation of rural water programs without all the above elements. CARE considers that only the above elements combined will provide a sound operational basis for rural water programs.

Other donor experience in Bolivian rural water systems, particularly those involving community participation, has been minimal. Past I/FED and BID projects have focussed on cities. Those water projects that recently were authorized by IERD and UNICEF have not begun implementation. The IERD project will not operate in towns of less than 800 people and in Chuquisaca it will operate only in the city of Sucre while the OPG will focus primarily on towns of 400-600. CARE and the COPs have been working together closely in the design of their projects to facilitate maximum complementarity. This close working relationship is expected to continue during implementation.

Further, the CARE project will not duplicate USAID efforts which will focus on the five northern provinces of Chuquisaca and Cochabamba. CARE will focus on the southern provinces of Chuquisaca and Tarija.

Such GOB agencies as DSA and CORPAGUAS have not been able to provide maintenance and services for their water systems from their programs and personnel. Their approach differs from this OPG which will emphasize community-based maintenance. Thus, past experience indicates the necessity for increased community responsibility for rural water systems. The community must sense its ownership of the system upon completion.

CARE and USAID/B consider OPG complementarity to rural water projects now being implemented; it is designed to increase community inputs, maximize responsibility and involvement of community (user coops), and thereby provide the basis for the articulation of a village "water authority", an important element lacking in projects of other agencies.

## B. Section 611

Since the OPG is not being requested to complement a CARE ongoing project, technical and financial plans for individual project sites are not available. As stated in the OPG proposal, selection of

participating villages and subsequent technical and financial plans for a particular village water system will occur once the project has been authorized. USAID's Office of Engineering has technical capability to execute Section 611 certification and is exercising it on several other projects. Since initial part of OPG is destined for CARE start-up costs, site reviews to prepare plans for each water system can be conducted by CARE & COP engineers with USAID/B review, inspection and approval before authorization of funds for that system.

Therefore, it will not be possible to review technical and financial plan prior to authorizing the OPG. Mission considers statement in para B reftel concerning the need for SER/ENG review of feasibility studies to be particularly cumbersome since USAID has qualified engineering staff.

#### C. Health Education Data

All data for determining Impact of Health Education, pre and post intervention, will be collected through surveys conducted by CARE/COP (Comite de Obras Públicas) promoters. The surveys, originally designed by CARE/Colombia professionals, are presented as an annex to the proposal. Mission health office considers draft surveys in proposal adequate. Once OPG approved, CARE & COP professionals will further review surveys to adapt them to conditions specific to Chuquisaca. Again, they will be reviewed by the Mission health office.

#### D. Goal, Purpose

The goal of this project is: to improve the health of the rural population living in small communities of Chuquisaca and Tarija. The purpose is: to provide potable water and health education simultaneously to approximately 50 small rural communities in the five southern provinces of Chuquisaca and Tarija. Since water borne disease is one of the major factors contributing to the poor health of the rural sector, and particularly infant mortality, the project proposes to reduce mortality and morbidity rates in target areas through potable water systems and health education, the two components of the OPG. For this reason, CARE will use changes in mortality and morbidity as the indicators for measuring achievement of both the goal and the purpose. The basis for measurements will be pre and post intervention surveys of each community by CARE/COP promoters. Based on the initial population infant mortality and general morbidity data generated from the pre-intervention survey, CARE and the Mission will set specific measurement indicators such as: a) Goal indicators - contribute to a 20% reduction

in infant mortality and a 30% reduction in general morbidity rates over a 10 year period in the two departments; and, b) Purpose indicators - a 25% reduction in water-borne diseases in three years in the communities directly participating in the project. Since there are no other health activities currently planned for those communities during OPG implementation, reduction of morbidity and mortality in the priority pre-school child group in terms of water-borne, generally gastro intestinal diseases would be attributable primarily to the provision of potable water and health education.

#### E. Cost Effectiveness

Other donor experience not relevant due to minimal experience and only in projects which differ significantly. Mission regrets that maintenance costs are not clearly included in the OPG proposal. However, our review of the budget, particularly of the construction cost elements, indicates adequate provision for items to be required at reasonable prices. Mission does concur with implication in para E ref tel of continual refinement of this element. Therefore, as part of USAID Engineering Office review of plans for each village water system for 611 certification, all project costs, including operations and maintenance, will be included in technical and financial studies.

#### F. Target Group Selection

a) As stated on pp. 10-11 of the OPG paper, the statistics indicate that health conditions in Chuquisaca and Tarija rank among the severest in the country. Notably, the CARE/OPG project in Chuquisaca is directed to the southern five provinces which comprise the more disadvantaged half of the Department. ~~In the five southern provinces which comprise the more disadvantaged half of the Department.~~ In the five southern provinces, all essentially in the plains regional referred to as the Chaco, conditions are consistent with those indicated on pp. 10-11 of the OPG paper. Further to this, it should be mentioned that these two Departments were chosen for the GOB's pilot Integrated Rural Development Program primarily because their populations are more heavily rural than others with some of the lowest per capita income and service coverage indicators.

Mission concurs with CARE that the universe of rural communities in Chuquisaca and Tarija from which specific project communities will be drawn is within AID's target group. The Health Sector Assessment and other Mission sources confirm the data cited in the OPG proposal. Further, given the area poverty in terms of health status, income & access to services and the fact that CARE will focus primarily on the smallest communities (approx. 400) which tend to fall on the lowest end of these scales, Mission feels that need and lowest possible income criteria are covered adequately in Annex II to the proposal.

b) CARE will follow a three step selection process in choosing specific communities to participate directly in project water & health education activities as described on p. 18 of the proposal: i) initial pre-selection; ii) preliminary site selection; iii) final site selection.

1. Initial pre-selection will identify the universe of possible project communities which were identified as priority and briefly described by the COP's in their Five Year Plan. The COP's based inclusion primarily on "need" criteria. In global terms, the pre-selection signifies the southern five provinces of Chuquisaca and the Tarija valley and Chaco areas of Tarija. CARE personnel, once the CARE office is established and operating in Southern Bolivia, will review the list and descriptions of communities with COP personnel in Planning and Social Development Divisions to identify those communities to be considered in the second step of selection.
  2. Preliminary site selection will limit the universe to those communities best-suited to participate directly in the project by virtue of their socio-economic need and potential to contribute. The feasibility survey (see Annex II of proposal) will be the primary instrument. The CARE & COP promoters, with CARE training and supervision, will apply it. The weighting of items for passing a community to the final selection step, will fall on need and potential in approximately a 25/75 ratio since need will be the primary consideration in the first step. The survey form is modeled on the one used in CARE/Colombia's water project. Its application there has been successful. This step will primarily use criteria one through six as listed in the proposal.
  3. Final selection will limit the universe to those communities where water systems feasibility may be constructed within the cost parameters stated on p. 18 and within the three basic system designs described from p.22-29 by virtue of their physical conditions. COP engineers, with CARE assistance, will determine the physical and economic feasibility of particular type of system each community will require. The actual engineering design and user's fee structure for each system determined feasible by CARE and COP personnel will be reviewed and approved by Mission engineers before final authorization is given to begin work. CARE has noted that COP engineers are not only technically qualified for such tasks but are also motivated to carry out such tasks in difficult rural conditions.
- c) Candidate villages will be taken from the universe of those falling within the size-range of 200 to 1999. To be more accurate, the preliminary site selection survey will attempt to limit the villages to those of approximately 400 population. Available data sources

(Health Sector Assessment) lists the range of 200 to 1999 as the most frequently occurring village size in rural Bolivia, therefore, its inclusion in the OPG paper p. 17. This village size is about 6.5% of the total population.

Total project universe in Chuquisaca and Tarija will be about 104 villages. From CARE's experience in a recently initiated project in La Paz Department, one promoter using public transport can apply the survey instrument to a minimum of four villages per week. Using this as a baseline indicator, we have the following: 104 villages: 4 surveyed per week is 26 weeks work. Over three years, this is 8.6 weeks of work per year, or about 2.1 man-months of work per year. Of course, the time becomes less as the number of promoters is increased.

d) No communities are to be selected for only Health Education activities. Communities receiving only educational inputs will do so only indirectly through an anticipated spill-over effect from radio education programs. This means, for example, that health messages transmitted by radio will reach all communities in the target area, and not just those participating in water systems. Other extension/education services requiring controllable hardware and software will be limited only to communities selected for direct participation in OPG project. Where activities can be controlled, such as in short courses, field day demonstrations, etc. no spill-over effect is anticipated, as these activities will only be limited to those communities originally chosen for OPG. Cost evaluation of health impact, as a comparison to villages participating directly, will be conducted from the universe of 104 villages, specifically from among the 68 (maximum) which will not benefit from water system installation.

#### G. Information system

The information system includes the following functions: (a) the pre-intervention survey. (This is, in effect, the feasibility survey form included as Annex II of the OPG paper); (b) reporting completed survey forms back to Departmental Headquarters (HQ) and making decisions on community selection; (c) signing contracts with the beneficiary communities and reporting back to HQ; (d) choosing the appropriate potable water system and drawing the design for each; (e) approval from USAID/B for engineering design; (f) beginning construction and monitoring it through to completion and reporting to HQ; (g) meeting with the community to organize the community fund, set the users' fee, and organize training for the maintenance of the system once completed, and reporting back to HQ; (h) system completion and reporting back to HQ; (i) monitoring the completed

system, i.e., making monthly visits to the beneficiary communities to check the maintenance of the system and the frequency of users' fee payments and reporting back to HQ; (j) Health Education activities, organized and presented to the communities, with on-going reporting back to HQ; (k) post-intervention survey and reporting back to HQ. The post-intervention survey in the beneficiary communities will be the same as indicated on p.4 of Annex I in the OFG paper. Quite simply, it will record the rates of mortality and morbidity. Any reduction will, be a result of the water and health education inputs as explained in Part A above.

The primary rationale for the system during the life of the project is to determine the pre and post intervention rates of mortality and morbidity. As a community development tool, the information system is intended to impress upon the COPs the importance of follow-through during and after execution of the project in each community.

Other functions are to maintain on-going monitoring of all project water and education activities in each direct beneficiary community. Persons involved in its actual function will be the CARE/COP promoters in the field reporting to the CARE/COP Headquarters in Sucre. The number and types of reports will, at any one time, depend upon the number of villages in which the project is on-going and at what level. Once underway, the experience gained in the ongoing project will enable CARE to refine the operation of the system.

#### H. Evaluation

CARE considers that evaluations (measurements) of project impact are quite adequate as discussed above and in the OFG proposal, i.e. pre and post intervention surveys to determine changes in mortality and morbidity, and cost studies of total inputs for each water system. Specific EOPS indicators are discussed in part D above. CARE will do evaluations of project efficiency on a quarterly basis. Post-interventions surveys will be made each six months during three year project period. Effectiveness of the health portion of project in terms of reduced morbidity and mortality, especially in the pre-school child group, and behavioral changes in health practices, will be measured through site surveys by CARE/OFG promoters as discussed in part G above.

As explained in part F.d. above and in the proposal, CARE does not propose to initiate direct health education activities outside communities participating in water systems. Non-participating communities will be included in area-wide evaluation of health status change for comparative purposes as discussed above, F.d.

Mission feels strongly that additional control groups and evaluative measures would involve greatly increased costs. At the same time, such an increased effort in time and manpower could detract from the innovative core of this project, i.e., its operability in the field, by placing undue emphasis on the potential theoretical value of the exercise. Mission has suggested CARE consider submitting a separate proposal for such activities once the proposed OPG is underway.

#### I. Technical Considerations

Ref. Issues paper 13

a) House connections, as described in the paper, are being left to the discretion of the individual communities. This decision is based on previous COP experience in the completion of the 15 systems also cited in the proposal. However, engineering designs for all the systems will include the maximum PSI rating required to withstand the pressures of house connections should the community or individuals, after system completion, decide to install house connections. For communities of 400, house connections seldom require PSI (in tubing strength) of over 160. This will be the minimum tubing strength purchased for the project. In addition, since part or all of the tubing material can be purchased from a local manufacturer, PSI ratings can be altered as required. In short, this consideration is not problematical.

b) Ref. Item 4, page 8 issue paper

Well-drilling costs are based on DSA, CORPAGUAS and UNDP experience, primarily on the Altiplano. Drilling conditions in Bolivia, particularly on the Altiplano are among the most rigorous in the world. The plains area of southern Chuquisaca will not present the consistent rocky conditions found on the Altiplano. Therefore, the \$75 per meter average is higher than what the project actually will encounter.

c) Ref. Item 5 page 8, issues paper

The COPs have built 15 potable water systems within the two Departments. Two of CODESA's engineers and one of CODESTAR's have a minimum of two years' experience with DSA's well-drilling equipment.

#### J. Operating Procedures

a) As indicated earlier, there is a contractual basis upon which CARE will work with the COPs. Mission has reviewed the draft operating agreement representing the content of the contracts to be signed between CARE and the COPs. It is acceptable in all ways. The operating agreement (contract) will be similar for both COPs. The agreement with CODESA will differ from the one with CODESTAR in the provision of the

well-drilling equipment. Negotiations between CARE and the COPs was begun in February, 1976. Close contact has been maintained throughout the year.

b) The concept of regionalism in the Departments of Chuquisaca and Tarija is best summed up by describing the Integrated Rural Development (IRD) pilot project. The IRD is essentially the umbrella under which the CARE/COP project will be implemented. One of the priority concerns under the IRD is on-going coordination between all government ministries and other entities working in the Department.

The operating procedures and relationships mentioned in the OPG will be an integral part on the organization of the IRD. Thus, CARE's anticipated working relationships with the MOH, the MCA, the MOE, SNDC, etc, will be considered a normal function of the IRD and have received concurrence from IRD personnel.

Conceived in 1970 by CONEPLAN, the IRD was activated in Chuquisaca and Tarija, beginning in 1972. These two Departments were selected on the basis of the following criteria: 1) Socio-economic conditions (below the national average), 2) The geographical aspects (valley, plains and Altiplano are represented), and 3) that each Department has a functioning and economically secure Public Works Committee (COP). To accommodate the activities of the IRD more efficiently, the COPs created the Division of Social Development. This division directly manages all activities implemented in the IRD. The first activities were in the area of school constructions and health-post constructions through the financial assistance of UNICEF. Additional activities included teacher training through short courses held by the MOE as well as a number of vaccination and promotional campaigns put on by MOH in the two Departments. An extensive evaluation of the program's efforts since 1974 was conducted in August, 1976. In addition to an array of international agencies, the MOE, MOH, MCA, CONEPLAN and SNDC were represented at the evaluation. Important among the recommendations was the need for increased participation by various ministries at Departmental level in the activities of the IRD; also stressed was the need to maximize coordination of all rural development activities in the Department.

The CARE/COP proposed project is designed to complement the social development activities so far initiated by the IRD in the two Departments. The IRD is the foundation of CARE's working and coordination relationships with the various departmental entities.

c) The Departmental Public Works Committees (COPs) are supervised by the Ministry of Urban Affairs and Housing. COPs are found in the

Departments of Chuquisaca, Tarija, Potosí, Santa Cruz, Beni and Pando. The COPs are administratively, financially, and functionally decentralized from the Ministry of Urban Affairs. Funding for the COPs comes from revenues generated from oil royalties (over 80%), percentages of proceeds from taxes on import-export items and royalties on mineral sales.

In recent years, as in the case of CODESA and CODETAR, the COPs have tried to use their own funding as collateral for larger institutional loans. CODESA, for example, in 1975, received a US\$2,000,000 loan from the Inter American Development Bank for their livestock improvement program.

The Directorate of the COP is made up of the following individuals:

- I. President, appointed by the President of the Republic for two years.
- II. Vice President, named by the Ministry of Urban Affairs and Housing.
- III. The Prefect, (Governor) of the Department.
- IV. The Major, of the Department's capital city.
- V. Departmental MCE personnel.
- VI. One representative from the Department's campesino organization.
- VII. A representative from the Armed Forces.

The function of the COP is to direct and coordinate all development activities in the Departments where they exist, in such a manner as to avoid diffusion and duplication of efforts by various entities. The COP is operationally divided into two departments: the Technical Department under which the various Divisions are situated (see point 3), and the Administrative Department, which has three functional divisions: 1) Budget and Accounting; 2) Purchasing and Warehousing; and 3) Personnel. The financial year is the calendar year, from January 1, through December 31. Accounting is double entry. By law, the COP must publish an Annual Financial Statement. Preparation for and approval of a budget for an upcoming financial year is completed by November.

The Directorate must approve the budget. Line items in the budget preparation are the responsibility of the appropriate Technical Division and the Division of Planning. Attached is a summary of project expenditures of CODESA for the years 1969, 1972 and 1974. The summary gives an idea of the range and magnitude of project activities and expenditures. As an autonomous, and decentralized

*where?*

institution, the COP can legally enter into contracts with other national or international entities. Any purchase made by the COP must be reviewed by the Departmental Controller and CCP Directorate. Approval of any purchase is based on the presentation of at least four quotes for the item.

d) CCPs will provide engineers with significant experience in potable water, drilling and irrigation projects.

Response to Comments Prepared by B. Wilder

1) Issue N°14

Extension Education Activities

The curriculum for the Health Education programming remains an activity organically inherent to the project. As stated on p. 42 of the CFG paper, the sources for the curriculum will be drawn from the MOH and other health sector materials available in Bolivia. While not specific, it does not rule out USAID Health Pilot project in Santa Cruz. All possible sources in the country will be reviewed. Again, this is considered a project element which will be refined and developed as the project is implemented. Health Education impact is to be measured in the pre and post intervention surveys of mortality and morbidity. In terms of cost, it is anticipated that the spectrum of activities in the Health Education component will be difficult to assess completely. CARE, however, will attempt to ascertain all factors for cost studies.

The content of Health Education curriculum will be designed primarily to support potable water systems in communities selected for the project. As an innovation in rural development in Bolivia, the scope of programming will remain flexible until the acquisition of an adequate experimental base from which further programming will be designed.

2) The Health Education component will start earlier in the project. The Health Education coordinating committee will begin work coinciding with project start-up. Thus, all initial actions in the Health Education implementation plan will be scheduled for year one.

3) CARE also considers that community committees will be the mechanism through which on site Health Education activities will be conducted. Initial promotional activities will include Health orientation. Community support of goals and purposes of project will be an important aspect of the selection criteria.

Interpersonal Health Education activities will be conducted by MCH promoters, nurses, and auxiliaries on the basis of courses developed for use in rural communities. These courses obviously will not be limited to radio programs, forums, etc, developed for presentation during the first year of project implementation. Also, the CARE Project Manager was instrumental in developing a media/interpersonal education program with coop members in rural Bangladesh. All education programs developed for implementation will be presented to AID/Bolivia Health Section for review.

4) CARE considers the Health Education component an important aspect of the project. Departmental sections of the MCE and MCH have agreed to assist CARE/COP staff design a village Health Education curriculum (p. 3 of proposal), conduct training courses for promoters, assist in monitoring and evaluation. The curriculum will include the following general themes of environmental sanitation: 1) Housing, 2) Latrines, 3) Water supplies, 4) Public cleansing, 5) Food hygiene and storage, 6) Pest control. Also the communities will receive instruction in the control of communicable disease (accent on water-borne), control of vectors, prevention and simple treatment regimens. The above themes will be designed for presentation in simple form by nurses aides from MCH, rural school teachers (MCE), and, should it be necessary, by CARE/COP promoters and community leaders. The mass media aspect will be coordinated with the above curriculum and will be designed to reinforce key health themes through messages on educational radio forums that will be implemented on the village level through the users coop leadership, MCH Health auxiliary, or rural school master.

5) CARE would appreciate receiving CASE studies suggested by Wilder, especially any on radio Senegal, ACPO in Colombia, Manhoff in Ecuador/Nicaragua, or other of interest.

6) This is an action oriented project. As indicated in F.d. above, the CARE/COP project has not been designed to implement an evaluation on the basis of a three group pattern. Although CARE considers that project design could be stretched to include a second group of villages with all Health Education activities, CARE/COP has neither time nor budget to select a third group outside of the project zone, nor is it advisable in terms of evaluation due to regional differences. A third group in the same area of project with similar characteristics will no doubt be in the radio zone. Risks of contamination are high. Although CARE/COP will attempt to find an homogeneous village within the project area, it is doubtful that pre-water system base line "alth data will be available.