

FINAL REPORT

for

Mr. Robert V. Thurston and Mr. David Johnston

USAID/Bolivia - Rural Development Division, La Paz

by

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This report covers the period of employment from April 1 to June 28, 1985 under Contract No. 511-0000-5-00-5093 with USAID/Bolivia for studies and reports concerning environment and natural resources.

The contract specified the following scope of work:

"1) General

The Contractor will work as part of a multidisciplinary team composed of U.S. and national consultants which will prepare a long-term renewable natural resources strategy for the Mission. As part of the team, the contractor will identify and assess major areas of prevailing Government of Bolivia (GOB) renewable resource management and use policy or other policies which may impact on natural resource use and management. He will, in concert with other team findings, present problems and priorities for policy improvement. The contractor will receive supervision and policy guidance from the Chief of Rural Development Division or his designee.

2) Specific

- a) Identify, analyze and assess the existing body of public policy relating to renewable natural resource planning, management and protection.

- b) Identify any major gaps, contradictions or deficiencies in the existing natural resource policies and indicate the implications/consequences of each.
- c) Based on b) above, suggest the priorities for policy enactment/improvement, providing the rationale for such priorities.
- d) Recommend specific actions or plan of actions for addressing the policy priorities, including the institutional channels, mechanisms and steps required."

The period of employment, however, coincided with socio-political unrest in Bolivia manifested by general and sectoral strikes which, among other negative effects, impeded the arrival of the aforementioned multidisciplinary team from the United States. In effect, the contractor became the "team", under the guidance of the Chief of Rural Development Division of USAID/Bolivia, and proceeded to work on the Mission Strategy on Natural Resources instead of one of its components.

Moreover, this period coincided with unusual national activity in the area of environment and natural resources specially well-suited to elements in the Mission Strategy being formulated. On one hand the Country Environmental Profile, paralyzed during the first four months of the year, needed an impulse to regenerate activity. The contractor proceeded to do this and the Profile may now be published before the end of the year. On the other hand, environmental PVO's disappointed with government response to their restlessness decided to form a supra-institutional grouping (prompted and guided by the contractor). In addition, the contractor helped to sponsor and participated in a university seminar to commemorate Earth Day on June 5th. All these activities were carried out in close consultation with and guidance from the Chief of Rural Development Division USAID/Bolivia, without whom the results of this contract would have been minimal.

The Mission Strategy on Environment and Natural Resources is basically divided into four sections. First there is a short analysis of the country's problems in the field (erosion, pollution, diminishing biological diversity, etc.). This is followed by a section pointing out USAID/B's limitations in helping to solve these problems. The third section analyses the obstacles to solution implementation, composed of the various levels of human intervention in possible solutions. The fourth section (the first two annexes of the strategy) proposes a preliminary plan of action for USAID/Bolivia that, with relatively small investments, should go a long way into providing an example for national environment and natural resource management as well as solving specific related problems in on-going and future USAID/Bolivia's Development Corridor projects.

The novelty of this exercise and approach required the contractor and the Chief of Rural Division to conceptualize the problems in a coherent and integrated manner applying systems analysis to geographic and social factors which were hitherto unrelated only in appearance. The magnitude of the problem and the obstacles will definitely not permit simple short or even medium term solutions but the strategy now permits focusing on interrelated immediate and medium term activities which, coupled with adequate national response and emulation, should halt environmental and biological degradation on a long term (15 to 20 years) basis. Although specific projects and programs have not been elaborated in detail they are continually mentioned throughout the strategy and their future development, within an integrated framework, will not be difficult.

It is necessary to emphasize that the systemic and dynamic nature of this strategy requires certain preparation and responsibilities on behalf of USAID/Bolivia that run somewhat off the beaten track. For these and other reasons the contractor suggested the appended workshop program. It is well to begin with an evaluation of the strategy since its aforementioned nature will require constant reevaluation.

The Country Environmental Profile, from the point that Mr. Carlos Brockman was contracted to continue its coordination on June 17, 1985, consisted of nine chapters written by national authors of which all but three had been corrected by the contractor.

Appendix IV of this report is a copy of the interinstitutional agreement between seven institutions that will form the foundation of a national PVO counterpart to work with USAID/Bolivia on developing and executing the strategy as well as carrying on activities which the group may consider necessary.

Finally, it is appropriate to mention that the environment in the Rural Development office was so exceptional as to permit not only the work on the strategy but a number of backstopping activities as well. This point is fundamental in any dynamic development activity.

RECOMMENDATIONS

- 1) The different strategy elements are interdependent, so, while concentration on a particular element may be tempting, attention to the remaining elements will be vital sooner or later and more expensive later.
- 2) USAID/Bolivia is probably the only institution working presently in Bolivia capable of efficient strategy execution in its first stages and concurrently capable of feeding new life into the strategy in future times of scarce interest. It is recommended, therefore, that energy and resource distribution not exceed itself at the beginning. The country, the strategy or USAID/Bolivia may want to redirect intentions with time.
- 3) Population projections, which may have served as one of the basis for the Development Corridor strategy in USAID/Bolivia, are significantly behind schedule. This may require some fundamental redefinition. Bolivia's geomorphology requires that macro-ecological considerations begin in the areas of greatest

altitude and follow the course of water. For these and other reasons, while no detracton is intended from the Development Corridor, some additional attention will be necessary, at least within the strategy framework, to the highland and Altiplano region.

- 4) It is strongly recommended that IIED consultant Diane Walton Wood's "Recommendations for a Plan of Action" (June, 1985) be implemented as soon as possible as part of the strategy. See Annex V.
- 5) It is also strongly recommended that either Appendix II or a reasonable facsimile thereof be implemented as soon as possible to start USAID/Bolivia off on the strategy.
- 6) Since the quality of results at the beginning of the strategy are of paramount importance to its future development, close contact is recommended between USAID/Bolivia, the PVO grouping in formation and other factors coinciding with the strategy at this point in time.
- 7) There are some factors - Armed Forces, international organizations, bilateral agreements with neighbors, etc. - that have not received appropriate attention due to uncertainty parameters in the political situation that might not exist after August. These and other factors should be reconsidered before year's end through some dynamic evaluation mechanism.

USAID/BOLIVIA RENEWABLE NATURAL RESOURCES STRATEGY

I. Bases for A Strategy for Renewable Natural Resource Management and Protection

A. Problem Background

Bolivia, perhaps because of the relative richness of its renewable and non-renewable resource base, has paid little attention to managing its resources, and particularly its renewable natural resources, within a resource preserving and sustaining framework. Whether by design or default, the country's renewable natural resource base is being degraded at a rapid rate.

1. Highland Problems

The severe ecological problems in the Altiplano have been caused by a chain of events and actors. Since the Spanish Conquest the unique forest resources have been depleted, first for mines, then for railroads and lately for energy. This has in turn increased water and specially, wind erosion. The fragile soils have been further depleted by unwise farming practices, inappropriate technology, overgrazing and population pressure. Soil and water contamination by the mining industry and others has aggravated the situation.

Now, this ecoregion is barren, the soils are leached and salty, water is usually contaminated and the desertification rate is over 2% per year. The productive capacity is diminishing as possibly the average annual temperatures. This once rich fauna haven now offers no sustenance or protection. Lake Titicaca is suffering contamination and trout, introduced 50 years ago, is preying on the Lake's original fisheries resources. Indiscriminate hunting has extinguished many animal species and has many others on the brink of extinction.

2. Eastern Andean Slopes and Piedmont Problems

The Eastern Andean slopes and piedmont began deteriorating at the beginning of the century when wood for fuel, railroad ties and mining timbers become scarce in the Altiplano. Logging and colonization exacerbate this deforestation. As the target of Altiplano migration accompanied by road and other infrastructure projects, this area is now seriously threatened. The steep slopes, high rainfall, weak soil structure and temperature extremes, coupled with inappropriate land use and exploitation practices, threaten to undermine and destroy this regions' productive potential and rich biological diversity. While the rational and sound management of this region will require increased and accelerated investments, recuperation of the regenerative capacity once lost, will be impossible or require huge investments.

3. Lowland Problems

The lowlands, like the Altiplano, now contain self perpetuating desertification pockets due primarily to irrational deforestation and unwise agricultural and grazing techniques. Commercial hunting is depleting the wildlife resources to dangerous levels. The introduction of inappropriate agricultural, livestock and forestry practices will contribute to the accelerated degradation of this region's potential in a short time.

The solutions to these problems are made particularly difficult by the following constraints:

- The information and data base needed to plan and wisely use the country's significant but fragile natural resource enjoyment is very inadequate
- Bolivia has too few professionals trained in natural resource assessment and management skills
- There is a fragmented and weak institutional base which doesn't allow for meaningful problem conceptualization, action planning or effective project implementation. This is further manifested by an inadequate system for land use technology development and diffusion.

- National policies are not focused on or conducive to guiding environmentally sound development

- Generally there is a low level of public and decision-maker awareness of the importance of sound resource management, the advantages of the same, about the actual losses (costs) & trends without improved management, and regarding the costs or trade-offs inherent in dealing with these problems.

The physical degradation problems and constraints to dealing with these are described and analyzed in some detail in the 1980 Bolivian Environmental Profile and the 1985 draft update of the Profile. The strategy formulated here draws primarily upon these documents coupled with consultations with Bolivian environmental specialists. It also needs to be stressed that, due to the gaps in information, the complexity of many of the issues, and the changing policy and priority environment (within both the GOB and AID), the strategy proposed should be submitted to further analyses and be regularly evaluated and improved over time.

B. Strategy Considerations and Elements

The purpose of the strategy, then, is to justify and present a set of action priorities, or an action program, which will allow USAID/Bolivia to begin dealing more systematically with renewable natural resource management and protection issues and needs. For purposes of the strategy,

the problems to be dealt with and the responses proposed to these problems will reflect the following considerations:

- The general level of organization and preparedness within Bolivia to deal with natural resource management and protection is very low--probably below the threshold needed to deal on an important scale with almost any of the numerous challenges facing the country's environment at this time. With this in mind, the strategy proposes a series of actions within those fundamental areas (information, institutional strengthening, training, policy and public awareness) needed to lift or "ratchet up" national capabilities to higher levels so that, as soon as possible, programs and projects of direct and significant impact on land use practices and problems can be organized. This will be done initially by providing assistance to and through a range of programs and projects that, modest as they may be, will best serve to speed the capability building focus.
- Productive capacity/potential needs to be identified, sustained and safeguarded.
- The severity of problem in terms of the losses/costs involved is an important criterion.
- The susceptibility of a problem to interventions, given the various constraints mentioned above and USAID's own funding and manpower limitations, delimits what can be done in the short-term.
- Time frames for different actions or levels of action need to be identified.

- The strategy should be compatible with and supportive of the USAID medium-term strategy, which emphasizes economic recovery and agricultural sector production, increased private sector involvement, concentration within the La Paz-Cochabamba-Santa Cruz development corridor, and policy dialogue.

- USAID/Bolivia's strategy exercise also took into account various land/problem types and ranked them according to the priority in the following fashion:

<u>Type of land/problem</u>	<u>Priority</u>	<u>Country location</u>
a. Degrading land with considerable productive potential under appropriate management, and with valuable downstream benefits	1	eastern Andean piedmont and valleys
b. Potentially Degradable land with very high downstream benefits	2	eastern Andean slopes
c. Degrading or potentially degradable land with considerable productive potential, under appropriate management, but no major downstream benefits	3	eastern lowlands

- d. Degraded land requiring 4 highlands, higher significant changes in land use practices or rehabilitation to become more productive

The above order of priorities implies a greater concentration in categories a. and b. but does not preclude limited specific USAID supported activities in the other two categories, e.g. small scale irrigation in category d.

Proposed Strategy Elements

Based on the above considerations, USAID/Bolivia's renewable natural resource strategy is built around the following major components:

1. The eastern Andean slopes and piedmont are to be the areas of greatest concentrations of effort. Within these areas the priorities are: 1) areas with agricultural potential, both settled and unsettled, 2) areas which are not agricultural but which are settled, 3) lands with Forestry potential, and 4) protection areas.
2. Priority will be placed on gathering, analyzing and facilitating the diffusion and use of information/data that defines land use capability (e.g. CUMAT) and which provides a quantitative assessment of the magnitude of losses or productive potentials.

3. Institutional emphasis is to be placed on private and decentralized regional organizations and programs rather than those of centralized government ministries.

4. Human resource development will focus a) in the short-term, on rapid skill upgrading through on the job and short-course training, b) in the short to medium-term on academic training of critical groups with strong interactive potential, and c) in the long-term on building national training capacity.

1. Proposed Solutions to Major Constraints and Obstacles

The USAID/Bolivia natural resources strategy places highest priority on those areas which have inherent productive potential and which, if properly managed, can generate significant downstream benefits. This generally corresponds with the eastern Andean piedmont regions of the country. The principal obstacles to increasing Bolivia's capacity to better manage its environmental and natural resources in these (and in fact other areas) include a weak data and information base, severe institutional weaknesses (including research and technology dissemination system), scarce human resources, and an inadequate policy and legal framework and low level of public awareness and concern about the country's natural resource base. The specific actions proposed to deal with each of these obstacles are presented below. The time frames (short-, medium-, and long-term) for proposed actions are indicative only and will be modified to reflect special opportunities and needs.

A. Weak Information Base

Since there is no single national institution which deals comprehensively with environmental and natural resources management issues and programs in Bolivia, these responsibilities are confronted, in part, by a number of different organizations (public and private) all of which generate at least some information according to their needs. In addition to this wide dispersal of data and information, there is a general lack of continuity and stability of most government programs that generate and disseminate information which further complicates access to and regular flows of data needed for natural resources planning and programs. Furthermore, what information does exist is often poorly utilized in terms of analysis and action.

In order to begin improving access to information, the analysis and dissemination of the same, and to identify and begin obtaining critical missing information, the USAID/B strategy proposes the actions described below.

Immediate and Short-Term (first 2 years)

1. Maintain and strengthen the CUMAT land use capacity assessment activity, giving increasing emphasis to the dissemination and use of the information in project and program.
2. Conduct an Environment and Renewable Natural Resources (ENR) Information Assessment.

- a. Determine key areas of information demand and prioritize the same. Emphasis will be given to those information needs pertinent to the priority classification of land areas indicated above but may also take into account the interests of the most active environmental groups/programs.
- b. Determine what existing information there is, who has it and how it can be accessed.
- c. Determine which organizations regularly generate priority information and how it can be accessed.
- d. Look at the adequacy of the existing information in terms of its utility in arriving at natural resource management and land use improvement, decisions and practices. Directly undertake some interpretive analyses of that data which would quantify the magnitude of losses within selected areas and provide projections of these over time.
- e. Determine what critical information is not being gathered or is not reaching interested users.
- f. Determine the advisability of establishing an information referral/clearinghouse functions and/or documentation center; what organizational options are the most feasible, particularly as a NGO, University or combined function, and what resources and support might be required.
- g. Look at ways to generate needed analyses of information on a regular basis; what institutions or groups; what assistance they might need, and; how such analyses can be provided to or accessed by key users.

3. Begin implementing an information system organization and improvement activities established in the assessment, probably accompanied by some short-term technical assistance, on-the-job training and start-up financial assistance.
4. Define and propose specific activities/programs to increase information dissemination to a range of potential users currently not aware of information availability and/or their use of information.

Medium Term (2-5 years)

1. Consolidate and build-up the information system and programs established above through further short-term assistance, short-term training, financial support and by establishing self-financing mechanisms.
2. Identify critical problems in key data gathering and analysis activities carried out by diverse public or private entities, and where possible through limited technical assistance, training and/or financial assistance, help strengthen these basic systems.
3. Examine the feasibility of additional data sharing among national organizations (networking) and between national organizations and international sources of information. Provide project assistance, as appropriate, to strengthen networks.
4. Establishment of a prioritized research/study agenda indicating most critical areas in which data/information should be gathered in short to medium term. Provide financial or other support to selected studies.

B. Human Resource Program

Although this constraint appears in the majority of development efforts in the country, its impact on environment and natural resource management is particularly detrimental. The archaic educational system (grade school through university) has recently entered shyly into the ENR field but has not adopted the pedagogical methods which emphasize the systemic or integrated approaches necessary for effective work in this field or others related to development. These and other weaknesses in the national training environment require a specific human resource development program for success in a renewable natural resource strategy for the mission and the country.

The main thrust of the program is on a short term basis with the understanding that the national capacity can only begin to take over responsibilities for training within in a medium period of time. The program centers around an accelerated human resource development effort with multiplying effect components. Areas of emphasis will be information management (mentioned in I.A.), institutional rationalization, environmental assessment, ENR planning and management, ENR project cycle, public awareness programming and those substantive fields in urgent need of manpower (forestry, watershed, soils, and water resources management). This intensive training can be carried out in the region and the United States for periods between 3 to 12 months.

Candidates with B.S. or higher degrees in ENR related fields (biology, agriculture, etc.) should receive preference for

long-term professional training. Trainees should also be required to transfer knowledge via seminars (initially organized by the program), publication and other suitable means.

The medium and long term objectives will be geared towards creating a dynamic National capacity for training. This will require the involvement of public, private and university sectors accompanied by technical assistance and training infrastructure support. It is also likely that a number of regional educational and training centers can be utilized in the program.

The tendency throughout the program should be towards field work, observation, research and development, increased production and safeguarding of productive capacity. Some of these aspects are in marked contrast with prevailing tendencies.

Immediate - short term (Fundamental Program)

1. Continue short-term training courses, both in and outside of Bolivia, for technicians in on-going programs such as CUMAT, PL-480, Title III, private environmental organizations and regional projects.
2. Rapid appraisal of number, type and utilization of professionals with ENR credentials; analysis of priority skills needed, and, definition of training options (degree, non-degree; in-country or foreign).

3. Accelerated human resource development program.

Existing Professionals
with ENR Credentials

-Short-term on-the-job or short course upgrading, primarily within the country.

-Short term specialization courses, primarily outside of the country

-Directed special studies (e.g. environmental assessments) under guidance of the most highly qualified nationals and/or external consultants (sabbatical like arrangements)

-M.S. or Ph. D. training in selected fields which emphasize integrated resources approaches (e.g. watershed management, resource economics)

Professionals with
Credentials in
Related Areas

-Short-courses and on-the-job orientation, primarily in country.

-Select short-course training outside

the country (e.g. Agro-forestry workshops)

-M.S. training in selected fields

Formation of New
Professionals

-Becario program for non-diploma egresados with background to work in ENR related project activities (in-country)

-B.S. level training in fields such as tropical forestry, watershed management, ecology; outside of Bolivia; Cluster training of 4-5 participants per year for a specific project or interrelated activity context.

4. Strengthening national capacity for training-Medium-to long-term
Activities

- a) Technical-financial assistance to universities.
- b) Training infrastructure development
- c) Implementation of accelerated HRD program's transference.
- d) Establishment of regional and subregional exchange and training network programs.

C. Institutional Base Strengthening (Short and Medium Term)

The environment and natural resource institutional base in Bolivia is a reflection of the country's historical attitudes towards this theme. With a present population density of 5.5 people per square

kilometer, it has always been difficult to conceptualize (let alone implement) and ENR strategy based on production sustaining approaches, resource depletion and scarcity. Three factors, however, unite in our time to demand an urgent attitudinal modification: 1) the rate of population increase is doubling the population in less than a generation; 2) technological innovation has multiplied man's potential environmental impact by many times what it was even two generations ago; 3) the inexhaustible resource-base concept applied to the tropics and subtropics is now rejected.

The complexity of this problem requires a well-planned multi-level solution in two time frames -short and medium-term. The country's public sector (central government), as related to environment and natural resource management concerns, is lagging far behind the private sector and certain decentralized or regional publicly funded programs. The latter can be used as a spearhead to deal with some urgent aspects of the problem, while the public sector capabilities are strengthened overtime.

Short-Term

1. Environmental PVO's and decentralized programs need immediate technical and financial assistance in institution building and development. With a small initial investment, their activity can quickly be geared up to help raise the low level of public and

decision-maker awareness of ENR problems as well as to help deal with information system weaknesses and information gaps.

Ultimately, PVO's (and maybe the university sector) can be expected to influence the public sector to move in the direction of effective planning, policy reform and institutional organization for ENR management.

Recent experience demonstrates, that among the most effective catalysts to change in the Central government are Departmental Development Corporations and other well-organized regional efforts. For this reason, and because some DDCs and regional/local organizations tend to know more about their ecoregion's problems, the strategy will also focus attention on these entities. Included in this group are research and extension programs (public and/or private) such as IBTA/Chapare, which are generating and adapting technologies needed for the sound management of subtropical areas.

In order to support this combined initiative, the second phase, will focus on inducing change in the public sector by means of information generation and diffusion and the training programs mentioned in section I.B.

Immediate-and Short-Term Activities

1. Technical, financial and technical support to PVOs aimed at institution building and the strengthening of PVO coordination and collaborative action activities.

2. Establishment and support of a PVO Coordination Office.
3. Provide technical assistance to PVOs in project design, preparation and management.
4. Financial and/or technical assistance support and encouragement to specific PVO and joint PVO/University/DDC pilot or other projects (e.g. public awareness activities, select research activities, inventories of specific areas, management and/or protection projects within parks or reserves, workshops, strategy or planning exercises, etc.).
5. Financial, technical and other support to essential research and dissemination programs, particularly those of private or mixed private and public programs.

Medium-to Long-term Activities

1. Support to initiatives to create private-public mechanisms (advising boards/councils) which identify or define resource problems and issues and provide a mechanism for analyzing or debating the same.
2. Support activities which build up methodologies and systems for ensuring that ENR concerns are reflected in development project planning (e.g. environmental assessments).
3. Support efforts at national level to build and rationalize institutional arrangements conducive to sound ENR management and planning.

D. Environmental Policy

Bolivia's policy structure is as unstable as its politics (the same word is used in Spanish). The few times that the environment and natural resources have been the focus of attention in policies, these have been the means to the extraction rather than sustained production of resources. The underlying assumption has been that the environment would regenerate itself and/or that natural resources were unlimited. In addition, the short office life expectancy of policy makers has led to incomplete execution of good intentions and to corruption. What is more, there is virtually no single identifiable policy making process. Although the Ministry of Planning and Coordination should guide such processes, in reality, different pressure groups at different times have effected the process more than coherent medium and long term planning. More importantly, however, is the fact that the development model upon which any policy structure might rest was inadequate, and subject to repeated change.

Environment and natural resources has been assigned as a subsector of the agricultural sector, but enjoys only 4.8% (4.9 million dollars) of the 82-84 investment program in agriculture. Of the 16 projects in this category, one is dedicated to soil conservation while the rest are token uncoordinated forestry projects. There are no significant policy guidelines or sustained programs concerned with on-farm conservation practices, low lands forest management, soil erosion,

watershed management, or irrigation development, not to mention other flora and fauna conservation programs. There is no evidence of coherence or integrative planning anywhere in the investment program in ENR areas even directly related to agriculture, such as soil management reforestation. Yet, areas such as the Andean slopes, for example, are increasingly vulnerable to rapid degradation, and there are no policy or other development guidelines for their use and management. The next few years is a critical period if major permanent losses of productive potential are to be avoided or abated.

The ability of the country to move decisively in adopting policies needed for the longer term sustained production and protection of its renewable natural resources is conditioned by immediate economic necessities such as payment of the foreign debt and improving the country's balance of trade situation. In the short-term it is likely to be very difficult to achieve substantial policy focus and reform on resource conservation matters which promise few short-term production benefits. It will be difficult enough just to promote policies which will minimize the negative effects of the expansion in production and resource exploitation required to improve the economy. Such considerations temper the USAID/B strategy for dealing with policy improvement. Consequently, the following areas of policy dialogue and reform attempt to reflect what is possible as well as what is needed.

Policy Improvement Activities - Immediate & Short-Term

1. Formal adoption of an environmentally grounded standard for determining land use, (such as that used by CUMAT), the accelerated categorization of particularly vulnerable areas (i.e. eastern Andean slopes and piedmont) using this standard, and the uniform application of the resulting land use prescription throughout GOB agencies and programs. Technical assistance will be required to: 1) accelerate the training of Bolivian technicians and technocrats in the application, interpretation and use in program planning/design of the land use methodology; 2) quantification of the benefits or losses stemming from the utilizing lands correctly or incorrectly and dissemination of this information to decision-makers, and; 3) further improvement/adoption of the land use methodology, including refinement of the specific land use practices prescribed within the general land use categories. This technical assistance would best be provided through a long-term institutional contract or grant agreement with an appropriate institution, such as the tropical Science Center perhaps in combination with CATIE.

2. Expand orientation of policy-makers to ENR issues and options including participation in international seminars and familiarization travel to other countries.

3. Assistance to GOB in reviewing ENR related investment options, preferably done in collaboration with other donors and assistance programs (e.g. FAO, IICA, COTESU). For instance, a review of the irrigation subsector could result in clearer policy determinations regarding the desired balance of investments (money, time, people) to be allocated to irrigated agriculture as opposed to investments which increase/safeguard dry-land production. (Currently, on a national scale, it may be that the latter offers greater returns and yet significant amounts of money and institutional resources are being allocated to irrigation). Similarly, colonization policies and realities might be examined and specific guidelines established to at least minimize the negative aspects including high investment costs.

4. Through short-term TA, begin looking systematically and analytically at the complex of policies which result in or sustain those land use practices which are most inimical to the environment and to sustained production. Prepare quantitative estimates of losses and loss projections along with suggested alternatives for decision-maker consumption and use.

5. Initiate and sustain the public information/awareness activities and regionally focused institution strengthening activities indicated in the previous section (Institutional Base Strengthening).

Short-to-Medium Term

1. Continue actions in 1-5 above.
2. Look at ways to clarify and strengthen policies, legislation and programs which ensure the proper designation and use of parks, wildlands, national monuments, game sanctuaries and other biological reserves.
3. Work to achieve consensus among principal international donors on a ENR policy improvement agenda and pursue a joint donor-GOB dialogue on such matters.
4. Begin a more systematic review of the ENR related policy/legislation formulation process and actors, and identify specific ways FVO and other ENR interests can better access and influence these processes.

E. Public Awareness Program

The extremely low level of public awareness related to ENR management has a number of inter-related causes: a) loss of cultural characteristics binding man to land; b) totally inadequate educational system; c) a saturated national agenda obeying immediate short-term interests; d) marked differentiations between regions;

e) scarce geographical and social mobility; f) long history of ignorance of ENR problems.

The strategy calls for short and medium term actions closely related to other phases of the Mission strategy already mentioned. There is no institution fully prepared to undertake major activities of this nature at this time. After careful analysis of the possibilities, it appears that PVOs in the ENR field present one of the most effective alternatives for the following reasons: a) small investment necessary to strengthen these PVOs to undertake the most urgent activities; b) fairly stable and continuous history of these institutions; c) high level of service spirit demonstrated by members of PVOs; d) willingness to combine and coordinate efforts under one umbrella; e) considerable level of technical ability of the members of these PVOs; f) prominence given to public awareness activities by the PVOs. Following discussions with other bilateral agencies (COPESU) who have shown interest in this field, the following schedule of activities emerged:

Immediate short-term.

1. Brief analysis and detailed program.
 - a) Identification of campaign content for different target groups.
 - b) Verification of resources for different campaigns.
 - c) Priorization of different target groups.
 - d) Regionalization of information flow.

2. Preparation of public awareness campaign for different target groups.
 - a) Publications.
 1. Publication and dissemination of Bolivia's environmental profile
 2. Summary of less technical profile for schools (COTESU).
 3. Summary of profile for politicians/decision makers (COTESU).
 4. Other publications.
 - "Ecological Last Will and Testament"
 - "Bolivia País Saqueado".
 - "Bolivia's Amazons".
 - b) Video Programs.
 1. Utilization of existing material.
 2. Extension of video library.
 - Visits of international experts for conferences.
 3. Contacts with TV stations for periodic airing
 - c) Radio programs.
 1. Contacts with popular radio stations.
 2. Production of cassettes.
 - d) Other public contact activities.
 1. Participation in established radio-TV programs.
 2. Seminars and workshops (COTESU).
 - Seminar for mass-media personnel
 3. Contests and public participation events.

4. Regional/local organizations' support activities in public awareness campaigns.
 5. Definition of PVO coordination office's role.
3. Dynamic execution/evaluation of public awareness campaigns.
- a) Gauge cost/effectiveness of on-going campaigns.
 - b) Determine change of focus or extension of activities.
 - c) Begin execution of longer term campaigns.
 1. Posters and billboards.
 2. Continuous publication programs.
 3. Public sector contacts for policy/legislation enactment.
- b) Medium term.
1. Public sector and national agenda commitment.
 - a) Political-Government pronouncements.
 - b) ENR inclusion in government development plans and programs.
 2. Assure continuous public awareness programming by PVOs.
 3. Programming of subject/area specific public awareness projects.
 - a) Wood and crocodiles-Beni.
 - b) Erosion and adequate agriculture techniques-Yungas.
 - c) Reforestation-desertification pockets.
 - d) Specific east Andean slopes and piedmont program execution to serve as a Model area for national ENR program implementation.

ANNEX I

Other Suggested Renewable Natural Resource Management Activities

Having considered the country's main ENR problems, obstacles, and constraints to the solution of these and pertinent documentation related to ENR and having further considered the Mission's limited intervention capacities, budgetary limitations, USAID's medium term strategy and LAC's regional programs, the following activities are suggested as a first draft example:

A. Dynamic programming of systems' approach activities (for USAID).

The fluid nature of systemic approach activities requires the establishment of a sound feedback mechanism to maintain the Mission (and other national ENR actors) well-informed on the development (and possible necessary modifications) of intervention in this field. Although structural Mission alterations are unnecessary at this point, some functional variations are in order. It would be desirable, for example, for all substantive USAID/B divisions to participate actively in the establishment of the aforementioned feedback mechanism. This may be easily accomplished in an in-house workshop.

Contrary to limited-resources termination-defined activities, ENR activities flourish and regenerate with greater participation so a

national seminar exposing the Missions' strategy (and others, if they exist) would be advisable as soon as possible after the in-house workshop (which should also take place as soon as possible). However, since ecoregions tend not to respect national boundaries, a subregional meeting with emphasis on ENR management of East Andean slopes is advisable. Finally, since these slopes depend on mountain and Altiplano activities upstream, further research and development of these (as well as downstream) ecoregions is necessary. The multi-dimensional radial effect responsibility, is not, however, as awesome as it appears at first since the public awareness campaigns are likely to generate at least immediate regional/local response.

The necessities raised by the implementation of the systems' first phase should not include large financial or manpower investments (with the possible exception of emergency measures) and the system's capacity for growth and development should be directed, at this time, towards self-sustainment. With the understanding that all activities (USAID and others) are interdependent, interrelated and integrated, the following activities, (among others) are suggested for system generation and sustainment:

1. USAID/Bolivia Mission
 - a) Strategy circulation and individual evaluation (in-house)

- b) Mission (or collective) evaluation and design.
 - 1. In-house workshop.
 - 2. Specification of strategy guidelines.
 - 3. Specification of RD Division's coordinator role.
- c) Circulation of strategy summary to national seminar participants.
 - 1. National Seminar.
 - Visits of ENR experts.
 - 2. Re-evaluation of strategy.
- d) Initiation of effect and strategy's priority activities.
 - 1. PVO Coordination Office.
 - 2. Information generation and diffusion.
 - 3. Public awareness campaign.
 - 4. Human Resource development program.
 - 5. Policy generation/modification.
- e) Evaluation and redefinition.

II.B Substantive Activities

The East Andean slopes and piedmont in Bolivia is a unique macro-ecoregion. The failure to consider this fact has been a fundamental error in previous development plans and one of the main causes in the pending national ecological disaster.

There is, to begin with, very little concrete scientific knowledge of

the area. Biological, botanical, zoological, geological and meteorological studies are sparse and unrelated. Numerous populations in the area have received no more attention than the passing foreign anthropologist visit. Yet this area is the binding factor in any but the superficial national integration policies. Ignorance of the area is manifested by the dangerous misuse and mismanagement of its mineral resources in the north, the coca plantations in the center and its natural gas and petroleum resources in the south.

The potential for integrated and sustained development was probably unlimited until recently. Now, however, the threat of its continued deterioration and danger to its survival as well as the lowlands down river, which represent 50% of the country's land mass. The activities to be undertaken in this area must focus on its endogenous and endemic species' regenerative capacity as well as adequate land, water, and resource use and management.

The first four major activity groupings (1, 2, 3, 4) require special attention since these have a direct immediate effect on the environment and also prepare the stage for the neutralization of obstacles to solutions by providing the first examples of integrated resource management. Land use classification and watershed control and protection will be so fundamental as to require the simultaneous development of methodologies for implementation over extended periods of time. The work presently being carried out by CUMAT is precisely

on target and should be considered an integral part of the Strategy, particularly if it incorporates basic ecological and biological diversity maintenance considerations in the development of its dynamic methodology. The fifth major activity (IAS) is an urgent and necessary one in order to reestablish total system regeneration and functioning through its most dynamic component the human population - and is, perhaps, the one that requires the roughest time frame for program planning. This last section is intricately related to the next major groups of activities - the artificial obstacle neutralization activities.

Much of the Strategy has already been dedicated to these activities: suffice it to say that the development of the human resource within the total systems natural resource capacity is vital to the system's regeneration and survival. It is here that the hitherto unintegrated sciences come to form part of ecology - the integrative science - and where adequate development planning begins.

Medium term activities can only receive a brief glance at this level of analysis. There are many factors that must receive detailed attention in the intervening time: an evaluation of the system's energy capacity, construct reevaluation of activities multiplying effects, development of systemic or dynamic approach methodologies, etc. The suggested long term prospective study should provide greater in depth analysis of these as well as long term activities.

1. Immediate short-term activities for East Andean slopes and piedmont.
 - a) Problems solving activities.
 1. Addition of ENR considerations to on-going projects and programs.
 - a) Establishment of guidelines.
 - b) Guidelines implementation incentives.
 - c) Environmental impact assessment e-requisites.
 2. Land use activities.
 - a) CUMAT Land Classification and Priorization for Action.
 - b) Establishment of comprehensive reforestation program.
 1. Generation of seed banks and nurseries (R&D)
 2. Protection and rational use of native species.
 - Plantation protection incentives.
 4. Public awareness activities (PVO coordination office).
 - c) Integrated farming system applications.
 1. Soil/crop adequacy determination (crop development).
 2. Alternative farming technology development.
 3. Determination of integrated (most adequate) use of limited land.
 - a) Introduction of organic farming technics.
 4. Distribution/difusion of R&D results in farming techniques.

5. Selection of pilot/demonstration integrated farming projects.
3. Water use and watershed activities
 - a) Quality/quantity determination per site.
 - b) Irrigation and human/animal use quantification.
 1. Determination of irrigation system.
 - c) Other water use alternatives.
 1. Micro-hydro power.
 2. Hygiene.
 3. Heating and cooling.
 4. Small fisheries development programs (community ponds).
 - d) Watershed control and protection.
 1. Anti-erosion and anti-pollution programs (reforestation).
 2. Fisheries development programs.
 3. Community awareness and control programs.
 4. Resource conservation, use and management.
 - a) Water wildlife protection community programs.
 - b) Adequate mining methodologies implementation.
 - c) Self-sustaining fertilizing techniques.
 1. Bio-energy development.
 2. Composting
 3. Crop rotation and mixing (organic farming)
 4. Gradual limitation of hazardous fertilizers and pesticides.

- d) Wildlife conservation incentives program.
- e) Slope benefit maximization techniques (research and development)

5.Environmental Health

- a.) Identification, analysis, and prioritization of main components.
 - b.) Coordination with health sector on vector neutralization techniques.
 - Schistosomiasis, malaria, chagas, yellow fever, dengue, leishmaniasis, malnutrition, others
- b) Artificial obstacle neutralization activities.
- 1. Public awareness and education and information programs.
 - a) TV development corridor coverage.
 - Agricultural information - daily half-hour.
 - b) Printed information diffusion/distribution target determination.
 - 1. Communities and cooperatives.
 - 2. Radio stations and local newspapers (established space)
 - 3. Establishment of minimal infrastructure for printing.
 - c) Agricultural extension strengthening and coordination.
 - 1. Training and incentives implementation programs.
 - 2. Information exchange and possible networking.
 - d) Coordination with educational system.

- e) Information generation/difusion program.
 - 1.) Development corridor pilot project
 - a.) Basic sensor and measurement equipment
 - b.) Community participation based information program
 - 2. Document and literature reinforcement
 - 3. PVO coordination of dynamic generation program.
 - a) Existing information collection program
 - ERTS
 - Universitites and research centers
 - Governments and multilateral agencies
 - Data banks (Dialog, etc)
 - Lima,. Peru Catholic Church others
(historical information)
- 2. Institutional Capacity Strengthening Programs.
 - a) PVO coordination office.
 - 1. Contact regional and national ENR PVO's (seminar).
 - 2. Develop periodic printed communication capacity.
 - 3. Develop network with regional PVO's and DDC's
(Seminar).
 - 4. Amplify puclic awareness programs (TV plus publications).
 - 5. Information base strengthening program.
 - b) University Sector Institutional Capacity Program.
 - 1. Priorization of research and developepment activites support.

2. Develop joint university-consulting firm environmental impact assessment capacity.
 3. Strengthen university - PVO ties.
 4. Support environmental inventory and information generation/difusion.
- c) Initial Public Sector contact.
1. DDC ENR capacity strengthening program.
 2. Congressional and executive contacts.
3. Environmental Policy Program.
- a) Support to ecological regionalization program.
 - b) Comprehensive modification of development corridor DDC development plans.
 - c) Related sector policy compatibilization program.
 1. Agriculture.
 2. Energy
 - d) Specific policy strengthening program.
 1. Soil conservation.
 2. Reforestation.
 3. Appropriate technologies
 4. Development corridor DDC integration
 5. Applied farming systems
 6. Research and Development.
 - e) Human resource capacity development policy reinforcement.

1. Implementation of accelerated H.R.D. program.
2. Integration with university sector efforts.
3. Natural Resource mangement practices and technologies

a) ENR management proctices training program

1. Identification of trainees (experience + projection)
2. National and foreign training programs

b) Appropriate technology development program (see in this chapter sections 1.a.2.c.2., 1.a.3.c., 1.a.4.b., 1.a.4.c.1., 1.b.3.c., 1.b.3.d.3.)

1. Contact PVO'S related to subject
2. Information collection and distribution
3. Research and development support
4. Small-scale AT production pilot project
5. AT management training program.

C. Medium Term Activities (2 to 8 years)

- 1) Determination of next immediate - short term strategy (next two years) seminar
 - a. Evaluation
 - b. Introduction of new conceptual and material components
 - c. Synthesizing new strategy
 - d. Program's environmental impact assessment

- 2) Determination of long term investments and components colloquium
 - a. Recuperation of heavily degraded land
 - b. Reproduction of successful or corrected pilot projects
 - c. Implementation of long term prospective study's recommendations
 - d. Implementation of new self-sustaining - assistance relationships
- 3) Sectoral and regional program-strategy amplification
 1. Eco-energetic system regeneration
 2. Psycho-ecosystem's components implementation
- 4) Determination of program's long term generation, dynamism and feedback mechanisms

APPENDIX I

USAID/B ENR STRATEGY (IN-HOUSE) WORKSHOP PROGRAM

Dates: undetermined

Language: Spanish

Wednesday

- 9:00 - 9:30 Inauguration
- 9:30 - 10:30 Strategy presentation (brief description and rationale),
Systemic or dynamic approach - overview, basic ecology,
USAID/B and Bolivia overview ("Testamento Ecológico"),
workshop methodology (academia).
Leslie McTyre
- 10:30 - 12:00 Dynamic approximations to uncertainty, dynamic programming
methodology, information and uncertainty, project and
program evaluation, examples of established methodologies
and the strategy.
Ricardo Albert
- 12:00 - 14:30 Break
- 14:30 - 15:30 Feedback session
- 15:30 - 15:45 Coffee break

15:45 - 17:00 Systems analysis of strategy, the strategy and development planning, making the project cycle more dynamic, ecology and development, redefining operational terminology, loose odds and ends, definition of next day's programming
McTyre and Albert

Thursday

9:30 - 10:30 Strategy's Medium-term activities, defining components of long terms prospective study, defining inherent limitations, new perspectives on human resource development, useful tools for strategy and dynamic programming development.
Albert and McTyre.

10:30 - 12:00 Brainstorm session (Energy system analysis)

12:00 - 14:30 Break

14:30 - 15:30 Participant contributions and criticisms

15:30 - 16:30 Closing remarks - Ricardo Albert

16:30 - 17:30 Closing remarks - Leslie McTyre

17:30 - 18:00 Closing - USAID/B

Workshop material to be provided by Leslie McTyre and Ricardo Albert is ready for reproduction. Computer applications of dynamic programming may be deemed desirable but should be prepared in conjunction with McTyre and Albert well ahead of time for presentation in the Workshop. A more detailed outline of the presentations will be available after June 25, 1985.

Suggested Activities Timetable Chart
(Copy 4 pages together)

Activities	Year 1985											
	S	C	N	D	T	F	M	A	M	J	J	A

- going projects:
 - Establishment of guidelines for adding ENR consideration to on-going projects
 - Guidelines implementation incentives
 - Establishment of environmental impact assessment pre-requisites
- research:
 - CDPAT level classification and prioritization for action
 - Establishment of comprehensive reforestation program (and land use permits)
 - Guidelines for protection and rational use of native species
 - Plantation protection incentives implementation
 - Public awareness protection activities
- applied farming:
 - Soil/veg adequacy determination for pilot projects
 - Alternative farming technology development
 - Limited land use determination
 - Collection and analysis of farming techniques information
 - Distribution/Division of R+D results information on farming techniques
 - Execution of pilot/demonstration integrated farming projects
- for activities:
 - Quality/quantity determination of water for pilot project sites
 - Irrigation and human/animal use quantification
 - Other water use alternatives (energy, hydropower, fisheries)
 - Anti-erosion (contour tillage) and anti-pollution activities
 - Community awareness and control programs
- on community:
 - Water user participation community programs
- and support:
 - Technical training, technical assistance, research, development and extension
 - Water user participation techniques research and development
 - Use of conservation incentive program
 - R+D of slope reclamation techniques
- on water:
 - Policy development and prioritization of main components
 - Coordination and planning with related sectors on water reclamation
- information:
 - Transfer of available information
- on training:
 - Public information delivery/distribution to mass media and specific groups
 - Establishment of mass media printing infrastructure
 - Agricultural extension training and information networking
 - Production of educational material
 - Document and literature generation/dispersion
 - PVC office information program
- on capacity:
 - Regional capacity Strengthening Program
 - National ENR Institutional Capacity Seminar (PVC office)
 - Disruption of R+D activities
 - Development of institutional/environmental impact assessment capacity
 - Development of environmental inventory
 - PDC ENR capacity strengthening
- on environment policy:
 - Ecological Reclamation
 - Development corridor PDC development/policy modification
 - Water Sector Policy Institutionalization
 - Soil Conservation Policy development
 - Reclamation Policy development
 - Appropriate Technology Policy development
 - Development Corridor PDC integration
 - Applied Farming systems policy development
 - R+D Policy development

Community awareness and control programs
and Grants, also use in protection community programme
and support. In special training, technologies research, development and implementation
with extension in various techniques research and development
Multi-ly. conservation initiatives programme

R+D of slope maximization techniques
Health: Identification, analysis and prioritization of main components
Coordination and planning with health sector on vector control
In business, Telecomm. agricultural information

and support. Printed information diffusion/distribution to mass media and specific groups
Establishment of minimal printing infrastructure
Agricultural extension training and information networking
Production of educational material
Document and literature generation/diffusion
PVO office information program

Regional Capacity Strengthening Program
National E-NR Institutional Capacity Seminar (PVO office)
Initiation of R+D activities
Development of institutional environment to impact assessment capacity
Development of environmental inventory
DDC E-NR capacity strengthening

Ecological Regionalization
Development corridor DDC development plan modification
Related Sector Policy Institutionalization
Soil Conservation Policy development
Reforestation Policy development
Appropriate Technology Policy development
Development corridor DDC integration
Cypress farming systems policy development
R+D Policy development

Human Resource Policy development
Implementation of academic human resource capacity program
Courses in E-NR management
Intra university coordination and E-NR course strengthening
Regional and international study tours, sabbaticals and fellowships
University E-NR professional course strengthening
Appropriate Technology Training program
Supervision management training program
Subsite/Area specific workshops

Determination of short/medium-term strategy
Determination of long term investments and components
Strategy amplification
Determination of program's long term dynamic mechanism

CONVENIO INTERINSTITUCIONAL SOBRE MEDIO AMBIENTE Y RECURSOS NATURALES

Por lo convenido a través del Acuerdo Interinstitucional, firmado el 29 de abril de 1985 y, según las recomendaciones emanadas de la reunión sostenida entre los abajo firmantes el día 13 de junio de 1985, los directivos de la Sociedad Boliviana de Ecología, Pro-Defensa de la Naturaleza, Instituto de Ecología, Centro Interdisciplinario de Estudios Comunitarios, Club Andino Boliviano, Museo de Historia Natural y el Proyecto de Capacidad de Uso Mayor de la Tierra firman el presente acuerdo interinstitucional para colaborar, coordinar y desarrollar actividades relacionadas con el manejo y la conservación del medio ambiente, recursos naturales y la diversidad biológica.

ARTICULO PRIMERO: Se conformará una entidad suprainstitucional de carácter privado, sin fines de lucro, en base a la participación activa de las instituciones firmantes. Esta entidad exhibirá las siguientes funciones:

EN LO INSTITUCIONAL:

- 1) Sustener reuniones periódicas con fines organizativo-ejecutivos.
- 2) Promover la ampliación regional y sectorial del marco institucional del presente acuerdo.
- 3) Desarrollar contactos con entidades afines en el extranjero.
- 4) Representar, nacional e internacionalmente, a las instituciones firmantes.
- 5) Coordinar las acciones con el sector público.

EN LO ADMINISTRATIVO:

- 1) Informar y coordinar las labores entre las instituciones firmantes.
- 2) Facilitar el desarrollo de actividades conjuntas o individuales de las instituciones firmantes.
- 3) Desarrollar y mantener una biblioteca técnica y un banco de datos.
- 4) Administrar una oficina de coordinación y sala de conferencias para el uso de las instituciones firmantes.
- 5) Priorizar actividades y proyectos de CIMARENA.
- 6) Emitir un boletín periódico para informar constantemente sobre las actividades internas y otras de interés para el CIMARENA.
- 7) Incentivar y favorecer la publicación especializada de las diferentes instituciones firmantes o sus miembros.

EN LO FINANCIERO:

- 1) Obtener cooperación técnica y económica, para canalizarla hacia las instituciones firmantes.
- 2) Administrar fondos y donaciones.
- 3) Desarrollar criterios para reglamentar la utilización de fondos por parte de las instituciones firmantes.
- 4) Fiscalizar el manejo de los fondos destinados a las distintas instituciones firmantes.

EN LO TECNICO:

- 1) Coordinar visitas al país de los representantes de entidades afines.
- 2) Proveer asistencia técnica a las instituciones firmantes en diseño, ejecución y evaluación de proyectos y propuestas y otras áreas que se estimen pertinentes.

- 3) Investigar los factores psicosociales, económicos y culturales que inciden en la problemática ambiental.
- 4) Apoyar y promover la observación, investigación, desarrollo y evaluación dinámica del medio ambiente, los recursos naturales y la diversidad biológica.
- 5) Favorecer la adquisición y mantenimiento de conceptos, actitudes y nuevas formas de comportamiento que se traduzcan en una interacción positiva del individuo y la comunidad con su medio.
- 6) Organizar periódicamente seminarios, conferencias y otros eventos de interés para las instituciones firmantes.

ARTICULO SEGUNDO: Las instituciones firmantes elegirán un Comité Ad Hoc encargado de la elaboración de la documentación pertinente para la tramitación de la personería jurídica del CIMARENA.

ARTICULO TERCERO: Las instituciones firmantes mantendrán su identidad jurídica institucional, estableciendo un equilibrio armónico entre sus actividades y las necesidades del CIMARENA.

ARTICULO CUARTO: El presente acuerdo tendrá una validez de 2 años y podrá ser renovado en acuerdo de partes o en su caso modificado para satisfacer los requisitos emergentes de un desarrollo institucional dinámico.

Wagner Terrazas

SOBE

Armando Cardozo

PRODNA

José Lorini

Instituto Ecología

4/7

Javier Palza

CAD

Eric Roth

CIEC

Margarita Toro

Museo de Historia

Natural

Juan Carlos Quiroga

CUMAT

La Paz, 28 de junio de 1985

RECOMMENDATIONS

- o The environmental groups should work together to expand the interinstitutional agreement recently signed between SOBE, PRIDENA and the Institute of Ecology. The agreement should detail the purposes and responsibilities of the interinstitutional body and identify additional groups to be included. To receive outside funding it must have a "persona juridica."
- o Attention should be given to distinguishing the new interinstitutional body from the Comité Interinstitucional de Medio Ambiente (C.I.M.A.) of the Ministry of Planning. To avoid confusion both groups should identify how they could complement one another, one representing government and the other non-government.
- o The groups choosing to work together should develop a 3-year plan of action identifying: the basic resources they need to develop individually and jointly; the individual projects they intend to carry out and how they complement one another (budgets, staff, time frame to be included); and their recommendations for the most appropriate mechanism for channeling outside funding to the groups.
- o Technical assistance to the groups should be of the "how to" nature as much as possible. Fundación Natura of Ecuador should receive high consideration for providing technical assistance in environmental education. General institution building skills should be provided through the workshops being proposed by PACT (Private Agencies Cooperating Together).
- o USAID/Bolivia should try to remedy the groups' short-term needs for an office and staff as soon as possible.
- o USAID/Bolivia should give high consideration to supporting the growth of private environmental groups for at least 3 years.
- o A detailed plan of action for USAID/Bolivia's and the environmental groups' use as a working document is attached.

PROPOSAL FOR INSTITUTION STRENGTHENING OF BOLIVIA'S NON-GOVERNMENT AND QUASI-GOVERNMENT ENVIRONMENTAL GROUPS

The Country Environmental Profile of Bolivia and an assessment of the private non-profit environmental groups indicate a critical need for assistance in strengthening non-governmental groups so that they can be more effective addressing Bolivia's environmental/natural resource problems. A program of assistance is needed (at least 3 years) to strengthen the

individual groups by providing them with initial support to become established, non-profit institutions. Because the groups, by their own admission, are not ready to administer major grants tied to large-scale programs, the program of assistance should support the establishment of a coordinating body responsible for administering financial assistance to the groups and providing certain technical services.

Ideally, it is envisioned that in several years the coordinating body will develop into a private non-profit Bolivian foundation supporting environment/natural resource programs, and that the groups initially supported through the coordinating body will become established as individual private non-profit environmental institutions. However, considering Bolivia's economic situation, achieving this objective should not be critical to the success of the program. Throughout the program there should be periodic evaluations to decide if it would be more practical for the coordinating body to absorb the participating groups as part of a new private organization or to dissolve itself transferring its responsibilities to the groups themselves.

Since Bolivia is more likely to benefit from several diverse environmental groups the program design should encourage individual strengthening of the groups as much as possible. For this reason, for the first 3 years the coordinating body's functions will not include designing and implementing its own programs. If the coordinating organization were to do so it would begin competing with the groups it is designed to service. This situation could be reevaluated once the groups have established themselves on their own.

Working with private non-profit environmental groups requires considerable flexibility. Groups that depend on volunteers and personal initiative are often quite idiosyncratic and heavily influenced by members' personalities. Therefore, an effective management system within the groups themselves and the coordinating body will be critical. Some factors based on other similar USAID/non-governmental environmental programs for USAID/Bolivia and the private environmental groups to consider when they initiate a joint project are the following:

- o Small grants spread over time to private environmental groups are more effective in strengthening the groups than large grants.
- o Grants must include a component purely for institution building and not be tied solely to projects.
- o Short-term technical assistance visits spread out over the long-term are more effective than a full-time technical advisor.
- o U.S. private environmental groups' are useful as examples of approaches and programs for Bolivia to consider, but should not be presented as models to be implemented by Bolivian groups. An effective private sector program must evolve according to Bolivia's particular situation.
- o Changes in strategies and occasional mistakes are part of the process of institution building.
- o Competition, and differences in opinions, approaches and style are common among private environmental groups and should be handled as an asset.
- o Self-sustainability for private environmental groups is difficult and takes a long time to achieve.