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**SPECIAL EVALUATION OF
THE RESOURCES CONSERVATION
AND UTILIZATION PROJECT**

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Annex 2 contains the names of the many persons who met with the team and patiently answered their questions.

LIST OF ACRONYMS

ADB/N	Agriculture Development Bank, Nepal
ADB	Asian Development Bank
ADO	Agriculture Development Officer
CCC	Catchment Conservation Officer
CDO	Chief District Officer
DFO	Divisional Forest Officer
DSCWM	Department of Livestock Development and Animal Husbandry
FAO	Food and Agriculture Organization
FY	Fiscal Year
GON	Government of Nepal
GTZ	German Technical Cooperation
HMG/N	His Majesty's Government, Nepal
IBRD	International Bank for Reconstruction and Development
IRNR	Institute for Renewable Natural Resources
IHDP	Integrated Hill Development Project
IRD	Integrated Rural Development Project
JTA	Junior Technical Assistant
K-BIRD	Karnali Bheri Integrated Rural Development Project
KHARDP	Koshi Hill Area Rural Development Project
NCCNR	National Council for the Conservation of Natural Resources
PCC	Panchayat Conservation Committee
PIC	Project Implementation Committee
PRDP	Panchayat Resource Development Plans
RCUP	Resource Conservation and Utilization Project

SECID	Southeast Consortium for International Development
SATA	Swiss Association for Technical Assistance
SCA	Soil Conservation Assistant
TCF	Technical Cooperation Fund
UNDP	United Nations Development Program
USAID/N	United States Agency for International Development, Nepal
USAID/W	United States Agency for International Development, Washington

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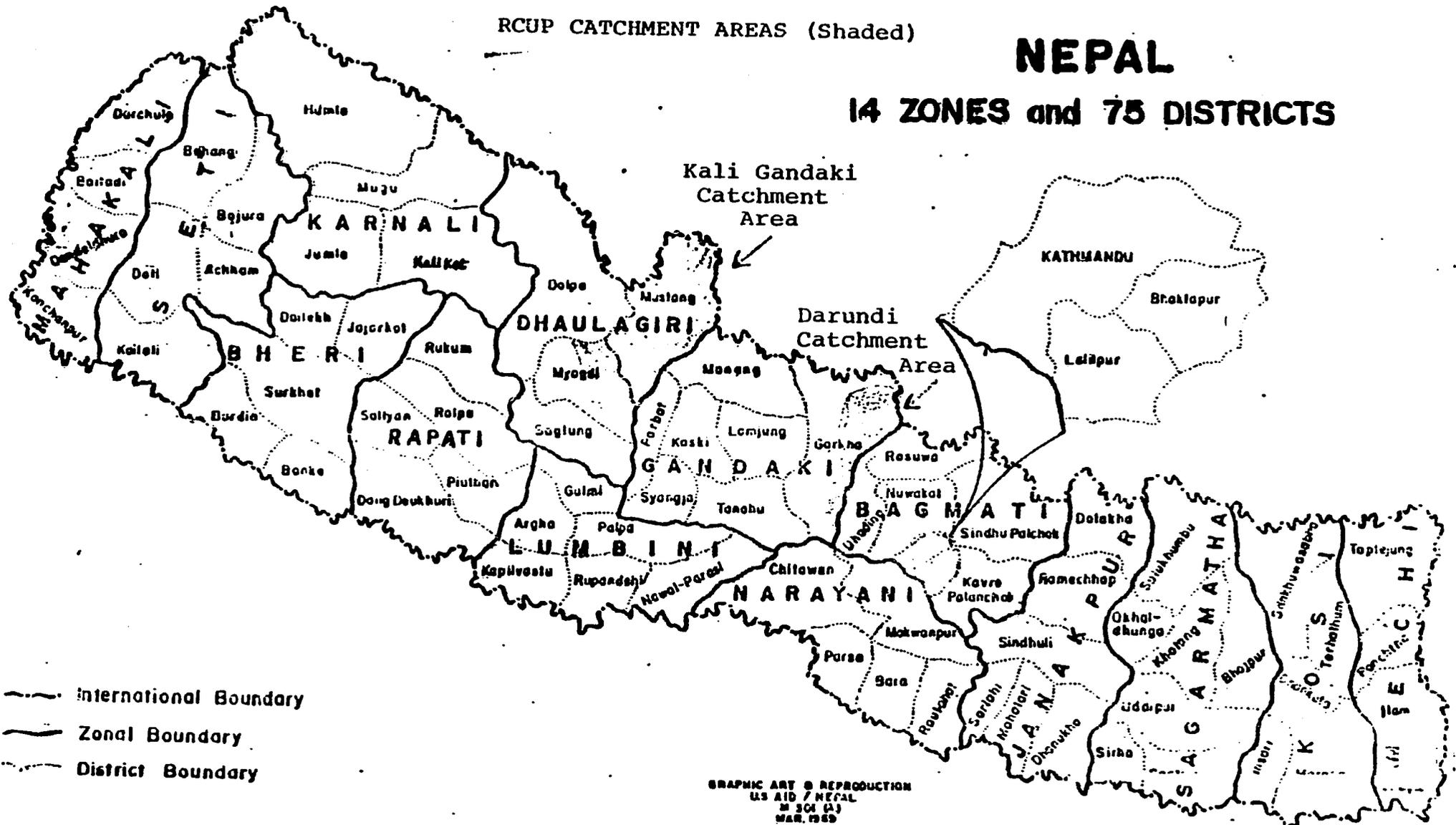
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RCUP CATCHMENT AREAS (Shaded)

NEPAL

14 ZONES and 75 DISTRICTS



- International Boundary
- Zonal Boundary
- ... District Boundary

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I. EXECUTIVE SUMMARY

The Problem: Environmental Degradation in Nepal

Approximately fifty-six percent of Nepal's population live in the hills and mountain regions of the country. These areas are characterized by high human and animal population densities combined with generally steep and relatively unstable terrain. The population-based pressures for expanding crop land, the use of forests for firewood, fodder and lumber, and the overgrazing of pasture land are resulting in increasing erosion and other environmental degradation. Unless checked, this degradation will ultimately threaten the productive base of Nepal's hill region.

The degree of environmental deterioration is already acute in some locations, but a recent FAO-supported reconnaissance survey indicated that eighty-two percent of lands above the Terai (lowlands) are in "good" to "excellent" condition, and only three percent are in "poor" or "very poor" condition. Most landscapes in Nepal have a high degree of biological resiliency and relatively strong recuperative power. The government and the population living in the hill areas share a genuine concern regarding the deteriorating hillsides, and there appears to be growing support and commitment for programs aimed at responding to the environmental problems. Consequently, while the situation in the hills is serious and continues to worsen, it is not irreversible.

U.S. Assistance

Design of the Resource Conservation and Utilization Project (RCUP) began in late 1977 and required more than two years to complete. The project was authorized by AID in July 1980, and the grant agreement was signed by the two governments the following month. Funding for the initial five year phase of the project was set at \$27.5 million from AID and the equivalent of \$5.1 million from the development budget of the Government of Nepal (GON). While the AID authorization financed activities only for five years in two catchment areas, the project paper indicated that "ideally it would be extended after the first five year phase to include two additional catchment areas for a total fifteen year period."

The project has two principal components: (1) support for a range of conservation and development activities conducted in two major river catchments -- the Kali Ghandaki, which includes portions of the Mustang and Myagdi Districts, and the Ghorka region which is drained by the Buri Ghandaki River and two smaller streams, the Daraundi and Chepe Kola; and (2) support for a multi-faceted education and training program aimed at developing the technical and managerial staff needed for a long-term attack on the problems of environmental degradation.

AID support is provided partly through a contract with the Southeast Consortium for International Development (SECID). Under this arrangement, AID finances technical advisory personnel, participant training, project commodities and the construction of office and housing facilities required for project operations in the catchment areas.

AID also provides financial support for eligible activities carried out in the two catchment areas by the various GON agencies engaged in conservation and development programs. This support is provided in the form of local currency channeled through the GON development budget.

Although the project was authorized in July 1980, field activities were not initiated until nearly one year later.

Purpose and Methodology of the Evaluation

Since activities under the project got underway less than two years ago, an evaluation in the usual sense is premature. However, recurrent concern has been expressed regarding the feasibility of executing a multi-sector project which involves nine different departments and agencies from four separate GON ministries, operating in two major river catchments. Therefore, the Mission decided a special evaluation was warranted. The purpose of the evaluation was to examine the basic assumptions on which the RCU Project rests and reassess their validity in light of progress achieved and problems encountered over the past two years.

The evaluation was aimed at answering the following three interrelated questions, as a basis for judging whether there is a reasonable probability the project is indeed feasible: (1) Is the integrated, multi-sector approach valid as well as workable?; (2) Are the organizational arrangements for the project suitable and workable?; and (3) Is local participation adequate and appropriate to project purposes?

The evaluation also included a relatively superficial review of the education and training component of the RCUP as well as an attempt to judge whether the scope of the project relates appropriately to the scale of the environmental problems facing Nepal.

The evaluation methodology involved the review of project background materials, analysis of technical and other studies bearing on conservation and development in Nepal, visits to all three districts included in project activities, and interviews with persons associated with the project in Kathmandu and field locations.

Findings

1. Is Integration Valid and Workable?

For agricultural as well as conservation considerations an integrated approach to soil and water conservation in the hills is suitable -- and probably essential. While such an approach presents management problems, these problems do not appear insoluble. Agriculture in the hills utilizes all the major segments of the mountain ecosystem: bottom land and terraced slopes for crop production, steeper slopes for pasture, and trees and forests for fuel, fodder and lumber. Consequently, conservation measures cannot be instituted in isolation but must take into account agricultural practices as well, e.g., efforts to protect against overgrazing of pasture may result in greater cutting of trees for fodder, unless some provision is made for animal feeding.

The government is committed to an integrated approach to rural development which has been adopted by a number of other projects. To deal with the problems of coordination and integration, the GON has created several interagency mechanisms at the national and district levels. It is also strengthening the role of elected institutions at the levels of the district

and below in order to facilitate the impact of popular institutions on development programs.

The management problems of integration in the RCUP are made easier by the fact that the core of activities requiring coordination involve only four departments in two ministries -- Agriculture, Livestock, Forests and Soil Conservation and Watershed Management. The remaining activities, e.g., irrigation, domestic water supply, credit, etc., require much less demanding coordination.

2. Are the Organizational Arrangements Suitable?

The RCUP is administered primarily by a small central headquarters staff attached to the Department of Soil Conservation and Watershed Management. It works largely through the various line departments and agencies whose programs it supports financially and otherwise. The arrangements are basically sound and should contribute to the long-term institutionalization of the activities being sponsored by RCUP. The AID-financed advisory team is attached to the GON central staff. While the team has not been adequately integrated into the activities of the RCUP central staff or of the various line agencies with which the project works, the organizational arrangements themselves are sensible. The use of catchment area advisors under the contract has not worked well, and the composition and total size of the contract team needs to be re-examined in light of the experience gained thus far.

At the district level the coordination mechanisms appear to be both suitable and effective, and they offset substantially the difficulties faced in coordination at the center. The elected District Chairperson plays a strong role in coordinating project and other activities. This role might be further strengthened through the experimental provision of a program staff assistant to help with planning and monitoring functions.

3. Is Local Participation Adequate?

The long-term solution to Nepal's problems of environmental deterioration will depend substantially on the active and willing participation of local people. Traditional forms of community action for common goals provide evidence that such participation is possible. A great deal of progress has been made in coordination of line agency activities at local levels, primarily in the context of the Catchment Conservation Committee headed by the elected District Chairperson. Much remains to be done in developing workable planning systems based on village and district level participation. Under the RCUP a great deal of emphasis is being placed on this subject. This emphasis should be continued with greater attention being given to working downward through the established district level mechanisms.

The long-term GON effort to strengthen local government and decentralize authority to local elected bodies is of considerable significance to the success of the RCUP. Project activities, in turn, are reinforcing local institutions in the two catchment areas.

4. Is the Training and Education Component of RCUP Progressing Satisfactorily?

The education and training elements of the RCUP are generally meeting their objectives. Unfortunate delays have occurred in the construction of physical

facilities being financed by the IBRD for the planned Institute for Renewable Natural Resources, but degree training is proceeding on schedule under temporary arrangements. The training activities of RCUP have tended to be treated somewhat separately by both the GON and AID, and a greater effort should be made to integrate training more effectively into the project.

5. Is the Scope of RCUP Activities Proportionate to the Scale of Environmental Problems?

It is not yet possible to judge whether the RCU Project, alone or in combination with other related activities, has the potential for arresting and reversing the decline in Nepal's natural environment. In the design of the project and in the formulation of implementation plans, specific physical targets for five, ten, and fifteen-year periods were established to provide a framework for assessing project progress. Those targets were formulated on the basis of informed judgments regarding field conditions, known technology, institutional capacity, and relevance for demonstration purposes. In addition, a cost/benefit analysis of the interventions was undertaken to assess their economic viability.

Satisfactory progress toward project targets has been achieved. However, the targets are not adequately linked to the strategic purposes of the project. Consequently, it is not possible to state reliably that if the activities projected over the fifteen-year period are actually carried out as planned, a reasonable likelihood exists that the environmental decline can be arrested in the two catchments. It should be pointed out, however, that the chairmen in both Myagdi and Ghorka believe that actual and planned activities have the potential for stabilizing watershed conditions in the project area over a ten-year period.

There were solid reasons for the approach which was followed in setting project targets in 1980 and 1981. However, these targets should now be reviewed and revised in the light of experience and the improved data on hill conditions now available. In the revision of targets an attempt should be made to link them to broad project objectives so that there will be an improved basis for judging the likely ultimate outcome of the project. This process would also benefit from the establishment of a more systematic evaluation effort.

CONCLUSION

The RCU Project appears to be feasible and should be continued, with a few adjustments, as planned. Over time, it may be possible to simplify the project and improve its focus somewhat by reducing or eliminating marginal activities, but experience thus far has been too limited to make reliable judgments in this regard. The project is complex and involves institutional development as well as technological experimentation. Five years is almost certainly an inadequate period of time in which to achieve project objectives. On the other hand, fifteen years is probably longer than necessary. A sensible arrangement might be to plan in terms of a ten-year period with a gradual shift of emphasis from the original two catchments to two additional ones during the second five-year period. This action would permit the application of lessons learned in the first five years and afford an opportunity to test the replicability of institutional arrangements worked out in the first two catchment areas.

II. CONCLUSIONS AND RECOMMENDATIONS

A. Integration and Coordination

1. Multi-sector Integration

The hills region of Nepal is generally heavily populated. Almost all accessible land is either cropped, grazed or used for fuelwood and fodder. Many areas are put to more than one use. Moreover, the hillsides in most areas have been substantially stripped of their natural forest cover and converted to terraces or grazing land. Very little room exists for further expansion and indeed in some areas human and animal occupation has gone beyond the carrying capacity of the land under present cultural practices. Consequently neither conservation nor agricultural production programs can be undertaken in isolation. For example, any effort to protect forests or rejuvenate pastures for conservation purposes risks denying farm families access to basic needs in terms of firewood and fodder. Conversely, agriculture programs that focus only on increased production without taking conservation requirements into account risk wider failure if over-grazing or erosion results.

Parallel considerations exist regarding the physical characteristics of watersheds in the region. The hydrologic behavior of watersheds in terms of runoff, erosion and sedimentation is the cumulative result of inter-linked and inter-dependent subcomponents of a basin. Ecological deterioration on even small areas can cause disproportionate off-site damage due to erosion, sedimentation mud or rock flows and accelerated surface runoff. For example, overgrazed pastures up-slope can generate increased runoff which erodes productive cultivated land or irrigation canals in the valley.

Thus, the population, agricultural and physical realities of the hills suggest that a multi-sectoral approach to soil and water conservation and to increased agricultural production is logical and is perhaps the only way to develop long-term solutions to the problems of environmental

degradation. The government of Nepal has therefore committed itself to such an approach.

2. Coordination

Coordination of the various activities of the RCUP is not an easy task. Project components are divided among some nine different departments and agencies in four line ministries. Horizontal coordination between old, well established, vertically organized institutions (each with its own distinct traditions, responsibilities and priorities), can be very difficult. There are several factors, however, which make the problems of coordination somewhat more manageable.

- a. Out of the nine departments and agencies, only four, the Departments of Agriculture, Livestock Development and Animal Husbandry in the Ministry of Agriculture, and the Departments of Forest and Soil Conservation, and Watershed Management in the Ministry of Forests and Soil Conservation require careful and continuous coordination. The activities of the other agencies can generally proceed through regular departmental processes with few adverse consequences. Irrigation and water supply projects, for example, once identified, planned and approved, do not generally require special coordination in order to be effective.
- b. The government has created special mechanisms for coordinating project and other related activities. The National Council for the Conservation of Natural Resources (NCCNR) was established as an outgrowth of the RCUP. It is a policy-level, inter-ministerial body chaired by the Minister of Forest and Soil Conservation. It is responsible, inter alia, for developing national policies for the conservation of natural resources and coordinating projects in conservation-related areas. In addition to this policy-level committee, the government has also set up a more operationally-oriented committee at the center to deal with RCUP Project implementation requirements. It is designated as the Project Implementation Committee and is composed of representatives of the participating agencies, plus USAID/Nepal. At the field level, through

the Soil Conservation Act of 1982, the government has established District Conservation Committees, chaired by the elected District Chairperson, for coordinating soil and water conservation activities such as those carried out by line agencies under the RCUP. Finally, village-level Panchayat Conservation Committees are being set up in RCUP areas to facilitate local participation in coordination processes.

- c. Coordination arrangements at the district level are particularly strong. They take place primarily in the District or Catchment Conservation Committees in which the elected District Chairperson plays an active and generally aggressive role. In these committees the district representatives of each of the line agencies involved in the RCUP participate and regularly compare notes on project implementation. In addition, district service centers are to be constructed which will provide co-located office space and housing for the department personnel engaged in the RCUP.
- d. RCUP activities are carried out almost entirely through the individual line agencies. RCUP central staff efforts are directed primarily toward engaging the energies of these agencies rather than competing with them. The principal tool employed for this purpose is financial support for line agency budgets and staffing.

In sum, substantial efforts are underway at the national, district and panchayat levels to coordinate RCUP activities. While these various coordinating mechanisms have not completely solved the problem of coordination, the evidence thus far is that the approach being followed can meet the requirements for an adequate degree of program integration.

Recommendation No. 1

The NCCNR has potentially a very important role to play in the formulation and coordination of national policies and programs for resource conservation. Thus far it has not done so, however. The Council does not have any supporting staff and this may have contributed to its relative weakness. It

is recommended that consideration be given to providing some sort of back-up support to help the Council play a more active and meaningful role.

Recommendation No. 2

The coordination efforts that have been carried out thus far have been focused primarily on bringing together in time and place the related activities of the various line ministries. For the most part, the programs of each department, while increased in scale, do not appear to have been altered significantly to reflect the underlying conservation purposes of the RCUP. Mechanisms are in place, particularly at the district level, to reshape gradually the programs of the departments such as Agriculture and Livestock so that they more effectively take into account the watershed management focus of the RCUP. Both ongoing and new programs should be reviewed from this point of view.

Recommendation No. 3

The Catchment Conservation Committees, at least in the Myagdi and Ghorke Districts, appear to be playing an effective role in the coordination of line agency activities. In both cases, the elected Chairmen provide knowledgeable and aggressive leadership. However, the Chairmen have demanding, full-time positions with a wide range of political and administrative demands on their time. While they are, to some extent, supported by the Catchment Conservation Officer and the Local Development Officer, both of these persons are primarily occupied by the activities of their departmental programs. The impact of the District Chairmen on the problems of planning, monitoring and coordination could probably be increased if they had more direct staff support. It is suggested, therefore, that consideration be given to providing a planning or program staff officer to support the Chairmen in the RCUP catchments. This could be done on an experimental basis using project resources.

B. Organization and Operations

The implementation of the RCUP is guided by a relatively small special project staff attached to the Department of Soil Conservation and Watershed Management. Its primary purpose is to facilitate coordination among government

agencies largely through budget support for regular and new programs within the scope of the project's concept. The SECID advisory team is attached to the RCUP coordinator's office. The contract team members fill a staff function to the coordinator and are envisioned as also having an advisory role for headquarters personnel of line agencies. Two contract employees have been designated as catchment advisors. A separate group of four is attached to the Institute of Forestry (to become the Institute for Renewable Natural Resources).

The Project Coordinator maintains continuing liaison with the nine agencies involved in RCUP funded activities. He does this formally through the Project Implementation Committee and informally through a wide range of contacts. He also serves as the chief contact for the USAID.

In general, the structure and organization of the central staff is satisfactory. Similarly, the attachment of the SECID team to this central staff is an appropriate arrangement. However, there are management and program problems which warrant attention.

Recommendation No. 4

The Project Implementation Committee has proved to be somewhat cumbersome for dealing with routine problems involving inter-agency coordination. One suggestion is to establish a smaller, more manageable committee with the RCUP Coordinator, representatives from the key line departments and the USAID to help the Coordinator resolve implementation issues falling outside the Coordinator's authority. This suggestion should be reviewed and considered as soon as possible.

Recommendation No. 5

In some technical fields the SECID advisory team has not been adequately integrated into the work of either the RCUP Central staff or of the line agencies. There are several reasons for this. However, a concerted effort should be made to correct this situation so that the benefit of the considerable expertise available in the team can be more completely utilized.

Some thought might be given to providing team-building type of management training for key personnel, both Nepali and expatriate.

Recommendation No. 6

The Catchment Advisors' role under the SECID team has not been adequately defined, and their activities in the districts have not been generally fruitful. The role of the Catchment Advisor should be re-examined. Rather than stationing advisors in the field, with all the complications that entails, it might be sensible to provide one expatriate based in Kathmandu whose time would be devoted to field coordination and monitoring activities. A natural resource generalist might be more suitable than a specialist. This position might also be used to backstop the staff officers proposed for the District Chairmen.

Recommendation No. 7

Most of the Kathmandu-based SECID advisors will be completing their assignments in 1983. Continued advisory assistance will be warranted, though not necessarily on the same scale or in the same skill categories as represented on the present team. Immediate attention should be given to the definition of future requirements. Taking into account the availability of local talent, consideration should be given to the following areas of need.

- Extension: Outreach and extension work in all disciplines has been minimal so far. A greater effort is needed to train village-level and district-level workers to promote activities to encourage popular understanding and support, and develop activities designed to reach the farm family and women.
- Range Management: According to Wyatt-Smith (1982), "The greatest threats to the ecosystem are undoubtedly free-range grazing and the existence of unmanaged grazing land." Thus, the importance of livestock to hill people in combination with the watershed damage done by their animals represents a serious soil and water conservation problem. Yet there is reason to believe that proper management could greatly improve the situation. An experienced range and pasture management expert, working with an anthropologist, could make an important contribution to project objectives.
- Local Level Planning: Local level planning efforts have only begun to make an impact. This represents, perhaps, the single most important area for the long-term success of the RCUP. Staff support for this effort should continue to be given a high priority.

- Watershed Monitoring: At the time the RCU project was being planned, proposals were made to establish experimental arrangements for measuring treatment effects on watershed runoff, erosion and sediment production, including possible instrumentation of watersheds. Such studies require great care during installation as well as in the collection and interpretation of data. The initial proposals may have over-estimated the importance of such analyses and underestimated the difficulties associated with proper installation, maintenance and interpretation.

Most people in Nepal do not need data from runoff plots to convince them of the value of conservation works and a great deal of information is already available from proven experience elsewhere. Therefore, RCUP staff should re-assess plans to install and maintain runoff plots and other such experimental installations. They should be implemented only if there is an identified, specific need that cannot be satisfied by current technology and available information and only if trained technicians are available to assure reliability of the data. However, efforts should continue under RCUP to obtain baseline hydrologic and climatic data where qualified personnel are on hand to maintain installations properly. Consideration should be given to bringing in an experienced expatriate technician in watershed management to help with this assessment.

C. Local Participation

The long-term success of the RCUP will depend primarily on the active and willing participation of local people and their organizations in broadly-based soil and water conservation activities. For, success in conservation programs rests not on the implementation of massive, high cost, high technology, large-scale solutions, but rather the widespread implementation of relatively low cost, small scale, proven interventions that are reasonably within the capability of local residents, given motivation and the provision of advice, encouragement and modest assistance from the government.

There are traditional practices in Nepal for maintaining a human ecological balance with the environment. There are also established traditions for organizing community protection for communal resources and property. For various reasons these restraints on environmental abuse have had limited effect in recent years, but they can still contribute to the present search for solutions to Nepal's environmental problems.

In addition, for more than twenty years the government has pursued a policy of gradual decentralization of government functions to local levels. While the

impact of this decentralization has probably not been as substantial as hoped, an unmistakable, genuine effort is being made to provide an increasing scope for local self-government. One element of this effort has been to return some of the forests nationalized by the government in 1956 to local ownership and management. Another expression of this policy was the Decentralization Act of 1982. While implementing regulations have yet to be written, this new Act lays the foundation for widespread implementation of the activities being undertaken now under the RCUP.

As mentioned elsewhere, considerable effort has been devoted by the RCUP central staff to developing mechanisms for facilitating village-level planning. The principal concepts which have evolved until now have been generated in RCUP headquarters and have involved working directly at village levels. The work done thus far appears to be somewhat complicated and probably too expensive for widespread application.

Overall, the involvement of local people in RCUP activities seems to be progressing satisfactorily. There is clear evidence that the overall impact of the RCUP is generally perceived to be favorable and substantial. Project efforts benefit from the widespread concern among rural people with deteriorating conditions in the hills and the growing awareness of the need for conservation. However, much more needs to be done in the areas of extension and public information.

Recommendation No. 8

The development of mechanisms for increasing local participation in planning and implementation of RCUP activities should continue to be a high priority for the RCUP central staff. However, greater attention should probably be given to utilizing the structure of local representative government with its established linkages downward from the district to the village panchayats rather than involving central staff extensively in working directly with villages.

Recommendation No. 9

The women in farm families in the Hills play a major role in agriculture. Among other duties, they are usually the fuelwood and fodder collectors. Therefore, they are of special importance to the success of any conservation and production program. Although the women's organization is represented on the Catchment Conservation Committees, otherwise the RCUP has not been as effective as it should in including women in its activities. Even the SECID team does not include a female member. A greater effort should be made by the RCUP to increase the participation of women, both in field activities and project management.

D. Education and Training

The education and training component of the RCUP includes the establishment of a degree granting institution, the Institute for Renewable Natural Resources, the strengthening of the inservice Training Wing of the Ministry of Forest and Soil Conservation and advanced training out of the country for participants drawn from cooperating departments and agencies. The plans for the training components are based on an analysis of long-term personnel requirements undertaken as part of the original RCUP project design effort. The education and training activities are relatively straightforward and are progressing satisfactorily. There are, nonetheless, a few areas in which improvements could be made.

Recommendation No. 10

Although the RCUP is conceived of as an integrated, multi-sectoral project, the design and implementation of the training aspects of the project has lacked an inter-disciplinary flavor. Each of the elements has been carried out with only modest integration or coordination. For example, the largest component, the establishment of the Institute of Renewable Natural Resources, has been treated almost as a separate project by the USAID and the GON. A greater effort should be made, therefore, to integrate the education and training activities into the overall scheme of the RCUP and to ensure that course content adequately reflects the multi-sectoral, local impact focus of the project.

Recommendation No. 11

As presently planned, training at the Institute for Renewable Natural Resources will include work at field sites geared to experimenting with conservation technology. However, thus far no plans have been made for a research component utilizing the staff and facilities of the Institute itself. As the Institute evolves, it should logically develop a relevant research role related to the country's long-term requirements for natural resource protection and development. It is not too early to consider this issue and its implications for physical facilities and advisory and other staffing.

Recommendation No. 12

The technical advisory personnel attached to the Institute are responsible for developing and teaching a curriculum for the degree programs conducted by the Institute. In the meantime, the future Nepalese staff have been selected and sent abroad for advanced training. As presently planned, the expatriate staff will have only minimal overlap with their counterpart instructors. The testing and institutionalization of the curriculum being developed could probably benefit from a somewhat longer presence of expatriate advisors than is presently planned. This issue should be considered carefully so that appropriate arrangements for follow-up staff can be made to avoid any break in continuity.

E. Scale of Environmental Problems vs. Scope of RCUP

There is general agreement that Nepal is facing a serious problem of environmental degradation in its hills and mountain region which if left unchecked will ultimately threaten the productive capacity of that part of the country where nearly two-thirds of the population lives. However, there has until recently been no reliable quantification of the scale of the problem. In 1980 FAO published a reconnaissance inventory of the major ecological land units in Nepal and their watershed condition (Nelson 1980). This report revealed that less than one percent, or about 550 square miles, is in "very poor" condition, lands that are so deteriorated that restoration to productive

use is uneconomic with available technology. An additional two percent is in "poor" condition; i.e., it cannot be brought back to a productive state without extensive structural erosion control measures. Approximately eleven percent, or six thousand square miles, is in "moderate" condition, which requires biological and mechanical treatments to bring production back to normal levels. Finally, thirty-six percent, or 19,000 square miles, is in "good" condition and must have sensible management to prevent further deterioration. The remaining half of the country is rated as in excellent condition, but since one hundred percent of the Terai (lowlands) is classified as falling in this category, the proportion of the hills region which is in excellent shape is clearly less than half.

At the time the RCU Project was designed, this inventory had not been completed. Nor were adequate data available on the specific catchment areas chosen for the project. Consequently, project goals and targets were established based on extensive field travel and previous experience. As part of the design and implementation plans, specific five, ten and fifteen year targets were set for each of the major interventions. These targets reflected known technology, were reproducible, and were based on their relevance to effective demonstrations as well to the institutional development purposes of the project. A cost/benefit analysis was made of each of the proposed interventions to ensure that they would be economically viable.

The targets established by the RCUP were incorporated into the planning for each of the participating line agencies and into National Planning Commission documents. They have provided a basis for measuring project progress. Overall, progress toward these targets has been satisfactory.

However, the targets established through the RCUP planning process are not linked to the scale of the environmental problems in the two watersheds in which project activities are being carried out. Consequently, it is not possible to determine whether achievement of these targets over any prescribed period of time has the potential for arresting or reversing the environmental decline.

Recommendation No. 13

There were good and sound reasons for the process which was followed in initially setting targets for the RCU Project. Indeed, the complex interaction between population growth and the many physical variables which impact on environmental degradation doubtless makes it impossible to establish physical targets which can guarantee project success. Nonetheless, it would be sensible to review the targets adopted for the RCUP and attempt to relate them to the scale of the environmental problems in the two catchment areas in which the RCUP is operating. The availability of recent aerial photography and other improved data should make this easier than it was earlier. Indeed, a periodic review of project targets should be undertaken to determine whether they are still relevant in terms of scale as well as definition.

Recommendation No. 14

Related to the matter of establishing project targets is the importance of learning systematically from the experience being accumulated. At present, the evaluation and monitoring program of the RCUP is primarily a monitoring program which tracks progress in implementation. The central staff of the RCUP should establish a more systematic evaluation program which assesses the effectiveness of the various interventions carried out by the line departments from a physical, biological, social and institutional development perspective. This will help ensure that the lessons learned can be fed back into project operations.

F. RCU Project Phasing

The general assessment reached as a result of this special evaluation is that the RCU Project is feasible, i.e., that there is a "reasonable probability" that it can achieve its objectives.

The project was approved initially for a five-year period with activities to be limited to two catchments. However, the project design envisaged an expansion to two additional catchments and a total time span of up to fifteen years. It is difficult at such an early stage in the project's evolution to

prescribe the proper length or extent of AID assistance. However, the complexity of the project argues that five years is too short a period in which to accomplish the technical and institutional objectives of the project. On the other hand, progress made thus far suggests that fifteen years is probably longer than needed. The most sensible approach would probably be along the lines suggested in the original project design. Toward the end of the first five years, support for activities in the initial two catchments could be gradually shifted to two additional catchment areas. This would make it possible to test the lessons learned in the initial five-year period. At the same time, the gradual reduction in the first two catchments would permit experimentation with methods of withdrawal and facilitate an assessment of the institutional capacities which had been developed there.

The RCU Project is a complicated project with many diverse activities. There is a logical temptation, therefore, to consider how it might be simplified through the elimination of marginal activities. Indeed, over time this may well prove to be possible. However at this stage, the project is still experimenting with various interventions. Some are proving less useful than anticipated and others are being identified which had not earlier been included. At this stage, therefore, it is sensible to refrain from cutting or otherwise reshaping the project. At the end of the first five years, there should be a substantial collection of experience on which to base future project definition.

However, the phasing and redefinition of AID support for the RCUP itself should not obscure the fact that the Government of Nepal will be engaged for many years in a critical effort to stabilize its natural environment. The intertwined problems of population growth and the deterioration of its resource base must rank among the most central issues facing the country. The US has had extensive experience with conservation problems and has much to offer in this area. Consequently, it is logical that assistance in this area should continue in the future to constitute a basic element of the USAID program.

Recommendation No. 15

In the original project design and approval, provision was made for an evaluation at the end of the third year to review progress and to consider the possible extension of project activities into two additional catchments. Since the project was initiated in 1980, this evaluation was scheduled tentatively for the latter part of 1983. In view of the fact that field activities under the project really got underway only in mid-1981 and in light of this current special evaluation, it is recommended that the proposed evaluation be deferred until some time in 1984.

III. THE SETTING

Approximately fifty-six percent of Nepal's 15 million population live in the hills and mountain region of the country (IBRD, 1982a). The remaining forty-four percent occupy the lowland region known as the Terai. Population density in hills and mountain region is approximately 1500 persons per square kilometer of arable land, a concentration which ranks among the highest densities for rural settled areas in the world (U.S. National Research Council, 1981). Individual family holdings of arable land have fallen over time to less than .4 hectare (World Bank, 1979). In combination, this high population density and scarcity of arable land have placed great pressure on all of the limited natural resources of the hills region. The demand for food, fodder and forage for livestock, fuel for heating and cooking, wood for construction and income has led to substantial environmental degradation,

The hills and mountain region is characterized by steep, unstable terrain, monsoonal climate and a relatively high natural or "geologic" rate of erosion. The natural instability of the region is exacerbated by the intense human activity that is undertaken to sustain life. All but the most inaccessible areas are utilized by human beings in one way or another. Thus, the actual or "accelerated" rate of erosion is greater than would occur if the hills and mountains were undisturbed by man or were widely managed by principles of sound land use stewardship. The difference between the geologic rate of erosion and the accelerated rate of erosion due to human activity is difficult to determine and can only be estimated, but one report suggested that one-half of the total erosion is caused by man (Spears and Yudeiman, 1979).

Clearly, many hill and mountain ecosystems are under serious stress. Forests are lopped, over-cut, burned and over-grazed, and converted to unproductive pastureland and brushland. In some cases they revert to barren land. Brushlands are exploited for fuelwood and fodder. Grass, forest and brush areas are excessively grazed and trampled. Pastures become loitering places for livestock rather than a source of feed. In some cases, agricultural land is utilized inefficiently (compared with its potential) and in ways that can be harmful to the environment (USAID, 1980a). Attempts are made to farm marginal slopes of

forty-five degrees or more in steepness, with the usual deleterious result (HMG, 1977). All of these factors combine to create serious environmental degradation in the hills and mountains in many locations, and a less than happy future for Nepal if the downward spiral remains unchecked.

These are conditions as they stand today. A complicating factor for the future is high population growth in the hills region projected to average 2.1 percent over the next decade (USAID, 1981). For the country as a whole, the present population growth rate of 2.6 percent is expected to increase because of the age structure and the probability that mortality rates will decrease more rapidly than birth rates (U.S. National Research Council, 1981). High population growth rates such as these are likely to create even greater environmental pressure on the hills and mountain region. At a minimum, they will inhibit efforts to attain HMG's goal of raising per capita standards of living, and they may seriously impede attempts to reverse current trends in environmental degradation and to institutionalize sound natural resources management.

The negative impact of the population growth has been eased somewhat thus far because of (1) expansion of the total cropped area in the country, primarily in the Terai, 2) introduction and expanded utilization of high-yield wheat seed, 3) increased intensity of farming on existing agricultural lands, and 4) external and internal migration of farmers to supplement income (USAID, 1980b). Due to the limited availability of additional arable land, the first factor can no longer provide substantial offset for population growth. The second factor, high yielding crop varieties, may help, but not in a major way. Although hopefully the third factor, increased farming intensity, will provide relief, it should be recognized that marginal returns on labor investments in the hills are likely to be low. The fourth factor, migration, can lead to other, different problems (USAID, 1980b), such as increased population pressure and deforestation in the Terai. Thus, expectations are that the negative impact of unchecked population growth will be more substantial in the future.

Within reasonable assumptions, and even given the implementation of all the best and most intensive agricultural and soil and water conservation practices, there is a finite upper limit on the human carrying capacity of the land in the hills. The current imbalances cannot be maintained indefinitely.

Thus, the problem of environmental degradation must be addressed in a two-fold manner. Soil and water conservation measures, while necessary, are not likely to be a sufficient solution; population growth must also be addressed (Asian Development Bank, 1982). In addition, people throughout Nepal, especially those in the hills, will have to change and adopt ecologically sound land-use practices (Mailloux, 1981).

Consequences of Environmental Degradation

Environmental degradation in the hills and mountains has many serious consequences. These problems are described below.

1. Declining Agricultural Productivity

Soil fertility and productivity on cultivated upland soils and on lands that have been brought into recent cultivation are declining in a major way (U.S. National Research Council, 1981; USAID, 1980b). The decline in fertility is aggravated by the need to burn dung as fuel rather than use it as a fertilizer on the fields (IBRD, 1979; U.S. National Research Council, 1981).

Agricultural production is also reduced as a result of damage from erosion and flooding which ruin otherwise productive land and associated facilities such as terraces, irrigation canals and water control structures (IBRD, 1979). According to the Asian Development Bank (1982), environmental deterioration in the hills has caused reduced production in the Terai as well.

2. Declining Availability of Fodder and Grass for Livestock

Livestock generally provides up to thirty percent or more of farm income (Asian Development Bank, 1982). Grass and fodder provide approximately 75 percent of the feed requirements for cattle (Manandhar, 1982). Consequently, the decline of grass and fodder supplies is having a serious impact on the farmers.

3. Decline in Wood for Fuel and Construction

Fuel wood is the source of approximately eighty-seven percent of all energy used in Nepal, and in rural areas the dependency is as high as 95 percent (U.S. National Research Council, 1981). According to the IBRD (1979), the average hill family now spends up to eleven person-days per month collecting fuel wood. Demand for fuel wood is beyond current sustainable supplies. Without development of new forest resources, the IBRD (1979) estimates that the accessible forests in the hills will largely be gone by 1990. There are differences of view regarding the economics of fuel wood use in comparison with other energy alternatives. However, at least one report argues that it would be "illusionary" to rely on market and economic mechanisms to reduce the current over-use of this declining forest resource (Alheritiere, 1982). This is especially true for the rural people who collect and use fuel outside market mechanisms. Certainly a declining forest resource will also reduce the availability of wood for construction as well as fuel.

4. Increased Incidence of Landslides

Overuse and improper use of the hill and mountain region has contributed to landslide occurrence (Alheritiere, 1982; Asian Development Bank, 1982; USAID, 1980b). Roads may also be a cause of landslides because of inexpensive construction techniques. One estimate linked about five percent of landslides to trails and roads (Alheritiere, 1982). It should be noted, however, that steep, unstable terrain such as that found in the hills and mountains of Nepal is naturally prone to landslides with or without man's activities.

5. Decreased Availability of Water from Springs and Seeps

The evaluation team has not documented this problem, but experience elsewhere suggests that with deteriorated environments more of the available rainfall and snow-melt leaves catchments as surface runoff and less water infiltrates into soil and groundwater systems. Consequently, a decline in groundwater and spring flow is to be expected, with a particularly serious impact during dry seasons when alternative water supplies for humans and livestock may be scarce.

6. Downstream Flooding and Siltation

Environmental degradation not only leads to erosion, flooding and sedimentation in catchments of origin, but can have serious downstream consequences as well. It is believed that deterioration in the hills has contributed to flooding and siltation in the Terai with adverse consequences on agricultural production there (IBRD, 1979). The problem even has an international dimension, because the flood waters and sediment partially produced in the hills of Nepal flow into India and Bangladesh (HMG, 1977). One report suggested that increased flooding in Uttar Pradesh and Bangladesh, siltation of the Ganges delta and, in particular, siltation of Calcutta harbor are partly attributable to the deforestation in Nepal (Alheritiere, 1982). However, this report also indicated that sediment from Nepal provides fertile river valleys in the plains and in the delta area of Bangladesh. Further, it is difficult scientifically to separate flooding and sedimentation due to natural causes from that due to human activities. In fact, a report of the U.S. National Research Council (1981) strongly cautioned that it would be unwise to anticipate that improved watershed management practices in the Middle Hills of Nepal would mitigate channel instability and flooding problems in the larger river systems of the Terai, let alone those in India and Bangladesh.

7. Impact on Water Power Development

HMG has indicated that water power development and irrigation schemes are to be priority national objectives (HMG, 1981). Clearly, such plans will often require the construction of water impoundments which, under present circumstances, will serve as sediment traps. The useful life of the impoundments will, therefore, be partly dependent upon watershed conditions. If impoundments are constructed in watersheds that are in a state of deterioration, then the return on the investment may be significantly compromised.

8. Impact of Environmental Deterioration on Tourism

Tourism is another priority of HMG (1981) and a major source of foreign exchange. One author suggested that a continued state of environmental

decline in the hills and mountains could eventually adversely effect the attractiveness of Nepal to tourists (Alheritere, 1982).

9. Impact of Environmental Deterioration on Migration From the Hills

According to the IBRD (1979), increasing numbers of people have been forced to migrate to the Terai on a permanent or temporary basis to search for work. Between 1961 and 1971, an estimated 400,000 people moved permanently to the Terai. Many settled in an uncontrolled way and hindered official plans for the systematic development of land and forest resources. A far larger number migrate seasonally for up to three months per year. Perhaps migration is a partial answer to the environmental problems of the hills, but it may also have drawbacks. HMG (1981) is placing increased emphasis in the Sixth Five-Year Plan on retention of the population in the hills by means of increased off-farm employment opportunity and increased agricultural productivity.

10. Opportunity Costs of Combating Environmental Deterioration in the Hills

The evaluation team does not have adequate means to determine the magnitude of opportunity costs associated with soil and water conservation programs targeted on deteriorated lands in the hills, but clearly the sum must be substantial. Funds diverted to soil and water conservation are obviously not available to support many other important development needs such as health, education and infrastructure improvement, for example. This argues for efforts to implement sound resource management practices to prevent further deterioration, for prevention is probably far less costly in terms of direct costs and the associated opportunity costs than is restoration, stabilization and other actions that government must take to deal with degraded lands.

Grappling with Soil and Water Conservation Problems in Nepal

It was only in 1950 that Nepal emerged from a long period of self-imposed isolation and embarked on a course of economic development with assistance from outside donors. At that time, Nepal had limited institutional capacity to plan and implement development activities (Sainju, 1981). Transportation and

communications in the mountainous terrain was almost totally by foot, and the country had fewer than three hundred university graduates. Public health services were essentially non-existent and less than one percent of school age children were in school. The country was a collection of loosely-linked mini-economies, and most people paid little attention to events outside their own villages (IBRD, 1979).

Much progress has been made in the thirty-three years since Nepal opened its doors to the outside world. Agriculture has progressed, in excess of 5,000 kilometers of roads have been constructed (IBRD, 1981), and many other elements of infrastructure have been developed. According to Mailloux (1981), since 1951 when there were only 8,500 students enrolled in 321 primary schools, the numbers have increased so that now more than 875,000 students are in attendance in 9,400 schools. More than 3,000 Nepalese have been trained overseas under USAID sponsorship alone. These graduates help provide the country with advanced technologies and professional skills.

But even with this progress, problems remain and many needs are yet to be addressed. Nepal has one of the lowest per capita annual incomes in the world, estimated to be one hundred forty dollars per person. According to the IBRD (1982), out of one hundred twenty-five countries in the world, only five have a lower per capita income. The average annual growth in per capita income was only two-tenths of one percent between 1960 and 1980. The adult literacy rate is 19 percent and life expectancy at birth is 44 years (IBRD, 1982). The average annual growth in agricultural production was less than one-half of one percent between 1970 and 1980. Improving infrastructure in Nepal's topography has proven to be a Herculean task.

This is the setting within which Nepal is attacking its development problems, including those focused on soil and water conservation. Though the task is difficult and requires patience and understanding, there is reason for hope that progress can be achieved in overcoming problems of environmental deterioration and the associated low standards of living, for there are positive as well as negative factors in the equation.

1. Resiliency of the Land

Most landscapes in Nepal have a high biological resiliency and natural, inherent recuperative properties (U.S. National Research Council, 1981). Loamy soil textures, good soil structure, warm growing season temperatures, abundant rainfall, and a wide variety of robust plant species suitable for disturbed sites offer substantial potential for restoration given suitable land use practices (Nelson, 1980). According to Wyatt Smith (1982), natural regeneration can provide quick, protective, woody cover if grazing and fire are controlled. Research has also shown that on improved pastures, forage yields can be increased by up to fifteen times that produced on lands which unrestricted grazing is permitted and no effective management is exercised (Wyatt Smith, 1982).

2. Current Condition of the Land

Doomsday predictions in the popular press and elsewhere have probably overstated the extent of environmental deterioration in the hills of Nepal (U.S. National Research Council, 1981). Clearly, the problem is serious and even acute in many locations, but by no means has Nepal reached a state of deterioration beyond reach for restoration and stabilization, given the natural recuperative powers of the land. A recent UNDP/FAO inventory of watershed conditions in Nepal indicated that eighty-two percent of the lands north of the Terai, not including permanent snow fields, are in "excellent" to "good" condition with fourteen percent being in only "fair" condition and three percent in "poor" or "very poor" condition (Nelson, 1980). This report also identified sixteen "hot spots" with exceptionally serious erosion problems. The inventory could not assess top soil loss due to "sheet" erosion, an economically important but relatively unspectacular form of deterioration, so allowances must be made for this shortfall. Although the percentage of lands in "fair" to "poor" condition is relatively small compared to the percentage in "excellent" to "good" condition, the situation still represents a serious watershed condition. The opportunity for significant progress through prevention of further deterioration is substantial. Nelson (1980) made the point that a conservation program in Nepal will be a success if the existing situation is not allowed to worsen.

3. Competence of the Nepal Hill Farm Families

According to the IBRD (1982), all farmers, whether they are large, medium or small, respond to economic incentives. Farm families of Nepal have demonstrated a rationality that responds to their differing ecological and social conditions. Even if farm families have only small holdings, they usually invest a substantial part of any extra income in their farms. They also use their labor to plant and care for trees, dig ditches, level and build dry land and paddy terraces. Small farms can also be highly productive, producing more per acre, in many cases, than large farmers despite the frequent lack of services, markets and production inputs. The IBRD (1979) specifically pointed out that even against overwhelming odds, production yields are currently much higher in the hills than in the Terai -- three times higher according to USAID (1980b). This observation indicates that hill populations face enormous pressures to make a living and that they are generally enterprising and energetic, even under harsh conditions. Such a response also suggests that production oriented and well conceived programs in the hills are all the more likely to be received with a degree of enthusiasm (IBRD, 1979).

Other reports have made similar observations regarding hill farm families. According to Nelson (1980), they are innovative, industrious and adaptable; they seem to maintain their own lands in good condition, as indicated by the rare signs of visible erosion on cultivated lands. He further stated that the years of work involved and the risks in this task are enormous and have resulted in the "sculptured mountains of Nepal," an agricultural wonder. He concluded that the tenacity, energy and survival skills of the average farm family creates a favorable condition for meeting the soil and water conservation challenge.

Alheritere (1982) concluded that Nepal's ancient traditions of agriculture have created some of the most skillful farmers in the world. He also pointed out that terracing traditions in Nepal are among the best and, if maintained, can help to minimize erosion from cultivated land.

4. Land Ownership in the Hills

Based on surveys made in the 1970's, in about one-half of Nepal's districts, approximately ninety-eight percent of farm families in the hills own their own agricultural land. At least partly as a result of this high rate of ownership, hill farmers have demonstrated a willingness to invest limited available inputs, management skills and labor into increasing crop production (USAID, 1981). Further, benefits obtained from increased productivity tend to remain in the hill communities, thus providing motivation for investments such as those involved in soil and water conservation programs.

The favorable ownership pattern mentioned above requires a qualification. According to USAID (1980b), the average landholding in the hills is only four-tenths of a hectare, but the minimum required for the subsistence of an average family is six-tenths of an hectare. Therefore, average holdings are below a subsistence standard; this will limit farm families' ability to participate in development schemes which ignore the necessity of most hill residents to sell agricultural labor or perform other off-farm income generating activities.

Clearly the effective, active, motivated enthusiastic participation of hill residents in soil and water conservation programs is essential; there is no reasonable hope for a solution if the people at the grass roots level do not accept and adopt the conservation ethic.

5. Awareness of Environmental Deterioration

A necessary precondition for a broadly based attack on soil and water conservation is a general awareness and recognition of the problem. The Evaluation Team interviewed many persons from the top levels of government to farmers in the hills and gained the general impression that concern regarding environmental degradation is widely shared. Others have reported that farmers and villagers are increasingly aware of the declining resource base and are prepared to cooperate in improving the environment (Campbell, 1978; Josi, 1981).

The press also carries articles on the subject from time to time. For example, on December 2, 1982, the national newspaper The Rising Nepal carried a statement on watershed management to the effect that these terms, though over-used, describe what must be done to save Himalayan watersheds from ecological degradation. Another article in the same paper on February 9, 1983, clearly articulated an understanding of the environmental deterioration taking place in the hills of Nepal. A subsequent article on February 14, 1983, expanded on this theme and discussed the associated population growth problem as well. Many donors have recognized the problem and are contributing to its solution. The IBRD, the Asian Development Bank, UNDP, the United States, and other countries, as outlined below in a subsequent section of this report, are all actively engaged.

Commitment of the Government

The government has demonstrated a serious concern for the problem of environmental degradation and a growing commitment to soil and water conservation.

"When I speak of development of agriculture in Nepal, I wish to draw the attention of the international community to the dire need of ecological conservation, especially water and its mainspring, the forests. In fact, agriculture, water and forests are so inter-related with one another that one cannot be conceived of without the other. Emphasis and priority, of course, may vary depending upon consideration of several exigencies. We, for ourselves, wish to make the optimal use of our river systems, the main basis of development, for energy, agriculture, transport--both internal and transitional--and, above all, for forest conservation. ...Indeed, it is the sector that holds the key to meet our development needs, including the protection of our ecosystems." His Majesty King Birendra Bir Birkam Shah Dev in his keynote address to the Conference of Least Developed Countries, Paris, September 3, 1981.

"The reckless grazing and collection of fodder and fire wood have further accentuated the problem of environmental deterioration, now more glaring in the form of soil erosion, landslides, floods and depletion of forest and water

resources." Dr. B. P. Shrestha, Vice Chairman, National Planning Commission, April 1979, in the preface to the Basic Principles of the Sixth Plan (1980-1985).

"The Kingdom of Nepal is now undertaking a difficult stage of development while at the same time the forces leading to environmental degradation are building up very rapidly. His Majesty's Government of Nepal has launched various development activities in such fields as irrigation, hydro-power development, forestry, roads, and integrated rural development. Nevertheless, unplanned and uncontrolled exploitation of natural resources has created a great threat to the ecological balance, particularly to our mountain environment." Speech by M. D. Joshi (1981), Director General, Department of Soil Conservation and Watershed Management.

These quotations are indicative of what seems to be a broadly based awareness throughout the HMG. Other indications of concern and commitment are as follows.

1. Establishment and Development of the Department of Soil and Water Conservation

This department was established in the then Ministry of Forests in 1974 (HMG, 1977) to help deal with environmental deterioration in the country. Recently, the department's name was changed to the Department of Soil Conservation and Watershed Management. At the direction of His Majesty the King, the name of the ministry was also recently changed to the Ministry of Forests and Soil Conservation, thus giving more recognition and visibility to soil conservation. Since 1974, the department has grown from twenty-four professionals and forty-three technicians and staff to fifty-four and one hundred fifty-three respectively.

2. Passage of the Soil and Water Conservation Act of 1982

This Act was passed by the Rastriya Panchayat and signed into law by His Majesty the King. The Act gives broad powers to the government to deal with problems of environmental degradation. Although the Act is indicative of environmental concern, it has not gone uncriticized in terms of its philosophy

of placing a substantial burden on local populations (Alheritiere, 1982). Many other laws that bear on natural resources and conservation issues are also discussed by Alheritere (1982).

3. Creation of the National Commission on Conservation of Natural Resources

This commission was created in 1980 and was formally sanctioned in the Soil and Water Conservation Act of 1982. Although apparently the commission is not yet fully effective, its goals reflect a substantial concern for national problems in the area of soil and water conservation. The commission is chaired by the Minister of Forest and Soil Conservation and includes executives from various other HMG agencies. The commission is to provide policy guidelines, ensure inter-ministerial coordination and cooperation and review programs in the conservation and natural resource areas (Sainju, 1981).

4. Establishment of District and Panchayat Level Resource Conservation Committees

The Soil and Water Conservation Act of 1982 also authorized the establishment of District Natural Resources Conservation Committees. The RCUP central staff has helped establish these committees in the RCUP catchment areas and also has encouraged the establishment of Panchayat Conservation Committees under the authority of the District Committees.

5. Investment and Intentions of the Sixth Five Year Plan (1980-1985)

According to the Sixth Plan (1981), the greatest problem facing Nepal is the poor economy of the hills and mountain region where the majority of the population lives at subsistence levels. Population pressures and lagging agricultural production have caused people to convert increasing amounts of forest land and pasturage into cultivated land. The Sixth Plan states that as a consequence, the ecological balance was disrupted, productivity declined and the "forests of the Terai were mercilessly ravaged by the immigrants in their reckless quest for employment and food." For these reasons, according to the Plan, it has become imperative that the mountain economy be strengthened and consolidated to provide food and work for the growing population.

The Sixth Plan (1981) makes considerable reference to deforestation and the need to control soil erosion in the hills and mountains. For example, "...to maintain proper balance between nature, population and environment, the Sixth Plan will lay special emphasis on the control of soil erosion and the conservation and development of forest wealth,..."

The Sixth plan also recognizes the importance of population growth which it indicates has reached a "grave proportion." It recognizes that meeting the basic needs of the people will be difficult if population growth is not checked, and hence, proposes extensive programs to reduce birth rates.

6. The 1982-83 Budget Plan

According to the information given by the Minister for Finance, Dr. Y. P. Plant (1982), in the 1982-83 fiscal year a total of Rs. 264 million will be allocated for forest and soil conservation. This sum represents an increase of fifty-nine percent over that of the previous year. Some portion of this amount is derived from donor assistance, but the increase in government contributions is also substantial.

7. Participation by HMG in International Efforts Aimed at Soil and Water Conservation

Participation of HMG in international programs and seminars on soil conservation does not necessarily measure commitment, but the Evaluation Team believes that a recent conference merits mention. On December 5-13, 1982, HMG and FAO hosted in Kathmandu a major International Government Consultation on Watershed Management for Asia and the Pacific. Delegations from fifteen countries participated.

IV. BACKGROUND OF THE RESOURCE CONSERVATION AND UTILIZATION PROJECT

Although concern over erosion and environmental degradation in Nepal goes back many years, the origins of the RCU Project can probably be traced to a development assistance strategy assessment undertaken for USAID/Nepal in June 1977. The assessment concluded inter alia that "The cornerstone of future AID programs -- for at least the next decade and probably longer -- should be to direct additional capital and technical resources to the Hills." The report also included a recommendation that "given the widespread seriousness of the problem [environmental degradation in the hills], it seems imperative that sound action programs in soil and water resource conservation, reforestation and fire wood/animal fodder offtake limitation be planned, beginning on a local basis and certainly in connection with more large scale assistance programs, that would slow up the inexorable process of degeneration."

Subsequent to this strategy assessment, a team of consultants was assembled in the fall of 1977 to undertake a reconnaissance survey which could form the basis of designing a project in the area of soil and water conservation. In December 1977, the team submitted a report entitled "Land Use Practices for the Conservation and Development of Nepal's Soil and Water Resources". In addition to examining the technical and program issues and options involved in attacking the problems of environmental degradation, the report suggested a phased approach to the analysis and design of what would ultimately become the RCU Project.

During the following year, funds were made available for designing the RCU Project and in October 1978 a special HMG interagency coordinating committee was formed for this purpose under the chairmanship of the Director General of the Department of Soil Conservation and Watershed Management (DSCWM). The committee also included a representative of USAID/Nepal. With the participation of representatives of HMG, AID selected the Southeast Consortium for International Development (SECID) from among interested Title XII institutions to collaborate in the design and execution of the RCUP. A Government of Nepal team leader was designated from the DSWCM and the senior SECID representative became co-leader for the project design when he joined the effort in April 1979.

For the ensuing year, an extensive planning and design program was organized and carried out. Eighty-two Nepalese technicians, social scientists, and economists from various agencies plus twelve consultants from SECID and four USAID staff members contributed to the design of the project.

In addition to the draft project paper itself and its associated program and financial documentation, the following separate annexes containing documentation, supporting analyses and proposed plans for each project component were prepared:

- Soils and Geology of Project Areas
- Watershed Management
- Forestry Management
- Irrigation
- Drinking Water Supply
- Livestock Production
- Range Management and Animal Husbandry
- Range and Pasture Production
- Agronomy, Extension and Research
- Horticulture
- Training in Renewable Natural Resources
- Economic Analysis
- Social Soundness Analysis and Role of Women
- Community Involvement
- Participation and Employment
- Organization
- Environmental Information Management
- Household Baseline Study

As initially defined and submitted to AID/Washington in May 1980, the project incorporated a major educational and training program combined with interventions in ten different technical fields directed at four separate catchment areas. The total estimated cost of the project for the initial five-year period was set at \$47.5 million with \$41.0 in grant funds to be contributed by AID and the remainder coming from the Government of Nepal.

During the review of the project paper in AID/Washington, concern was expressed regarding the large scale of the project as well as the great difficulties inherent in attempting to execute a project in four separate catchment areas and so many different technical fields. Organizing and managing an integrated project of this sort would be difficult in any country, but the limitations in Nepal imposed by communications and transportation conditions combined with

government institutional constraints, it was felt, would impose possibly intolerable burdens on the project. Consequently, AID/W was not prepared to endorse the total project as proposed. The project was, accordingly, re-shaped somewhat and reduced in scope. Instead of four catchment areas, activities would be limited to two. A few larger scale water retention and hydropower installations were dropped from the project. Reductions were made in the technical advisory and participant training components to reflect the other adjustments in scale of the project. On July 15, 1980, the project was approved, as altered, with a total authorized level of \$27.5 million from AID and the equivalent of \$5 million to be contributed by Government of Nepal from its development budget.

The RCU Project has two fundamental purposes:

- To assist the Government of Nepal in the protection, restoration and development of a soil, water and plant resource base upon which the rural hill population is totally dependent.
- To assist the Government of Nepal in building an institutional infrastructure at the national, district and community levels capable of designing, implementing and evaluating conservation techniques.

The project has, in turn, two basic components. The first of these is multi-faceted education and training program aimed at developing the technical and managerial staff needed for a long-term attack on the problems of environmental degradation. It involves working with the Tribhuvan University and collaborating with the International Bank for Reconstruction and Development (IBRD) to establish a degree granting Institute for Renewable Natural Resources. The purpose of the institute will be to prepare the needed professional personnel to staff the government programs engaged in conservation and re-forestation. This element of the project also includes support for the in-service Training Wing of the Ministry of Forest and Soil Conservation as well as the training of Nepalese participants on a short and long term basis in the U.S. and third countries.

The second basic component of the project consists of support for a range of conservation and development activities conducted in two major river catchments -- the Kali Gandaki catchment, which includes portions of the Mustang and Myagdi

Districts; and the Gorkha region, which is drained by the Buri Gandaki river and two smaller streams, the Daraudi and Chepe Khola. This latter region is contained entirely in the Gorkha District.

Activities conducted by HMG/N in these field locations with the support of USAID assistance include soil and water conservation, forest management, irrigation, provision of drinking water, livestock and range-pasture management, agriculture development, alternative energy development, and fisheries development. The project also supports inventory and monitoring systems. To facilitate the integration of the various activities, institutional arrangements for coordination have been established at the level of the national government in Kathmandu and at the district level in the field. Most of these arrangements are based on statutes which have recently been put in place by the government to support project activities as well as to facilitate longer term objectives related to decentralization of government institutions.

USAID support for the RCU Project is channeled through two mechanisms. First, technical advisory personnel, participant training, commodity support and construction activities are funded through the contract with SECID. SECID is responsible for supporting the education/training element of the project as well as the field oriented conservation/development effort. Secondly, assistance for HMG activities in the catchment areas is also provided directly through USAID financing for eligible budget items, with the local currency support being channeled through the HMG/N budget.

Following AID/W authorization of the project in July 1980, the basic Grant Agreement with HMG/N was negotiated and signed on August 31, 1980. Contract negotiations with SECID extended over several months and the contract was ultimately signed in February 1981. In the meantime, some SECID staff members had begun to arrive during the later part of 1980 under the framework of the contract with SECID covering the design phase of the project. They were engaged in working with HMG/N to fulfill planning requirements covered by the grant conditions precedent and to help select the first participants to be sent for long-term training abroad. The conditions precedent to the disbursement of project funds for other than advisory personnel were not satisfied until the

latter part of March 1981. Only then could commodity procurement begin and direct project support funding be approved.

Thus, although the project was authorized in mid-1980, actual implementation did not begin on a serious basis until one year later. Consequently, although the Project Paper optimistically projected AID expenditures of \$1 million in FY 1980 and a five-year project period ending in FY '85, any assessment of project activities must take into account the time period which implementation actually began in order to judge performance under the project. The five-year project period should be viewed as beginning in FY-1981 and extending through FY-1986.

V. SCOPE OF THE RCUP EVALUATION AND ITS METHODOLOGY

By most standards, an evaluation of the RCU Project is premature. As explained above, by January 1983 when the evaluation team arrived in Kathmandu, operations under the project had been underway for less than two years. Indeed, in the case of the Forestry Institute (which is to become the Institute for Renewable Natural Resources), three of the four advisors stationed there arrived only in July and August 1982.

However, from the very inception of the project, doubts have been expressed -- particularly in AID/Washington -- regarding the feasibility of successfully executing such a complex project on the scale proposed. Consequently, the Mission decided that a special evaluation should be carried out which would examine the basic assumptions on which RCU Project rests and attempt to reassess their validity in the light of project accomplishments and problems encountered thus far. The scope of the evaluation as prescribed by the Mission raises the following three basic questions: (A copy of the Mission scope of the work is attached as Annex A).

1. Is the integrated approach to project objectives valid as well as workable?
Are there possible alternative approaches?
2. Is the organization structure adopted for the project valid and workable?
This question applies both to the organizational arrangements which have been made within the Nepal government as well as to the relationships which have been established for the utilization of contractor resources.
3. Are local people sufficiently and appropriately involved in meeting project objectives?

The basic issues which underly these questions is that of feasibility; i.e., is there a "reasonable probability that the project can achieve the objectives being sought?"

The Mission scope of work does not explicitly address the educational component of the RCU Project. It was considered by the Mission that this component was a separate -- though related -- set of activities which were much more manageable in scope and scale. AID and university contractors have carried out large numbers of such institutional development projects in the past with reasonable success and consequently it was felt that a special assessment of the sort envisaged for the other elements of the RCU Project was not warranted. However, in the interest of making a relatively complete examination of the project, the Mission agreed that a brief and limited review should be made of educational and training activities as well as the other elements.

The evaluation team was composed of four persons. The team leader was a retired AID foreign service officer with experience in Asia and in the management of multi-sector projects like RCU. In addition, the team included a hydrologist with extensive experience in watershed and forest management, administrative experience and previous technical work in Nepal; an anthropologist with experience in training and evaluation related to integrated natural resource and rural development activities supported by AID; and a Nepalese consultant with wide experience in evaluation, public administration and training activities, with special exposure to integrated rural development programs in Nepal.

The American members of the team spent three days in AID/W where they reviewed the project background materials and met with representatives of the key offices concerned with backstopping and monitoring the RCU Project. They also met with representatives of SECID and the three universities primarily concerned with contract execution -- Duke University, Western Carolina University, and Virginia Polytechnic Institute and State University.

The initial five days in Kathmandu were spent reviewing project and other background materials and meeting with representatives of each of the line departments and agencies engaged in the RCU Project. Subsequently, three team members flew to Jomson, the project headquarters for the Mustang district, and the team leader drove to Hetaura to review progress at the Institute of

Forestry. On return to Kathmandu, the team leader flew to Mustang and then with the rest of the team moved on to Beni, the project headquarters for the Myagdi District. Following four days in Beni, which included two days of field visits to project sites, the team traveled to Gorkha project headquarters. After three days of headquarters and field activities, the team returned to Kathmandu. The remaining time was spent assembling materials, writing the report and conducting interviews with HMG and SECID team members to supplement field observations.

In addition to meeting with project staff and visiting project field activities in all three districts covered by the project, in two of the districts, Myagdi and Gorkha, extensive project discussions were held with the elected District Panchayat Chairman and other elected representatives from village and panchayat levels. The team met with the Catchment Coordination Committees in both Beni and Gorkha and traveled to project sites with district officers of various line agencies carrying out activities under the RCU Project.

VI. THE INTEGRATED MULTI-SECTORAL APPROACH TO RESOURCE CONSERVATION AND UTILIZATION

Evaluation team efforts to assess the issues associated with multi-sectoral integration took three principal forms: extensive travel by foot, helicopter and horseback in the project areas of Mustang, Myagdi and Gorkha, and in areas in between; review and study of current documents and analyses bearing on this issue; and interviews with RCUP staff and HMG officials at all levels. These activities involved extensive discussions with officials in the field and in Kathmandu, and with villagers and farmers.

Conditions in the Hills

Two primary impressions were gained by the team. First, even to the most casual observer, the land in the hills is more or less saturated in terms of human occupation and use. Only the most inaccessible areas are relatively unused; seemingly any accessible land is either farmed, grazed, or used for fuelwood and fodder, and many areas are put to more than one use. Clearly, many areas are also overused and abused. This general observation is important because it leads to the conclusion that little or no slack remains in the hills in terms of living area; there is no feasible way to expand living area substantially either for the existing population or for the enlarging generations to follow. If the currently used land is not made more productive, people will be forced to migrate, a development being officially discouraged by HMG because of the serious problems migration has caused and will cause elsewhere (Sixth Five-Year Plan, 1981).

The second major impression is that relatively little single crop or market dependent commercial specialization in agriculture is found among the farmers of the hills. That is, most farm families produce or find and harvest most of the commodities and products required to satisfy their basic needs such as crops, livestock, fuelwood, wood products for construction and water. Limited commodities flow into the hills from outside, partly because of the difficult topography, lack of infrastructure, and a lack of income or capital to invest in outside inputs or consumer goods; thus, to survive, individual families must be highly independent and largely self-sufficient. Another dimension of this

observation is that most of the farm families have a partially subsistence existence combined with the sale of labor or crafts either locally or elsewhere with little or no reserves for emergencies. They live close to the margin and generally cannot prudently take risks in terms of their basic needs. Further, some are unable to meet even their minimum needs and are so poor that they are forced to migrate either seasonally or permanently, as mentioned above.

To satisfy basic needs, each farm family must utilize all major sectors of the mountain ecosystem: the bottom land and side slopes for crop production, steeper slopes for pasture, and trees and forest, where they can be found, for fuel, fodder and construction wood. They are dependent on all of these sectors, and since they are subsistence farmers with little reserves or substitution capability, exclusion from or decline in any of these ecosystem sectors could have grim repercussions. Thus, the team concluded that to understand the situation of farm families and to develop effective soil and water conservation programs logically, the whole system, all sectors, must be taken into consideration.

This fundamental conclusion, based on needs of farm families or, in more general terms, social considerations, is directly reinforced by physical considerations relating to watershed properties. The hydrological behavior of watersheds in terms of runoff quantity and timing, erosion, and sediment production is the cumulative result of inter-linked and inter-dependent subcomponents of the basin. An important implication of this concept is that a hydrological perturbation, in terms of a spot undergoing accelerated erosion or a locality where excess surface runoff is generated, will often adversely impact lower areas in the basin or areas and structures further downstream. For example, overgrazed pastures and forests up-slope can generate increased surface runoff which flows to the bottom land and erodes away productive cultivated land. Degraded up-slope areas also erode and are the source of sediment which is transported downhill onto productive terraces or into irrigation canals. Thus, a program which focused only on increased agricultural production may well be for naught if up-land conditions are degraded. Or a program which focused only on improving up-land areas without providing some kind of off-setting increased production elsewhere, while forests and pastures were at rest during rejuvenation, would not be feasible because the farmers could not survive without fuel, fodder and grass

for their animals. Indeed one of the villages visited by the team was facing exactly this problem. An area once in forest but more recently used for grazing had become unstable and was threatening land below used for the local school. The villagers, with support from RCUP, had replanted the area in trees, but were now facing the problem of how to obtain adequate fodder for their livestock. The option of moving farmers to other locations in the hills is not viable because, as pointed out above, no new significant land areas are available.

Another well established and important principle in watershed management is that ecological deterioration on even small areas in a basin can cause adverse off-site damage due to erosion, sedimentation, mud-rock flows, avalanches and accelerated surface runoff. Roads are a case in point. They may disturb only ten percent or less of a watershed, but if improperly constructed, can cause considerable damage in the basin and beyond. Excessive grazing here and there can also have substantial damaging effects in terms of erosion, sedimentation and accelerated surface runoff. Improperly constructed trails can have the same effect.

For the social and physical reasons discussed above, the team reached the tentative conclusion in the field that an integrated, multisectoral approach to soil and water conservation in the hills was sensible and probably the only way to come up with long term solutions to the problem.

To examine the appropriateness of this conclusion, the team reviewed the work of other analysts and donors. An exhaustive review was not possible in the time available, but a small sampling of recent reports and studies was completed. According to an IBRD report (1979), the organizational basis for development in the hills appears to depend on integrated rural development programs for two basic reasons: (1) the many activities that need strengthening in order to establish households that are economically viable; and (2) the wide dispersal of the hills population and the difficulty of gaining reasonable access to the people from any central location. The report stated further that integrated rural development is the best hope for addressing the problems faced in the hills. Another IBRD report (1981) pointed out that activities are needed in reforestation, livestock development, fodder improvement, irrigation development and in other sectors also.

The Asian Development Bank (1982) made an even more direct statement: "The development of several subsectors -- agriculture, livestock, fisheries and forestry -- is considered an inter-related whole. Segmented or piecemeal approaches to problems in different sub-sectors have not produced desired results in the past." This report goes on to say that livestock and forestry should be developed in a way that reinforces and complements crop production and environmental protection.

According to Alheritiere (1982), conditions in Nepal are such that most consumption patterns are "incompressible" indicating that any reduction in the availability of one resource must be "immediately" compensated by alternative sources. He further stated that the environmental problems of Nepal have many interrelationships with issues that may appear to be rather remote from the problems, but which in fact have an immediate effect on them. The problems "... cannot be solved without efforts in every sector falling under integrated rural development, whatever over-use may have been made of the concept."

Based on a field study, Wyatt-Smith (1982) concluded that the mixed farming systems in the hills are far more dependent on the ecosystem as a whole than most observers realize. The stability of land, quality, quantity and constancy of water supplies, forest products for poles, fuel, timber, compost, litter, and medicinal and food plants, all affect the hills farming system. He pointed out that forest land is an integral part of the farm just as much as livestock and cultivated land. He stated "The land-use problems in the hills,... will only be nearer solution when the farming system as a whole and its relationship in its entirety to the local ecosystem are fully taken into account." He recommended a multidisciplinary ecosystem approach to the problems rather than a narrow sectoral approach to avoid ecological disaster. Based on a sample survey, Wyatt-Smith (1982) concluded that each family of five or six in the Pokhara and Tansen area with an average farm size of 1.25 hectares requires 0.3 to 0.6 hectares for fuel, 3.5 hectares for fodder and 0.4 hectare for timber to sustain present day activity using present forest and agricultural management practices.

And finally, a report by Nelson (1980) on integrated watershed management as applied to Nepal had the following definitions:

- 1) "Watersheds are systems of interconnected parts. A small area in poor condition has significance beyond that suggested by its size."
- 2) "Watershed management requires action on all lands regardless of their condition. The type of action is, of course, determined by the condition of the land and ranges from no changes or slight modification of current land use practices to closure and high investment in structures."

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Government of Nepal Policy Orientation

Review of relevant documents as well as interviews with senior officials made it clear that HMG is committed to integrated, multi-sectoral approaches to rural conservation and development problems. In the Sixth Five-Year Plan (1981), integrated rural development is shown as one of eleven major policy commitments by government; Mr. Mohan Man Sainju, member of the HMG National Planning Commission (1981), pointed out that natural resources management is multisectoral and multidisciplinary in character. In 1977, HMG published a program, planning and budgeting document for the Department of Soil Conservation and Watershed Management that outlined a national program in soil and water conservation for a twenty-five year period. The report included five principles, one of which was "To create an environment of balanced and complimentary land use by employing soil and water resource management on an integrated watershed basis." The proposed program emphasized a multi and interdisciplinary approach.

During interviews with HMG officials, the government's commitment to an integrated approach to watershed protection and management was repeatedly emphasized -- although just as often the problems facing such integration were acknowledged.

Thus, as far as the Evaluation Team could determine from official documents as well as from a wide range of interviews, the government has taken a clear policy position in support of an integrated approach to national resource management.

Previous Experience with Multi-Sector Integrated Projects

During the late 1960's and the 1970's, the multi-sectoral integrated approach was adopted by several rural development programs in Nepal. The Jiri Multipurpose Development Project and the Remote Area Development Program are two of the first examples of multi-sectoral integrated projects in Nepal. The Jiri Multipurpose Development Program, though small in territorial coverage, is significant as the first HMG experience in utilizing a multi-sectoral integrated approach, working through line agencies to address the problems of the rural population of a self-contained valley in Dolhka District in central Nepal. The project was begun in the late 1960's and was later merged with the Integrated Hill Development Project (IHDP).

The Remote Area Development Program, also initiated in the 1960's, covered a broader area which included eighteen contiguous districts. Under the program the idea was introduced of program supervision by a high-level central committee to work with several line agencies to make the services of these agencies more available and better funded in northern Nepal. These early projects, while not central to the development strategy articulated in Nepal's Third and Fourth Five-Year Plans, became recognized as significant experiments in the use of multi-sector integrated activities.

The Fifth Five-Year Plan (1975-80) rearranged development priorities from an emphasis on physical infrastructure to an emphasis on investments in the agricultural and social sectors. This plan also clearly stated a policy "to integrate the development process with the Panchayat system." During this period, several other integrated rural development, multi-sectoral packages were designed and implemented. These programs sought changes in the HMG style of operation and in the relationships among line agencies.

Two models were considered for the implementation of such programs: (1) to create a separate entity for the implementation of the project over a period of time, and (2) to integrate the project activities with the line agencies so that these agencies would undertake the project activities as part of their regular

activities. After long debate on the pros and cons of these two models of operation, the latter model was adopted by the government to engage and involve the line agencies in the activities under the programs as a first step toward institutionalization of such activities. It took some time for the line agencies to adapt to their newly expanded responsibilities. Gradually, the line agencies started accepting rural development components as one of the activities that they should undertake while discharging regular line activities. The rural development programs were integrated with the regular programs of the departments and extra project funds and staff were made available in order to carry both regular as well as project activities. One of the responsibilities taken by HGM was gradually to convert the personnel of the project into the regular cadre so that with the termination of the project, the same level of services would be made available to the particular rural areas in question.

Initially, the lead ministry for the purpose of coordination was the Ministry of Home and Panchayat. A Coordination Committee for all such projects was formed with the members from the line agencies at the central level to review programs and progress and to discuss the problem of central and operational level coordination. This committee, under the chairmanship of the Home and Panchayat Secretary, was the central coordination committee and all the rural development projects worked under the umbrella of this committee. For facilitating activities among various line agencies, a coordinator for each rural development project was appointed by HMG.

In the late 1970's, many rural development projects were formulated and implemented in various parts of Nepal. During this period, the government became more concerned with streamlining the integrated approach in line agencies. Also, the government was concerned with encouraging the involvement of popularly elected representatives at the District and Village Panchayat levels in order to make the implementation more effective.

In 1975, a District Development Plan was initiated to bring unified and integrated district-level administration under the Chief District Officer (CDO). The plan also provided for the preparation of an annual district plan in

collaboration with the district level officers of the various line agencies as well as the people's representatives. The CDO was designated as the district's coordinator of all projects in his district.

An integrated Panchayat Development Design document was issued by the government in 1978 as a statement of its policy to integrate the development activities of the districts with the panchayats. One purpose of the document was to form several committees to undertake coordination at different levels of administration. Accordingly, there came into existence four committees: the Cabinet Committee under the Prime Minister to look after the policy issues regarding rural development programs, the Coordinating Committee under the chairmanship of the Minister of Home and Panchayat (later designated Panchayat and Local Development), the Executive Committee under the chairmanship of the Secretary of the Ministry of Panchayat and Local Development, and the Zonal Committee under the chairmanship of the Zonal Commissioner.

Each Rural Development Project (RDP) has a provision for a project coordinator on behalf of HMG. This person serves as the liaison between the lead ministry, the project and executing line agencies.

The number of expatriates present in rural development projects under review ranges from one to eight. The number of expatriates has generally been based on needs perceived by the donor agencies. The diversity in the functions of expatriates varies from a defacto management role in the Integrated Hill Development Project (IHDP), an activity supported by the Swiss government, to a more or less advisory role in several multilateral-aided projects. The role of expatriates often depends on the method of controlling the aid contribution. In IHDP, the aid contribution is directly controlled by the aid agency. In such a case, the HMG coordinator simply countersigns checks for disbursement as a formality. Thus, the management of such projects is substantially the responsibility of expatriates. In the Koshi Hill Area Rural Development Project, a British funded activity, seven and one-half percent of the total donor aid contribution constitutes a Technical Cooperation Fund (TCF) administered by the donor, and the rest of the contribution is channeled through the government.

Other projects utilize reimbursement systems to cover local cost components. Most of these systems result in cash flow problems due to the difficulties involved in obtaining suitable documentation from line agencies on a timely basis (B. B. Pradhan, 1981).

The seven IRD projects (See Annex F) at present cover twenty districts of Nepal which include a total population of 3,334,454, approximately one third of the total population of Nepal. The total cost involved is 1,549,173,000 rupees (US\$109,090,669). The major components included in these projects are agriculture, irrigation, cottage industry, water and energy, health, forest, transportation and livestock.

In addition to these integrated rural development projects, the government has carried out several other multi-sectoral programs in areas such as forestry, watershed management, health and agriculture.

A Community Forestry Development and Training Project is being supported by the IBRD and FAO. Its purpose is to assist village panchayats in the hills of Nepal with the establishment of 12,000 hectares of panchayat forests, the management of 40,000 hectares of Panchayat Protected Forests and the distribution of 900,000 seedlings for private planting. The project works in twenty-nine hill districts of Nepal. At the national, district and village level, the project incorporates motivation and education activities to promote people's interest and participation in community forestry (P. K. Manandhar, 1982).

The Phewa Watershed Project (FAO, HMG) and Tinnu Watershed Management Project (Swiss, German joint project) are also examples of multi-sector integrated projects. The Phewa Watershed Management Project has achieved significant results in planting of trees, supplying fodder and firewood, and reversing environmental decline over the approximately ten years it has been in operation. This project has benefitted from the King's personal interest in the project area.

The Tinnu Watershed Management Project, which has been underway for approximately three years, has also followed a multi-sectoral integrated approach. However,

the project has not been in operation long enough to make reliable judgments regarding its effectiveness.

The Hill Food Development Project, the Hill Irrigation Development Project and the Integrated Cereal Development Project are all activities which attempt to respond to severe problems of food shortage faced by the village people of the Hills. The projects encompass the integrated efforts of various agencies to deliver the technological packages and extension to families.

In order to provide improved health services to the villagers, the Integrated Community Health Program was initiated and supported by USAID and UNDP. It incorporates paramedic training and the design and establishment of health posts to provide multiple services. Previously, health services were provided through vertical line programs, each having separate field offices such as immunization, family planning, maternity care and malaria eradication. In order to minimize the duplication of activities and manpower and to enlist people's participation, the Integrated Community Health Program was introduced in forty districts of Nepal. The integrated project has improved efficiency and outreach capability to the family level.

To conclude, Nepal has undertaken a wide range of multi-sectoral integrated projects including rural development, agriculture, watershed management and social programs. This multi-sectoral integrated approach has been relatively widely adopted because of the weaknesses shown by past experiences in single sector approaches such as single health programs or narrowly focused physical infrastructure programs such as road construction.

The administrative capability of the government is steadily increasing at the center and the district level institutions are being strengthened through the delegation of greater authority and the addition of more personnel, resources and technical know-how. District level officials increasingly work together and tend to seek solutions from each other. In addition, the number of young and dedicated district administrators and technical personnel seems to be growing.

The multi-sectoral integrated approach is also being reinforced through the recently enacted "Decentralization Act" mentioned elsewhere in this report. It reflects the HMG intention to enlist the active participation of district and village level elected representatives in the development activities of the district.

All of the multi-sector activities have experienced difficulties to one degree or another. A number of studies, both formal and informal, have been undertaken over the years to assess their effectiveness. However, there is not at this stage a consensus on how well or how poorly the basic concepts have fared. There probably is agreement that the smaller the number of different activities involved in a project, the greater is the likelihood that coordination can be effective. In any event, however, the government appears committed to making integrated approaches a central feature of development in rural areas. In this context, therefore, there is not likely to be any final answer, but rather a continuing re-definition of the problems and a search for improved solutions.

Conclusions

The realities of existing hill farming systems as well as the technical considerations involved in watershed management argue strongly for the multi-sector, integrated approach adopted for the RCU Project. The government has recognized a requirement for integration in several previous efforts to organize and manage programs in rural Nepal. While there have been some efforts to assess the experience gained thus far, the results do not provide a conclusive answer to the question of whether multi-sectoral, integrated programs in general are successful or not. Certainly a number of problems have been encountered and varying degrees of success and failure have been experienced by the several projects. However, other than the common-sense view that it is easier to manage a smaller number of activities than a large number, there is no consensus regarding any relationship between some optimum size and complexity and the likelihood of success.

The Evaluation Team concluded that there is a hard core of activities around which a workable RCU Project must be organized -- soil and water conservation, forest management, agriculture, and livestock and range management. This core of activities cannot be compromised without unacceptable risks to project objectives. Beyond this core, there are related interventions which require a lesser degree of coordination or integration -- e.g., irrigation, drinking water supply -- which should also be included. This is particularly true at this relatively early stage of project evolution as a heavy emphasis is placed on determining the optimal mix of activities for impacting on environmental and developmental objectives.

VII. ACHIEVING MULTI-SECTOR INTEGRATION IN THE RCUP

Implementation of RCUP in the field involves the participation of four ministries and nine agencies as follows:

1. Ministry of Forest and Soil Conservation

- a. Department of Soil Conservation and Watershed Management
- b. Department of Forest

2. Ministry of Agriculture

- a. Department of Agriculture
- b. Department of Livestock Development and Animal Husbandry
- c. Department of Cooperatives

3. Ministry of Water Resource

- a. Department of Irrigation, Hydrology and Meteorology
- b. Department of Water Supply and Sewerage

4. Ministry of Panchayat and Local Development

Non-Departmental structure which includes Small Water Supply, Small Irrigation and Small Bridges.

5. Agriculture Development Bank

In addition, under RCUP, the Ministry of Forests and Soil Conservation Training Wing and Tribhuvan University Institute of Renewable Natural Resources are providing certificate and degree programs and in-service training activities in natural resources management to meet the requirement for trained technicians necessary to institutionalize the resource conservation and utilization approach throughout the government.

The difficulties facing the RCUP as it attempts to coordinate the various ministries and agencies are substantial. Horizontal coordination between old, well established, vertically-organized line agencies, each with its own distinct traditions, responsibilities and priorities, can be difficult, to say the least. Lines of authority and accountability can become obscure as project activities become meshed with the ongoing programs of each agency. It becomes very difficult for a project like RCUP with a relatively small staff to monitor progress and implementation when project components are divided among nine different agencies operating in remote field locations. These and other questions of coordination warrant serious concern.

The problems involved in multi-sectoral coordination among line agencies are recognized by HMG. In 1981, a then member of the HMG National Planning Commission and now Vice Chairman, Mr. Mohan Man Sainju (1981), commented "The words coordination and cooperation are popular, but, in practice, they are difficult to implement. They involve the attitudes of the people involved in the game, and changing attitudes is a very difficult process." Joshi and Upadhaya (1981) referred to the difficulties in achieving multi-sectoral objectives without a strong government authority from grass-roots to the policy-making level. They have also recognized the strong resistance to horizontal coordination that can occur between old, vertical line agencies with strong feelings regarding the protection of their own functions and authority.

Perhaps recognition by HMG of the difficulties encountered in other multi-sectoral projects contributed to the formulation of the strategy for achieving coordination between agencies under the auspices of RCUP. At the outset, it should be recognized that the span of coordination in RCUP is not as large as that involved in most integrated rural development projects which often include health, education and infrastructure development as well as a range of agriculture activities. The RCUP focuses project inputs on crops, livestock, soil, trees, grass, and water; resources that are closely linked by strong common elements in the interdependent biological and ecological environment of the people.

Further, only four ministries are involved and two, the Ministry of Water Resources and the Ministry of Panchayat and Local Development, are responsible

for irrigation and water supply development. These sectors tend to be confined in time and space, are largely managed through a contract process and not characterized by a continuous management relationship with other sectors like livestock, forest or upland agricultural development. Thus, the main bulk of activity under RCUP requiring effective coordination involves two ministries: the Ministry of Forest and Soil Conservation and the Ministry of Agriculture. Of the six agencies in these ministries, only four, the Department of Soil Conservation and Watershed Management, the Department of Forest, the Department of Agriculture and the Department of Livestock and Animal Husbandry, have heavy coordination requirements. The DSCWM is the lead coordinating agency for the entire project, so it is likely to be responsive and flexible if for no other reason than to enlist the cooperation and participation of the others. In sum, the span of control and coordination requirements for RCUP is not as large as appearances might suggest.

Nonetheless, coordination requirements for RCUP are substantial and the difficulties should not be minimized. In recognition of these difficulties, RCUP has taken several measures to bring about integration, some of them innovative and pioneering. These measures are an important part of the project. In fact, one of the specified objectives of RCUP is to "promote interagency coordination and cooperation to solve and carry out the critical and complex programs of resource conservation and utilization in Nepal." As discussed above, RCUP has utilized the traditional, vertically organized structures of government agencies found in most other countries. But RCUP has generated and developed new forms of inter-agency dialogue, discussion and decision making at various levels. Further, RCUP is reinforcing decentralization initiatives at village panchayat, district and national levels. Obviously, considerable risk is involved; the effort is experimental in many respects and, of course, may or may not succeed. It is too early to tell reliably whether or not the goals of finding and demonstrating ways to encourage effective interagency and political/administrative cooperation will be achieved. Steps taken thus far are as follows:

A National Council for the Conservation of National Resources (NCCNR) was established as a result of RCUP. It has the following membership:

Minister of Forest and Soil Conservation	Chair
Assistant Minister of Forest and Soil Conservation	Vice Chair
Vice Chancellor, Tribhuvan University	Member
Member, National Planning Commission	Member
Secretary, Ministry of Forest and Soil Conservation	Member
Secretary, Ministry of Agriculture	Member
Secretary, Ministry of Water Resources	Member
Secretary, Ministry of Panchayat and Local Development	Member
Secretary, Ministry of Transport and Communications	Member
Distinguished Individuals Engaged in Environmental Affairs	Two Members
Director General, Department of Soil Conservation and Watershed Management	Member & Secretary

The responsibilities of the NCCNR include the following:

- To advise HMG on national natural resource conservation strategies, policies and actions before they are promulgated.
- To help HMG develop new policies, guidelines, actions and strategies for the conservation of natural resources.
- To help coordinate integrated resource conservation and utilization projects jointly implemented by several HMG line agencies.
- To review project implementation plans of such projects and monitor their progress.
- To promote measures that minimize the adverse environmental impacts of new dams, reservoirs, irrigation schemes, roads and agricultural development programs.
- to be final advisor to HMG on all conservation-related projects after they and their consistency with national policy have been carefully reviewed.
- To review district and panchayat level resource conservation committee actions and provide direction as needed.

Activities of the NCCNR should help provide a favorable climate to the top level of government for integration and coordination across agency lines. Staff support for the Council has not been adequately developed and the Evaluation Team has the impression that greater progress in policy articulation and monitoring could be made if a means can be found to provide back-up support for the Council. The Council is scheduled to meet twice yearly.

The NCCNR is organized to deal with broad policy issues. Another committee has been established to deal with project implementation needs and the associated

coordination. The Project Implementation Committee (PIC) is composed of the following:

Secretary of Forests and Soil Conservation	Chair
Heads of Participating Line Agencies	Member
USAID/Nepal Representative	Observer
SECID Representative	Observer
Director General, Department of Soil Conservation and Watershed Management	Member & Secretary
Project Coordination/RCUP	Staff Support

The Project Implementation Committee meets quarterly.

At the district level, RCUP has promoted the organization of District Conservation Committees, as authorized in the Soil Conservation Act of 1982. The committees are comprised of the district line agency officials and the Chief District Officer who is HMG's senior administrative representative in the district as well as Catchment Conservation Officer from the DSCWM who serves as a member and secretary.

A key feature of this committee is that it is chaired by the District Panchayat Chairperson, the senior elected official in the district with political links to village elected leadership. Thus, an elected official who can establish direct access to the top levels of the central government, particularly the legislative element, assumes a lead role in seeing that coordination among line agencies occurs in the field at the district level.

The formal duties of the District Conservation Committee, which meets at least every three months, are to:

- Review the planning and implementation of the program and decide on work priorities and funding needs.
- Arrange for the assured supply of resources necessary for the smooth implementation of the program.
- Maintain coordination among different components of the program.
- Coordinate and include RCUP activities in district plans to avoid duplication.
- Review progress of the program.

While reviewing field operations and accomplishments, the Evaluation Team met with District Conservation Committees in Mustang, Myagdi and Gorkha. In each case, the committees appeared active, well informed and functional at this relatively early stage in the project. The District Panchayat Chairpersons for Myagdi and Gorkha demonstrated particularly aggressive, positive leadership in support of RCUP. Given the legislative mandate and the apparently vigorous initial functioning of the committees, they appear to have a substantial role to play in ensuring that resources from RCUP and other sources are properly used. However, the elected district chairpersons observed most closely by the Evaluation Team were obviously very busy with a wide range of political and administrative demands on their time. They have no staff resources to assist them in their tasks. Consequently, the Evaluation Team believes it would be sensible to provide some direct staff assistance, initially on an experimental basis from RCUP resources, to strengthen the planning, coordination and monitoring capabilities of the district chairperson in the three districts.

Another committee has been established in certain village panchayats where the real impact of RCUP must be felt for success to be achieved. These committees are termed Panchayat Conservation Committees and are chaired by the elected leaders of the village panchayats, the Pradhan Panchas. The Soil Conservation Assistant for the Department of Soil Conservation and Watershed Management serves as secretary. Other HMG officials, primarily extension agents at the panchayat level, also serve on the committee. These committees are to be responsible for the management of Panchayat Protected Forests and for the reforestation of Panchayat Forests (discussed later in this report). They work with RCUP extension personnel in identifying proper sites for project activities as well as establishing priorities for additional project activities such as conservation structures, drinking water and small-scale irrigation systems.

The Evaluation Team met with some Panchayat Conservation Committees in the field. Although awareness of RCUP and conservation is growing at this level, the team gained the impression that Panchayat Conservation Committees are at an early stage of development and need to be closely coordinated with the village panchayat and assembly functions.

In sum, substantial efforts to coordinate RCUP activities across agency lines seem to be well underway at the national, district and panchayat levels of government and should help create a climate that will facilitate success in this experiment.

Under the RCUP, other steps are being taken to integrate the involvement of line agencies in soil and water conservation. Chief among these is the incorporation of USAID local cost funding for agreed-upon project activities in the participating line agency budgets. In this manner, attempts are being made to institutionalize soil and water conservation efforts by integrating them into regular budgets and programs of the various line agencies. Although this approach may have some added complexities as compared with possible other approaches, it has the advantage of involving the line agencies more directly and completely in the activities of RCUP, and hopefully in the efforts that will carry on when RCUP comes to an end.

In another activity, RCUP is providing support for both long and short term training of line agency personnel with the full expectation that after training is completed, these individuals will go back to their parent agencies. Of course another expectation is that such personnel will be involved in integrated, multi-sectoral soil and water conservation programs working through their line agencies in the future.

Another step RCUP has taken to encourage cooperation and coordination across line agencies is the planned establishment of Service Centers at various locations in the districts. The Service Centers are to be staffed at common locations by personnel from the line agencies such as the agricultural officer, the forest officer and the livestock officer. The particular combination of officers will vary from site to site depending upon needs of the area, past commitments and probably other factors. But the basic objective of placing these multi-disciplinary teams in common facilities appears to be within reach. Sites for the Service Centers have been selected, designs have been completed and construction is about to begin.

Alternative Organizational Arrangements in Government to Deal with Soil and Water Conservation

Given that an integrated multi-sectoral approach to problems of soil and water conservation is called for, various alternative organizational schemes to achieve integration can be conceived. The approach adopted by HMG has been described above. In addition, the evidence suggests that HMG is sufficiently flexible to reorganize to meet the requirements if the existing structure appears to be less effective than other alternatives. There are probably several potential alternative approaches or variations which might be considered. For purposes of this analysis, the Evaluation Team chooses to focus on one primary alternative that has received some recent attention. A suggestion has been made that a basic reorganization be undertaken resulting in the creation of a new Ministry of Natural Resources (Johnson and Brownell, 1979). The basic components of this proposed ministry would include agriculture, forestry and water development. The reorganization would involve changes at the national, zonal, district and village levels. The establishment of such a ministry would probably improve coordination between sectors because one minister would be in charge of all the principal activities, fewer people would be involved, and communication lines would be shorter. Although the components embodied in such an approach have merit, the team has reservations on several grounds. Such a reorganization would undoubtedly be a wrenching experience and would likely divert an enormous amount of administrative energy and time away from the real problems that Nepal faces in soil and water conservation, agriculture and forestry. How many years would such a major reorganization consume before the problems of the countryside would again be adequately addressed? Does Nepal have the time? Would HMG have available sufficient managerial capability to implement and sustain such a reorganization? An ambitious reorganization on this scale would be costly in a country with scarce human as well as financial resources. On balance, the Evaluation Team supports the conclusion reached by Alheritiere (1982) on the problems imposed by major reorganization in Nepal: "To avoid scarce resources being wasted, the first thing is to make the best use possible of existing laws and institutions."

Alternative Organizational Schemes at the RCUP Level

Alternative approaches in RCUP for achieving multisectoral integration are possible. One alternative would entail the establishment of an umbrella, self-sufficient staff group consisting of personnel deputed from line agencies to RCUP. The advantage of this approach would be:

- The project staff would include all the essential capabilities needed for implementation with only minimal dependence on cooperating ministries.
- Much less effort would be required for coordination.
- Relatively simple to operate.
- Likelihood of more immediate results would be higher.
- Staff commitment might be higher as a result of greater autonomy and incentives.
- A minimum of effort would be needed to "sell" the programs to other agencies.

The disadvantages to this approach include:

- An atmosphere of coordination and cooperation among line agencies would not be promoted.
- The likelihood of continuation of the type of activities sponsored by the project after donor inputs ended, including financial and expatriate help, would be reduced.
- Environmental resource management sensitivities and capabilities of other line agencies that support balanced development would not be promoted.
- The overlap in jurisdiction of line agencies would tend to promote jealousy and conflicts.
- The special benefits, recruitment power and resources available to special project staff would cause rivalry with regular government staff.

The organizational model selected for actual RCUP implementation is a second alternative. The concept involves a relatively small scale project staff with the primary purpose of facilitating coordination among the HMG agencies through budget support to regular and new programs within the scope of the project's concept. Foreign advisors are attached as a team to the project coordinator's office, serving multiple functions. The advisory functions, in concept at least,

include working closely with the headquarters personnel of the line agency which has greatest responsibility for delivering services or executing activities in each advisor's specialty. Expatriate advisors also have a staff function to the project coordinator advising him on the technical feasibility of activities. They serve as visiting or resident advisors and inspectors, checking on progress toward various goals and targets in the project areas. They also prepare reports, analyses and planning documents to meet donor requirements. In RCUP, the team of expatriate experts has been given some unusual powers and functions, including the hiring of special staff and contractors, the design and construction of public works, and procurement of foreign commodities for delivery to HMG for sub-project purposes.

The advantages of this approach are:

- Cooperation and coordination among line agencies has been promoted.
- Capability for continuation and expansion of project-type activities is being built within the regular programs of line agencies.
- Resources and commodities are accruing directly to line agencies and are used by regular HMG employees.
- The small central staff does not seem to cause jealousy and rivalry--except with other projects and activities outside the project area.
- Expert advice is being given to the government officials with responsibility for on-going design and implementation, and not only to a special project staff.

The disadvantages to this approach are:

- Project staff are not autonomous from usual regulations and procedures which can impede implementation by lack of manpower and various delays.
- Coordination and management, both vertical and horizontal, requires a great deal of staff effort and are time-consuming.
- Lines of authority are fuzzy and cooperation is fragile.
- Start up time may take longer.
- Staff are torn between commitments to a career in a line agency and project goals.

- Foreign advisors work on many different functions and tasks without sufficient vertical supervision based on project directives.

Conclusions

In the field and at the center, the team discovered no persuasive evidence to suggest that any substantial changes are needed. The effectiveness of multi-sectoral integration in RCUP is not yet proven beyond doubt, but after the usual initial delays in project implementation, progress is being made. Thus far there is no evidence to suggest that the approach being followed cannot reasonably succeed. The team found that the span of control and coordination, although substantial, principally involves only two ministries and is focused on closely related resources with a basic commonality: crop, livestock, forests, soil and water. Coordination mechanisms are in place at the national level (National Council on Renewable Natural Resources, RCUP Implementation Committee), the district level (District Conservation Committees), and at the village level (Panchayat Conservation Committees). Agency participation is being encouraged by a budget process that allocates funds to the line agencies for approved project activities and RCUP is providing training and education support for the line agencies themselves. Both measures should tend to involve and commit the agencies to the concept that RCUP is promoting. In addition, RCUP is developing a series of multi-agency service centers throughout the districts; centers which will house together the officers of the participating line agencies. All of these steps seem sensible and the team believes that together they will contribute to project success.

The risks involved in changing substantially the current directions, which now shows signs of taking root would be substantial. At this point in time, to unravel and attempt to reweave the fabric of organization and integration that has been set in place at all levels of government would surely cause confusion from the villages to Kathmandu, would probably adversely affect the credibility of RCUP, including that of both HMG and expatriate staff, and likely would lower the morale of key participants who have dedicated much professional and personal effort to this program, particularly HMG staff and officials.

VIII. RCUP STRUCTURE AND OPERATIONS

Given the Evaluation Team's recommendation that it would be unwise to reorganize the project, either for the purpose of simplification, better integration of project activities or creation of a more centralized project office charged with direct implementation, it is important to understand the current organization of RCUP central staff in order to provide a framework for suggestions for changes and improvements.

The concept behind RCUP operations is that special project funds should reinforce and not compete with regular functions of HMG line agencies. Therefore, the project itself is implemented through the lead agency, the Department of Soil Conservation and Watershed Management, (DSCWM) utilizing a small staff headed by a project coordinator, detailed from DSCWM to the project.

AID's direct contract with SECID provides for an inter-disciplinary expatriate team to be largely stationed in the capital city with managerial responsibility for specialized technical and applied social science services to the project, oversight on contracts for specified public works, and authority to procure, import, distribute and oversee the use of project-related commodities. The project coordinator and SECID's team leader are viewed as the link points for interaction between the technical input of SECID (in catchment intervention) with the programming and implementing aspects of RCUP activities.

The Project Coordinator

As mentioned previously, eleven agencies are involved in the activities funded under RCUP. The project coordinator maintains formal liaison with these agencies through the Project Implementation Committee (PIC) of which he, as well as high level representative of the participating agencies, is a member. He maintains informal liaison with the agencies through two methods: (1) telephone and personal contacts as needed to resolve problems and answer questions; and (2) field visits to project areas where he meets with officers from all agencies involved. In each agency headquarters, one person is assigned to be that agency's coordinator for the project. The project coordinator works closely with

these other agency coordinators. He is also a trouble-shooter, dealing with different levels of politically-generated complaints about project activities and delineation of the catchment areas. He participates in regular discussions with AID on project monitoring and flow of funds. He works with appropriate HMG authorities to facilitate the planning and budgetary processes. In addition, he works closely with DCSWM field officers, principally the CCOs, in facilitating project integration through CCC meetings and field inspection trips.

The project coordinator's office has three sections which report to him: (a) an Administrative Section; (b) an Accounts Section; and (c) a Technical Section. The Administrative and Accounts Sections work directly for the RCUP and are charged to HMG budgetary project-support funding for central staff. The staff for these sections are drawn from HMG personnel detailed to the project and they work for the regular HMG salary scale. The Technical Section, composed of eight officer-level and ten non-officer level employees, functions as a liaison between the line-agency departments and expatriate advisors in facilitating technical input on the "catchment interventions" in planning, programming and designing sub-project activities. HMG has not allowed project allowance incentive pay to be given to these Kathmandu-based employees.

The second category of staff in the project office is the group of personnel who draw HMG scale plus fifty percent additional, which is supported by USAID project funds. This category of staff includes non-technical lower level jobs.

The third category is SECID direct-hire local personnel who are paid according to USAID/N salary schedule. Their main function is to support the needs of expatriates for office services, procurement and related matters. The fourth category of personnel working in the project office is made up of local consultants. They are hired to work primarily in engineering designs, energy sector activities, programming, budget and monitoring. Their pay scale is negotiated on a case-by-case basis depending on salary history and competition.

Primarily because of pay differences, these local employees often will try to switch to higher paying jobs within the project. Turnover of regular HMG employees is reportedly high.

The project headquarters is staffed by a mixture of these different categories of personnel. Some individuals are in two categories at once. For example, a regular HMG employee who works 10 AM to 4 PM might work for SECID from 8-10 AM and 4-5 PM plus overtime.

The HMG project coordinator, all four types of staff, and the SECID expatriate technical team (except for catchment advisors and IRNR advisors) are housed in one office complex in Kathmandu. The lines of communication have been in the past and continue to be marked by individual preference rather than strict chain of command. Technically focused work groups are often made up of a mixture of expatriates and the other staff categories who may or may not have similar supervision and incentives.

At the district level, the Catchment Conservation Office (CCO) works as a crucial link between headquarters and field activities. Besides coordinating various activities under RCUP and working as the member-secretary of the Catchment Conservation Committee (CCC), the conservation officer has DSCWM-set targets to fulfill within each fiscal year. Some of these activities are to be directly undertaken by district units and others are through contractual arrangements. The CCO has to supervise such activities, and check on and report progress to the headquarters. A group of technical and administrative staff at the district office supports him. Soil Conservation Assistants (SCA) work as extension workers in the field in establishing and maintaining DSCWM nurseries, distributing plants and mobilizing the villagers for conservation activities.

Role and Composition of the SECID Team

The SECID expatriate team is composed of four groups of people: those who work in the headquarters, but have to devote some time in the appropriate line departments. These form the core group of SECID at headquarters. The second type of SECID expatriates are the catchment advisors (CA) who are expected to reside in one district of the project area, advising on the activities in the district catchment conservation programs. Each of the CAs also has a project-wide specialty for which he is supposed to develop a set of activities in

all three districts. The catchment advisors' role in the catchment area has not been adequately defined. In addition, links between the district level offices and these advisors have not been very fruitful.

Peace Corps Volunteers (PCV) are placed in the project areas under SECID general supervision as ranger-level foresters or soil conservation technicians. Usually, they live and work in villages which they may choose within a project-designated catchment area. Sometimes they have been assigned tasks, such as soil surveying, for which they must move from place to place. The PCVs are dedicated, hard working, and get along very well with the local people. The PCVs are generally well-accepted in the communities in which they work and live.

The other group of SECID expatriates are assigned to the Institute of Forestry, to be renamed the Institute for Renewable Natural Resources, which is to train personnel in the fields of forestry, soil conservation and resources management.

The SECID expatriates are permanent and temporary employees of universities cooperating with SECID, working under a contract between AID/Nepal and SECID, so the administration of the contract is handled by AID, not by HMG/N. Thus, the SECID expatriates tend to view their employment obligations in terms of SECID headquarters and AID somewhat more than the HMG line departments. One of the complaints of some of the expatriate experts is that they do not have the type of counterparts with whom they would like to work or that their assigned counterpart in HMG has a range of responsibilities beyond RCUP activities so that the overlap of duties with the RCUP expatriate is minimal. In other cases, the expatriates have had a difficult time developing productive relationships with the line departments for a variety of reasons.

The Evaluation Team is concerned that the Kathmandu-based SECID expatriate advisors, according to current plans, will largely be terminating their assignments during FY-83. Despite the difficulties and problems encountered thus far in making best use of their skills, the team feels that some continued advisory assistance is warranted. However, the positions needed may be different and may require a redefinition of job descriptions and functions.

The catchment advisor positions need serious analysis. The team feels that perhaps one expatriate, based in Kathmandu, with most of his/her time devoted to field visits for coordination and monitoring activities in all three project area districts, might be a better arrangement. That position should probably not be staffed by a technical specialist, but a generalist with an interdisciplinary perspective on natural resource management, farming systems and local participation. This position might also be used for backstopping and support for the planning and coordination staff officer the team recommended be attached to the District Panchayat Chairperson earlier in this report (Section V).

The outreach and extension work in all disciplines associated with the project has been minimal so far. It is essential that RCUP act to design a coordinated approach in extension which should incorporate training village-level and district-level workers, promotional activities to encourage popular support, and activities designed to reach the farm family and women. To support this activity, it is possible that an expatriate advisor on extension and training could be included in the team who could support HMG efforts in this area.

The panchayat resource development planning effort has really only just begun. Therefore, staff support to this effort needs to continue. The use of a development-oriented social scientist (anthropologist or rural sociologist) for this activity, plus activities oriented toward making technical advice and equipment meaningful to the village people using them, seems appropriate. The social scientist could also be used by the IRNR to advise on the incorporation of a community forestry component in the curriculum especially focused on the RCUP village-level planning activities.

In initial RCUP planning, proposals were made to establish experiments for measuring treatment effects on runoff, erosion and sediment production. Suggestions were also made about instrumenting watersheds. Although the proposals emphasized simple experiments, such studies require great care during installation, and afterward when data are collected, analyzed and interpreted. The information obtained from such studies would be used to help convince the people, and political and government leaders, of the value of soil and water conservation works. The results could also help in the design of more useful field implementation practices for erosion and runoff control.

Team observations, and discussions in the field and in Kathmandu suggest that the proposals for such studies may have over-estimated their importance and under-estimated the difficulties associated with proper installation, maintenance and interpretation. Further, most people encountered in Nepal already seemed convinced of the value of soil and water conservation works, and probably would not be particularly impressed by data from runoff plots, or other systems, in any case. And lastly, much general information that probably applies in principle to Nepal is available from other sources. Thus, the marginal rate of return on research investments of this nature in RCUP may be low and perhaps even negative at this time.

Consequently, the team suggests that RCUP reassess plans to install and maintain runoff plots and other sorts of related experimental installations. RCUP should continue with these activities at this time only if there is an identified, specific need that cannot be satisfied with current technology and available information, and only if adequately trained technicians are available to maintain the installations, assure quality control, and help with proper interpretation of the data. RCUP should continue efforts to obtain baseline hydrological and climatic data where qualified technicians are available to maintain the installations and assure quality control. Such information could be part of Nepal's basic data network. If possible, the RCUP stations should feed data into the national system maintained by the Ministry of Water Resources, as planned.

RCUP may wish to consider bringing in an expatriate expert in watershed management with extensive experience to help with this reassessment. The team suggests that it would be advantageous if such an expert had experience in monitoring and evaluating streamflow runoff, soil erosion and sedimentation as influenced by land use in steep mountainous topography. Preferably he/she would have worked at some point on soil stabilization and related land management problems.

The team suggests that USAID/Nepal, SECID and RCUP/HMG develop a mutually agreed plan to staff such positions for appropriate amounts of time necessary to leave a meaningful impact on those HMG employees and agencies which will need to carry on RCUP-type activities.

Coordination and Management

The project requires especially close coordination among the DSCWM, USAID and the SECID Team. The technical input by SECID has to be woven into the departmental planning and budget exercises and timely cash flow from AID is necessary to implement project activities. SECID is responsible for making regular and semi-annual reports to USAID/N. The relationships among these three entities has not always been smooth, nor have reliable and mutually understood channels of communication and supervision been easy to establish.

Besides these central level project activities, coordination among the line agencies has to be worked out by getting the program internalized by the line agencies and making the personnel available in the districts for the implementation of the programs. To date, this process has not received as much attention as it deserves.

Conclusions

The management and coordination of the RCUP central activities needs improvement, a fact recognized by the project coordinator and the SECID team leader. While it may not be reasonable to expect HMG to monitor closely and evaluate the work of the USAID direct contact with SECID, a higher degree of integration of the expatriate staff among themselves, with the project coordinator, and with the line agencies seems needed. USAID Nepal could exert more of a problem-solving role in facilitating this process. The Evaluation Team suggests that some team-building type of management training for key personnel including, for example, the project coordinator, the SECID team leader, the CCOs and the expatriate staff could serve to set in motion some improved communication patterns and more efficient management practices.

Specific recommendations are made above concerning the on-going need for special advisory assistance. The team is not certain in all cases whether expatriate advisors are necessary. HMG, SECID, and USAID should review these recommendations carefully to make sure that the best qualified, locally available talent is considered since expatriate advisors should only be used when the

skills are not locally available, in the interest of supporting locally available experts which HMG can continue to use after the project is finished. The team also recommends a sincere affirmative action effort to solicit applications from women and minority candidates for all new expatriate jobs.

The team was told that the functioning of the Project Implementation Committee as a review body was not efficient for the day-to-day decision making on inter-agency coordination. One suggestion was made to create a Project Review Committee, a smaller, more manageable committee, with a USAID representative, HMG project coordinator and a limited number of high level representatives to assist the project coordinator in resolving implementation issues falling outside RCUP's authority. This suggestion, which is based on experience in other projects, should be carefully reviewed and considered as soon as possible.

IX. LOCAL LEVEL PROJECT IMPACT

Serious problems are faced by Nepal in the areas of environmental degradation, population pressure from animals and people, declining agricultural productivity, lack of forest products for construction, and energy deficits for cooking, heating, and food processing. In order for these problems to be addressed by the RCU project in time to contribute to the prevention of further deterioration in the quality of life and the productive base in the hill region of Nepal, it is essential that the residents of affected areas and their local organizations develop the capability and will to carry on and maintain activities and investments initiated under the project. Local participation is the key to the ultimate success of the project.

To assess the likelihood that a true capability and will to carry on RCUP-type activities can develop in the project areas, it is necessary to examine the formal structure of national government administrative organizations at the local level as well as elected or appointed local government organizations. Additionally, it is appropriate to discuss the formal, informal and traditional structures reinforced or introduced by the RCU project as implementation tools and assess their potential for institutionalization and replicability.

Governmental Organizational Arrangements at the District and Village Levels

The implementing arms of the Central Government of Nepal (HMG) extend from headquarters in the capital city to the seventy-five districts of the country. Depending on the particular agency or ministry, district level officials of HMG receive guidance through a chain of command within their own agency from intermediate officials stationed at regional, zonal or other administrative levels, such as forestry circles, above the district but below the national level. The nineteen ministries of the central government are not necessarily all represented at the district level, but usually all the development-related ministries are represented at that level through one or more of their subordinate "line-agencies". Usually there are twenty of these line agencies represented in each district. In the three districts where the RCU project is being implemented, the following list of ministries, agencies and district-level officers represents those who are usually involved in RCU activities:

MINISTRY/AGENCYDISTRICT LEVEL OFFICER

Ministry of Forest and Soil Conservation

Department of Soil Conservation and Water
Management (Lead Agency) (DSCWM)Conservation Officer
or Catchment Conservation
Officer (CO or CCO)

Department of Forest

District Forest Officer
(DFO)

Ministry of Agriculture

Department of Agriculture

District Agriculture
Development Officer (ADO)Department of Livestock Development
and Animal Husbandry (DLDAH)Livestock Development
Officer

Department of Cooperatives

Cooperative Officer or
Cooperative Inspector

Ministry of Home

Chief District Officer

Ministry of Panchayat and Local Development

Local Development Officer

Ministry of Finance

District Controller

Ministry of Power and Water Resources

Department of Irrigation Hydrology
and Meterology

Irrigation Engineer

Department of Water Supply and Sewerage

Engineer

Autonomous Agencies

Agricultural Development Bank

Manager

The agency officials at the district level are responsible for carrying out the regular HMG programs or activities plus any additional project-financed activities delegated to them such as those under the RCUP.

In 1975, the HMG District Development Plan became law. This plan reorganized the responsibilities of HMG representatives in districts whereby all the district level line agencies were required to work in a coordinated way to formulate an annual district plan instead of merely following centrally mandated, agency-specific policies and programs. By this law, the Chief District Officer

(CDO) was placed in charge of district-level coordination of planning and monitoring activities as well as some day-to-day administrative functions such as the granting of permission to take leave from the district. The purpose of the plan was to encourage communication among line agencies and to have a district level review capability. As a result of this law, the elected heads, the Chairpersons of the District Panchayat, complained to the King that this role of the CDO undermined their authority at the district level. Readjustments were subsequently made whereby the District Panchayat Chairpersons would chair the various development committees instituted at the district level to select and finance the district programs.

In order to understand this function, it is necessary to examine how the local level political bodies are constituted and how the leaders, such as the district chairperson, are elected.

The seventy-five districts of Nepal are subdivided into approximately 4,100 (1983) village and town panchayats (territorial units). These village and town panchayats are at the bottom of the pyramidal structure of representative government in Nepal, known as the "panchayat system". The term "panchayat" traditionally connotes the deliberation of elders, but in the development of the modern political system in Nepal, the term has been adopted to refer to the mechanisms of using directly elected and representatively elected executive committees for reflecting the views of the people in political decision making. The preamble of the constitution of Nepal (1962) states that the panchayat system is based on the traditional system of the life of the Nepalese people and it encourages the promotion of two basic principles: the people's participation and the decentralization of power.

Each district has a District Panchayat (executive committee) headed by the District Panchayat Chairperson. The district is divided into nine divisions (chetra). Each division is represented by one member on the District Panchayat, indirectly elected by an electoral college made up of all the Village Assembly members from all of the Village Panchayats (territorial unit) within the division. Thus, a District Panchayat will consist of nine members representing the nine divisions plus the District Chairperson and the Vice Chairperson who are all elected by all of the electoral college members from the entire district.

The District Panchayat also has ex-officio members drawn from the six constitutionally designated "class organizations," special interest groups including the women's organization, the youth organization (for males below 40 yrs. of age), the adult organization (for people over 40), the ex-serviceman's organization, the farmer's organization and the laborer's organization. The district's representative to the Rastriya (national) Panchayat is also a member.

The District Assembly, a kind of legislative body which approves the budget and development programs for the district, meets twice a year. It consists of the District Panchayat members and the Pradhan Panchas (chiefs of all the village-level panchayats) and Vice Pradhan Panchas of all the village panchayats within the district.

Each village level panchayat (the territorial unit), which may contain a number of villages or hamlets, has a village or town panchayat, the executive committee, headed by the Pradhan Pancha. Each village-level panchayat is divided into nine wards. In each ward, a ward committee will be formed, consisting of five elected representatives. All are elected at large, but one of them is elected specifically to be the chairperson of the ward committee and to serve as ward's representative on the village-level panchayat (executive committee). This body meets frequently (approximately once a month) to carry out judiciary, planning and implementation functions including the mobilization of people for village-level development activities. This village level panchayat is assigned a secretary, paid by the national government (HMG) through the Ministry of Panchayat and Local Development. The secretary is responsible for keeping the records of the village panchayat including accounting records, minutes of meetings, collecting data at village-level (i.e. population census, forest, land use, etc), as well as serving as advisor and assistant to the Pradhan Pancha. He also serves a liaison function between the district and the Village Panchayat. The village panchayat consists of nine ward chairmen, the Pradhan Pancha, the Vice Pradhan Pancha, plus ex officio members representing the six "class organizations" mentioned above.

The Village Assembly consists of members of the Village Panchayat plus the ward committee members.

The Village Assembly, like the District Assembly, usually meets twice a year. Its primary functions are to review the budget prepared by the Village Panchayat concerning the expenditure or revenues acquired through local fees or fines and district subsidies, including expenditures programmed for development activities within its jurisdiction. Programs under national government funding will not be reviewed by this assembly.

Given this political structure, it is apparent that the district chairperson, who is indirectly elected by a rather large constituency of village-level leaders, must mobilize resources for development from the line agencies and distribute them to different divisions and village panchayats of the district if he is to maintain his political power. He is also subject to criticism and scrutiny concerning the just distribution and proper implementation of projects and programs within the district's jurisdiction.

RCUP Local Planning and Implementation Activities and Approaches

As a condition precedent to the implementation of AID-funded RCUP activities in the three districts, the district level Catchment Conservation Committees (CCC) were formed headed by the District Chairperson. These committees are made up of the ranking district-level government officials from the line agencies participating in the project plus the women's and farmers' organization heads, the vice chairperson of the district panchayat, some of the divisional representatives and some village panchayat representatives. The CCO becomes the member-secretary of the CCC to keep records, prepare agenda, and advise members of the meetings.

The function of the CCC is to meet at least quarterly to formulate the annual program under the RCUP, to select the sites for the implementation of project activities (within designated catchment panchayats since some panchayats are not within the catchments), to conduct budget analysis, to carry out program review and problem solving, to encourage inter-agency coordination, and to mobilize local resources and participation in response to and support of project activities

At the village-level, RCUP has promoted the establishment of Panchayat Conservation Committees (PCC), chaired by the Pradhan Pancha, including as members the Vice Pradhan Pancha, a representative from each ward, two farmers, a women's representative, two Junior Technical Assistants (JTAs), one for agriculture and one for livestock extension activities and a Soil Conservation Assistant (SCA) who serves as secretary. The PCC should function as a sub-committee to the village assembly to advise on resource conservation and RCU project-related development and management issues. Under RCUP, the CCO is responsible for encouraging the organization of PCCs in the project area. Unfortunately, it appears that few PCCs within the project's two catchment areas have been created and used. The RCUP central project staff envisions the use of PCC to develop Panchayat Resource Development Plans (PRDP), but only one actual plan has been prepared to date, although several others are nearing completion.

For the purpose of developing the PDRP, RCU project staff have attempted to consult with villages and their representatives in the development of appropriate techniques for local resource conservation utilization planning. One technique, called "gaun sallah", meaning "village consultation", has been devised and is being experimented with by project staff and line officers in two panchayats of Myagdi District. "Gaun Sallah" is preceded by inventories of resources and socio-economic conditions. This method, which involves up to seven days of intensive discussions both at the village panchayat and ward levels, involves high costs in special resources and technical advice but has the merit of incorporating into planning activities ideas and priorities from the grass roots. However, given the fact that over 60 panchayats are contained within the two catchment areas, the likelihood that this method or the following one could be carried out by using the same level of special resources and technical advice in all or even most of the panchayats is low. A more streamlined approach training HMG district-level line officers and village-level (JTs JTAs & SCAs) officials would probably have greater potential for significant spread effect.

The other method, known as the "USDA method" involves central RCUP staff inventories of resources and socio-economic conditions leading to a written plan for conservation and integrated activities prepared by RCUP central staff which is cleared first with district line officers and then with the Panchayat

Conservation Committee. After corrections and approvals are obtained, the plan is referred to the CCC for approval and implementation through the District Panchayat. This method has been partially tested in Chhoprak and Rainiswar Panchayats in the Gorkha District. It is also limited by its dependence on central technical staff and the lack of effort to build a local planning capability at either the district or village panchayat levels.

Decentralization Achievements, Prospects and Relationship to RCUP

During the last thirty years, the system of government and public administration of Nepal has evolved from an extremely centralized, autocratic oligarchy to one containing more representative, democratic procedures, tools and forms. The system of district and village level panchayat organizations, described above, illustrates a key aspect of the current system resulting from that evolutionary process towards greater political and administrative decentralization.

A brief discussion of legislative mandates for political and administrative decentralization is necessary to understand the problems and prospects for the evolution of increased levels of popular participation in local decision making and control over resource management.

In 1964, A Local Administrative Act was passed by the national Rastriya Panchayat and signed by the King. Its purpose was to extend a greater HMG administrative presence at the district level, following a reorganization of the political divisions of Nepal to create smaller, more manageable districts responsive to central government policies. The District Panchayats and Assemblies at that time, while established to represent the people, were charged with largely ritual functions. The 1964 Act served to spur a growth of available services at the district level, but also eventually created rivalry between district administrators and political leaders. The District Chairman, under this act, seemed to be in charge of district administration, excluding law and order, but, in fact, the appointed officers were essentially answerable to their line agency hierarchy.

In 1978, HMG issued a written policy statement, "Integrated Panchayat Development Design", to channel district-level development activity through the district and

village panchayats. To support this policy, the Ministry of Panchayat and Local Development was created to promote institutional development through local institutions. But the existing legislation did not provide sufficient tools to institute changes in the power balance between administrative and political leaders at the district level. Therefore, in late 1982, the Decentralization Act was approved, giving greater authority and responsibility to village, town and district panchayats for operating all district-level development activities, formulating development plans and construction projects of all types, collecting and appropriating resources as well as supervising and evaluating plans. (A copy of the Decentralization Act of 1982 is attached as Annex E.) The act also provides that certain administrative, district level offices of HMG would exist as branch offices of the district panchayat secretariat under the executive management of the district chairperson. Offices specified were district level offices of (1) education and culture, (2) health and population, (3) agriculture and irrigation, (4) public works and transport, (5) water supply and hydro-electricity, (6) forest, soil conservation and environment, (7) industry commerce and tourism, (9) local development and social welfare, (10) cooperatives, and (11) "other offices connected with the development."

Although the implementing regulations of this Act have not yet been issued, it is clear that this Act requires the administrative officers and the political leaders of a district to work together to formulate and coordinate annual plans and budgets for activities in the district. The mechanisms for this cooperation instituted in the Act are five multi-sectoral plan formulation committees presided over by a member of the district panchayat selected by that body to serve on the committee: (1) Agriculture and Irrigation Committee, (2) Public Works and Maintenance Committee, (3) Industry, Forest and Soil Conservation Committee (4) Health and Population Committee and (5) Education Committee. The membership of each committee, specified in the Act, included a mix of elected, appointed and ex officio members drawn from political, administrative and "class" organizations. (The Catchment conservation Committees (CCC), used under RCUP for implementation guidance, were set up under the Soil Conservation Act, 1982, in a similar way to these committees but are not mentioned in the Decentralization Act.)

The formation of such committees for inter-sectorial coordination is a welcome step in the decentralization process. However, it should be borne in mind that the committee mode of operation and decision making presupposes openness of public communication, recognition of appropriate expertise and egalitarian interaction among members. Given the slowly changing hierarchical patterns of role behavior and accompanying cultural traits widely held by various economic strata, ethnic groups, genders and occupational groups, it will take some time to institutionalize an optimal use of these committees.

Nevertheless, there is evidence that under the RCUP the CCC, as a committee, is beginning to function in a satisfactory way with, of course, the presence and contributions of RCU project staff and resources as a stimulus. The Evaluation Team observed committee meetings in Gorkha and Myagdi Districts which demonstrated that the committee members had become accustomed to exchanging information on programs and problems, were aware of the interrelationship of various activities and impacts on their environment and were able to discuss and take action on issues related to project management, such as the sequencing of related elements. The behavior in the meetings observed also illustrated that the District Chairperson was able to work easily with the HMG administrative and technical officers in the capacity of elected leaders of the district. The RCUP appears to have contributed to this process of institution building and decentralization through promoting the use of the CCC and, thereby, local participation in resource development planning.

The Decentralization Act, 1982, can be interpreted as the culmination of the policy initiative articulated by HMG in the Sixth Five-Year Plan which recognized as a necessary and previously ineffective element the role of people's participation in integrated rural development activities. The central government acknowledges that development activities have so expanded at the district level that it is impossible and inefficient administratively to maintain tight, centralized control. Furthermore, the Act recognizes the fact that in order for development activities to be continuously sustained, local organizations must be mobilized to incorporate the input of representatives of the people. Therefore, this Act lays the foundation for widespread implementation of the activities being undertaken on a relatively small scale under RCUP.

At this point in project implementation, it is too early to assess whether the institutional, administrative mechanisms described above will actually have the desired effects on the environment, productive resources and well being of the target population. Few deep changes have been made, but important steps have been taken to awaken the awareness of villagers to the relationship between project sponsored activities such as panchayat nurseries, plantations, and limitation of grazing lands with long term environmental, productive and quality of life benefits. It is apparent that that people are aware of impacts of environmental degradation on their lives in terms of the disappearance of forests, time/labor cost increases for finding fuel wood and fodder, and higher frequency and degree of soil erosion and landslides. However, villagers have yet to embrace and adopt the long term solutions proposed under RCUP. Nevertheless, early indications from villages where project activities have been in place longer indicate a great potential for local response and maintenance of conservation and other project activities through the strategy of combining short term production improvements and long term conservation practices.

Impact of Traditions and Government Legislation

Before reporting on the Evaluation Team's observations as to the achievements in local awareness and participation in RCUP activities, it would be useful to examine previous experience in Nepal regarding villager interest in conservation. Cultural patterns relating to conservation and resource utilization, trees and forestry have changed over time in response to demographic, political and socio-economic pressures. Demographic pressures, resulting from high fertility rates, declining infant mortality, and free immigration from India and Tibet have increased demand for productive land, fuel wood, and water resources. (Schroeder, 1977: 230) Traditional practices relating to human ecological balance with the environment, while maintained on a small, sometimes ritual scale, still are found and recognized as ideal. But they have been largely overwhelmed by dramatic economic and political forces encouraging environmental exploitation. Furthermore, some traditional practices, such as slash and burn farming contribute to that process.

Nevertheless, among the diverse ethnic groups of Nepal, there are cultural elements which continue to be found reinforcing the preservation of trees and

forests, community responsibility for communal resources and property and local organization for the remuneration of persons performing recognized service in the public interest. The fact of dramatic new disequilibrium in human ecology does not necessarily indicate that a new balance will never be achieved. Indeed, it is out of existing cultural elements and organizing principles that such a reorientation may arise. In areas of declining resources, population growth may slow and sometimes even reverse through emigration. In the Kagbeni area within the Kali Gandaki catchment, the able and mobile population, a majority of the total, migrates to urban lowland areas to reduce stress on scarce food and fuel resources during the cold winter months. (Schuler, 1982)

Preservation of some forests and particular species of trees are promoted by the Hindu-Budhist religion's principles. Some forested areas have been set aside and demarcated as religious forests dedicated to the goddess Bankali. Taboos on any use of these area are supported by strong governmental and religious sanctions. It is believed that a person cutting trees or fodder in such an area would become sick and/or die. Governmentally imposed sanctions include fines or imprisonment, depending on the gravity of the offense. In addition to religious forests, certain species of trees, such as populus religiosi and ficus religiosi known as "bar", "pipal" or "bayan" trees, are viewed as sacred. Not even their branches can be cut for fodder. Some orthodox practitioners of religious rituals worship these trees on Mondays. When planted among trails, these trees are often found surrounded by stone rest areas. Aid to travelers, such as the planting of these shade trees, is also viewed as a pious act which improves one's chances for a better subsequent life.

The existence of accepted practices of community responsibility for communal resources and property also support the idea that local communities can and do organize themselves when commonly felt needs are recognized. For instance, after the monsoon, the Dasain festival takes place. This festival calls for the ritual visitation by junior members of families to their elders, often requiring inter-village travel (Hitchcock, 1966). Therefore, villagers voluntarily collaborate at this time on trail repairs and improvements, which are viewed as both necessary and meritorious in a religious sense. Similarly, users of village irrigation works often collaborate to desilt these systems. Also, the

construction of small bridges is viewed as both a public-spirited and religiously important act which provides future merit.

Local precedent exists for community organization to provide services viewed as necessary to the common good. such as school teachers, irrigation maintenance personnel, and messengers. In some villages, local forest guards have been appointed and paid by such a system. This mechanism of communal support for occupational specialists is also reminiscent of the patron-client relationships between villagers and members of occupation castes such as tailors, ironworkers, and leather workers. Thus, there are strong traditional cultural precedents for community cooperation in communal projects and maintenance.

A major political action which undermined the protection of forests in Nepal was the Forest Nationalization Act, 1956. This Act was intended to facilitate protection of the forests and the prevention of forests from becoming private property. The law proclaimed that all trees and private forests in Nepal as national property. However, the law had a very adverse impact. Specifically, land owners with trees on their lands cut trees down to avoid having lands declared national forest and to facilitate registration of land title in their individual names as agricultural, not forest lands. After nationalization, especially in the Terai, the government had a program of tree harvesting through a contract system where little control or monitoring were applied to the contractor. Although excessive cutting occurred, the income generated accrued to the government treasury and became a major source of revenue. Coupled with population pressures causing expansion of agriculture and livestock activities on the marginal lands, plus the demand for fuel wood as the least expensive, most widely available source of cooking energy in the household, deforestation occurred at an alarming pace in the 1950s, 1960s and 1970s. With the recognition of the fast depletion of forest resources in the early 1970s, HMG prepared a National Forest Plan, 1975, to counteract these processes of environmental degradation by proposing the creation of locally managed forests of two categories: panchayat forests (plantations established on lands provided by and protected by village panchayats) and panchayat protected forests (national forests returned to the control of village panchayats from the Ministry of Forest).

Therefore, there are now four types of forests under the new rules and regulations (1978): (1) national forests (managed and protected by HMG); (2) panchayat protected forests (HMG forests managed and protected by panchayats); (3) panchayat forests (village forests); and (4) private forests. This classification will permit different use of each type, allowing for preservation of national forests, with household needs being met by panchayat managed and private forests once they are established. The total responsibility for maintenance and management of forests will no longer be solely the responsibility of HMG in a policing type of function, but will be shared with the users, giving them incentives to protect and preserve as well as exploit the resources of panchayat forests.

Evaluation Team Observations

The Evaluation Team was able to visit each of the project catchments. It met with district level officers from line agencies, district level politicians, some representatives of class organizations, village panchayat leaders and groups of villagers. Individual discussions were also held with a few farmers and members of local elites concerning perceptions of the project and conservation attitudes in general.

The team found that the district-level and village-level HMG employees, as well as the district-level politicians and village Pradhan Panchas, were involved in planning and follow up in the integrated implementation of RCUP components. In villages visited where visible project activities had taken place, the villagers themselves expressed ideas in favor of better conservation and resource utilization practices and reported village actions supporting project activities such as the donation of--admittedly degraded--communal lands to plantation purposes in Josom, restriction of grazing and encouraging stall feeding in Turipani, making scarce manpower available for fence building in Josom, donation of land for panchayat nurseries the team visited in Nariswar, Chhepetar, Chorkatte, Raniswara, Marpha and Turipani. The team was told by RCUP staff that, so far, approximately thirty nurseries had been established with RCUP assistance, most of which were panchayat nurseries located on such donated lands. The establishment of local nurseries with such local involvement also has apparently had the effect of heightening popular awareness of the need for tree planting and

facilitating the availability of saplings to individuals. At Josom, however, the team was informed that the species available in the nurseries were not in great demand, that the people already had the capability to propagate willows and poplars, and that there was an unmet demand for new species and fruit trees.

The team found a mixed response from HMG staff and local leaders regarding the role of expatriate technical assistance provided through RCUP. Relevant technical advice and consultation were reported for the design of the district and sub-district service centers. The work of Peace Corps Volunteers in helping to establish nurseries and conducting soil and forest mapping activities was seen as appropriate and supportive. However, the role of the Catchment Advisors was not initially understood by any of the involved parties, i.e., HMG staff local leaders or even SECID. Consequently, the Catchment Advisors have thus far not found a coherent or meaningful role in the project. Primarily because of administrative rather than technical reasons, the Catchment Advisor positions were filled by the technical specialists with advanced university degrees. It has proved difficult for them to develop the interdisciplinary and local orientation needed to work with the CCO and local leaders.

As mentioned earlier in this section of the report, considerable effort by RCUP staff--both expatriate and local--has gone into developing mechanisms for facilitating village level planning. The principal concepts which have evolved thus far have been generated in RCUP headquarters and have involved working directly at village levels. The Evaluation Team believes local level participation is an area of central importance to long-term project success and urges a continued effort in this area. However, the work done thus far on local planning seems to the team to be somewhat complicated and probably too expensive for widespread application. In addition, it would probably be sensible to devote greater attention to working downward through the established district level mechanisms with the ultimate aim of building more effective planning links from the district to the village panchayats rather than involving central staff extensively in working directly with villagers, except possibly in the development of pilot approaches.

The role of women in local involvement is thus far minimal, though not absent. Except in the Josom area, where many people were absent due to the cold winter

season, women sat in on those village open meetings during the team's visit and in some cases spoke up and, sometimes hesitantly, expressed opinions. Although there has been traditionally little role for women in public life and formal organizations at the district and village levels, the president of the Nepal Women's Organization (NWO) at those levels has been designated as a member of the CCC and the PCC. The team was told, however, that in some panchayats where PCCs were organized under the project, local leaders resisted the women's participation. On the other hand, when the team met with the Gorkha district's political leaders, although the president of the NWO was out of town, three women were invited and attended the meeting and one of them brought up certain women's concerns about income generating activities for women. It is frequently related by RCUP and HMG staff that the reasons for lack of women's participation was cultural. However, the team feels that "culture" has many features which development projects propose to change, and this is one of the most important for resource conservation and equity of project benefit incidence.

According to RCUP staff, ten percent of the places at the Institute for Renewable Natural Resources have been set aside for women, but no women have yet been enrolled. Due to previous critiques of this performance, several were actively recruited by RCUP after the usual deadline for applications this year, but according to one of them interviewed by team members in Myagdi, she had not yet been informed of her acceptance to IRNR. Women were to be given basic grants to assist them in achieving the school leaving certificate, but no such grants have reportedly been given.

Many recommendations were made concerning the poor performance of the RCUP project on including women (Hoskins, September October 1982). Few successful actions to comply with these recommendations concerning the requirement to include women in RCUP appear to have been taken. Even though SECID constitutes one of the largest expatriate teams working on a development project in Nepal, there are no resident professional women, although a consultant or two have been brought in. Many smaller teams in Nepal have expatriate women on them. SECID, as an organization, is sensitive to the need for greater women's participation and has undertaken efforts in that direction. More needs to be done.

As for the inexperience and lack of qualifications of Nepalese women, RCUP needs to act on identifying women to become leaders, give them preferentially special training and incorporate them in project activities. Otherwise, for all the central resources invested local level planning efforts, women will not be a part of project activities and their absence may become a hindrance to achieving project goals concerning conservation, resource management and production, since women are usually the fuel and fodder collectors and play a major role in agricultural tasks.

The issue has been raised that the participation of women cannot be imposed by fiat on villagers. However, what the project seems to be doing is unnecessarily overemphasizing and reinforcing the power of men and, especially, elite men such as HMG employees and district and village officials in an unbalanced way. It is important that change advocated by RCUP under U.S. Government sponsorship is not equated with male-only development.

Understanding among local residents of villages visited by the team concerning the objectives of RCUP varied greatly. In some villages where project activities have been in place, greater understanding was found. Leaders tended to be best informed. The level of local understanding appeared best in three district capitals and the best informed people were the longer term district line officers and the district panchayat chairpersons. There was limited understanding of the integration of different activities of different HMG agencies by ordinary residents who tended to associate RCUP with landslide control, nurseries, tree planting and gully control.

The long term success of the RCUP will depend in part on the villagers' internalization of the activities included in the program. Those village panchayats which have started implementing some of the activities of RCUP appear to be more informed about the role of RCUP, their role and responsibilities and the long term potential for improving the deteriorating environmental conditions around the villages. The level of information received by the villagers differs among districts. In those areas where the RCUP programs have been in operation over a period of time, the villagers are more aware of the objectives and activities of the project. However, the team feels that the extension activity has been a weak link in the whole project.

Extension and public information activities under this project have been minimal so far and a much larger scale program is needed. Extension activities should be designed to reach women as well as men and should utilize workers of both genders. Despite the weaknesses in this area, however, there was clear evidence that the overall impact of the RCUP was generally perceived to be favorable and substantial. In both Myagdi and Ghorka districts, in which the catchment areas included in the RCUP program do not incorporate all the panchayats of the district, the team was repeatedly asked if the program could be extended to panchayats outside the catchment area. This is certainly one measure of project impact.

X. RCUP TRAINING ACTIVITIES

A major constraint to effective resource conservation and utilization in Nepal, which was identified early in the process which led to project design, was the shortage of personnel to carry out the types of specialized activities envisioned in the project. Early in the project identification and design process, recommendations were made for long term degree training in Nepal, advanced degree participant training abroad for a small number of especially well qualified people from the cooperating line agencies, and a package of short term in-service training specifically focused on project objectives.

Training Design and Manpower Analysis

The RCUP project design included two approaches to meeting the problems of resource management: (1) the catchment interventions through the line agencies, as previously described, and (2) the training of current and future HMG employees in concepts, skills and techniques necessary to sustain the RCUP approach throughout Nepal. An analysis included as an appendix to the RCUP design document, the result of a joint USAID/British mission to assess forestry training needs for Nepal, included an examination of manpower requirements. It did not analyze training needs outside the areas of forestry, soil and water conservation. Primarily the manpower analysis attempted to calculate the need to produce certificate-level technicians and bachelor-level (diploma) forest officers at the Institute of Forestry. As a result, a new certificate program and a diploma course was proposed for Pokhara and continuation of the certificate course at Hetaura was recommended. Annual intake of 110 students for each of the two certificate programs was recommended. The diploma course was to have an intake of 40 students annually. The anticipated interdisciplinary courses needed were spelled out in detail.

The analysis also outlined courses needed to upgrade current HMG District Forestry Officers, Rangers, Junior Technicians, Panchayat Forest Foremen, Soil Conservation Assistants, Catchment Conservation Officers, Foresters, and Forest Guards. These courses would be undertaken by the Ministry of Forest and Soil Conservation Training Wing, which also had responsibility for overseeing long

term overseas specialized training for HMG personnel. The final project design called for relatively large numbers of long-term participant trainees and some U.S.-based short courses as well.

The Institute for Renewable Natural Resources

The development of the certificate and diploma courses in accordance with RCUP project design criteria was begun at the Institute of Forestry (to be renamed the Institute for Renewable Natural Resources -- IRNR).

Considerable amounts of project resources have been invested in the IRNR terms of expatriate staff (thirteen person years anticipated), commodities and other forms of support. The thrust of activities is in curriculum development and expatriate teaching, combined with senior staff support to the Dean of the Institute. The program was designed to be carried out in collaboration with the IBRD. The IBRD is committed to funding a construction and equipment program at the Pokhara campus near the Kali Gandaki catchment area to house the school--including classrooms, laboratories, staff quarters, and other necessary facilities. Due to delays in the IBRD process -- construction is now scheduled to begin later this year -- RCUP advisors were moved temporarily to Hetaura to the Institute of Forestry, located in the inner Terai. The initial class of students entered on schedule in the fall 1981 and the program of curriculum development appears to be on target.

The team feels that despite the difficulties with the delay in physical facilities, the program has made excellent progress in curriculum design and initiation of the degree granting program. However, there is some concern about the fact that IRNR activities have not been adequately integrated with those of the rest of the RCUP project. For example, the emphasis on local participation in project activity and planning is not reflected in the Institute's staffing pattern or curriculum development under RCUP. The point has been made above that local participation is crucial to the long term success of the project's approach. If the training of future resource management staff does not emphasize sensitivity to local participation and planning problems, the current effort to upgrade personnel may fall short of the need. Furthermore, the IRNR and curriculum should address the crucial issues of management and coordination so

that graduates will have an appreciation for and an understanding of the need for such integration as well as some ideas and skills relating to how to accomplish it.

The team is also concerned that the existing plans for scheduling of expatriate staff may not allow enough time for testing and institutionalizing the curriculum being developed. The team feels that a greater period of overlap between part of the SECID team and the returning trainees, when the trainees will have complete responsibility for teaching courses developed by the expatriates, is essential for trouble-shooting and consultation between seasoned professors and the new graduates who may have only minimal teaching experience.

The Training Wing

Of all the training being carried out under the RCUP project, that undertaken and envisioned by the training wing seems to have been closest to being congruent with the spirit and purpose of the RCUP. However, the staff of the training wing feel that they need more HMG manpower assigned to the wing to meet their mandate. SECID is currently attempting to recruit a trainer with design and managerial capacity to fill some of the gaps. There is probably a need for more field training within the project area. There is a question whether the training wing has the manpower to undertake this, but from discussions held at the Training Wing, it seems to the team that there is an understanding of the integrated approach there. There is in the project great need to conduct training related to local level planning for resource management and integrated extension at the village, ward or farm level. It seems that the Training Wing is the logical locus for these activities, but in any case, needs assessment and pilot courses should be taken promptly so that plans can be drawn up to meet the needs.

Participant Training

The numbers and types of long term participants being trained in the United States or other countries seem to be approximately correct. There have been minor problems in that the advice and direction given to students at training sites in the U.S. sometimes divert them from the purpose of their training.

For example, one team member noted that a participant sent to the U.S. for training in social impact assessment seemed to be taking a number of courses in micro-sociology and demography. The nomination process seems to be reasonable in terms of obtaining a number of officers dealing with the project who will have relevant responsibilities after their training is complete. The rate of returnees being assigned to RCUP, so far, has been good.

Some short courses and observational tours for participants have been carried out under RCUP in the U.S. This training opportunity could be more cost effective if training in third countries were allowed under the project on such subjects as public administration, horticulture, pasture management and general project management. Also, it is possible that outside experts could be brought to Nepal to conduct short courses in-country at considerable savings. These approaches should be considered.

Other Issues

Line Agency Training

RCUP funds training in agriculture and livestock as part of line agency funding. These training programs have not yet received any special RCUP-shaping to meet the needs of the integrated resource management approach. The Training Wing has a somewhat limited mandate for training personnel outside its own ministry. The team feels that RCUP funding may provide a vehicle for developing an interagency training strategy to encourage integrated thinking.

Training and Integration

Although the RCUP is conceived of as an integrated, multi-sectoral project, the design and implementation of the training aspects of the project have lacked a strongly integrated or interdisciplinary flavor. For instance, the structure of the training activities carried out under RCUP has long term participant programming in the U.S. carried out by Duke University personnel, while the participants are selected by HMG line agencies and prepared by SECID/RCUP and USAID/Nepal staff in Kathmandu. The forestry and soil and water conservation

short courses are to be carried out by the Ministry of Forest and Soil Conservation Training Wing in Kathmandu. The institutional development of Nepal's degree granting ability has been carried out by the Institute of Forestry (IRNR) in Hetaura. Agricultural short courses and livestock short courses are mostly conducted by the line agencies either in training centers or the field, although SECID staff expatriates and PCVs have been conducting some training activities at field sites. The courses in agriculture and livestock are the normal training programs given within the ministry for career advancement and have little in content, staffing or participation which reflects RCUP's integrated, multi-disciplinary approach. There seems to be little integration or coordination among these different components, with the result that the IRNR program is considered by SECID/RCUP and USAID/Nepal personnel as a largely separate program.

Training Objectives

Overall, the training activities will strengthen Nepal's manpower base and help to build up the natural resource line agencies and training institutions. The project and program-specific objectives for training are largely based on a perceived need for certain kinds of personnel to carry on RCUP type activities, now being supplied in part by foreign experts and volunteers. Short-term training has been used in a wide variety of ways: (1) to increase political-level understanding of conservation issues and the RCUP type of approach; (2) to carry out the normal staff training program of the line agencies; (3) to address the special needs for making technical personnel more aware of the integrated nature of soil, water, forestry and conservation problems and solutions; and (4) to teach specific lessons about innovations and new technology to those involved with implementation. The style and strategy of training throughout the project has focused on peer training, that is, taking groups of people from like job categories and bringing them together and imparting information, approaches and experience to them. Work group intervention, team building and problem solving do not seem to have been used within the training strategy. The experimental model of learning by experience from among the trainees is not utilized in most programs supported under RCUP. The authoritative model, bringing in an expert or at least a higher level technical person to teach the trainees what they ought to learn, is more typical.

Incentives to Participate

Personnel from other projects and from line ministries commented that RCUP is attracting many able people, in part through the use of long term training in the U.S. as an incentive. The short courses offered by the Ministry of Forest and Soil Conservation's Training Wing have experienced some difficulty in attracting the interest of trainees and their supervisors, especially from the DSCWM, which is still under-staffed and has yet to develop many in-house training programs in its specific areas of competence. There have also been problems in getting competent staff released to act as trainers and in getting Nepal's Public Service Commission to afford recognition of the new courses and award points toward promotion consideration. Another problem has been recruitment of women trainees for the IRNR degree program, although overall, recruitment is close to targets. In general, there exists precedents and policies on a government-wide basis to support training incentives, but some agencies have not adopted training policies which will promote the participation of their staff in short term, project-financed training activities.

Research Role of IRNR

The IRNR staff and advisors have been deeply involved in getting the teaching program designed and getting the first two years of students in the diploma courses selected and started. Recently, field school sites have been selected from within the RCUP catchment area for carrying out experimental learning for students in Hill environments. However, the issue has been raised that, so far, little encouragement has been given for developing an active, applied research role for the IRNR staff members. The team suggests that this issue be explored further, insuring, however, that such research be practical and oriented toward basic project purposes, if the RCUP is to actively participate in it.

Conclusions

Overall the evaluation team considers the training components of the RCUP are progressing satisfactorily. Aside from the construction of physical facilities, the program is roughly on schedule. In general, the kinds of problems and

constraints identified in the training programs associated with RCUP are relatively manageable and can be corrected. Considering the early stage of project implementation, project staff and agency personnel should have time to correct them and gain valuable lessons for the future.

XI. THE SCALE OF THE ENVIRONMENTAL PROBLEM VERSUS THE SCOPE OF RCUP

In 1980, the Food and Agriculture Organization of the United Nations published a reconnaissance inventory of the major ecological land units and their watershed condition (Nelson 1980). For the first time, this provided an overall assessment of the degree of watershed deterioration in Nepal. The following table reflects the results of that inventory, as modified by Joshi and Upadhaya (1981).

Percentages of Land by Watershed Conditions, Class and Estimated Square Miles in Parenthesis*

Watershed Condition Class	Zone					Total Nepal
	Terai	Siwaliks (Foot Hills)	Middle Mountains	Transition	High Himalayas	
Excellent	100	37	14	52	78	51
Good	-	28	65 (10,680)	42 (4,125)	16	36
Moderate	-	35	15 (2,465)	6 (590)	4	11
Poor	-	-	6 (985)	-	2	2
Very Poor	-	2	-	-	-	1

*Primary Source: Nelson (1980)

This table indicates that less than one percent of Nepal, or about 550 square miles, falls under the "very poor" category. These lands are so deteriorated that restoration to productive use is uneconomic with available technology. Further, two percent is classified as in "poor" condition. This area cannot be brought back to a productive, or at least stable, condition without extensive structural erosion control measures. Approximately eleven percent, or six thousand square miles, is in a "moderate" condition which requires biological and

mechanical treatments to bring the productivity back to "normal levels". About thirty-six percent, or 19,000 square miles, is in "good" condition and requires wise management to prevent further deterioration.

RCUP activities are primarily focused on two catchment areas in the Transition and Middle Mountain Zones of Nepal. The two catchments differ in degree of watershed deterioration, but are basically typical of the Transition and Middle Mountain Zones. (A specific classification of the two catchments themselves is not available.) In the Transition Zone overall, an estimated 4,700 square miles are in "good" to "moderate" condition. In the Middle Mountains, these two categories plus an estimated 985 square miles of land in "poor" condition total about 14,000 square miles. The total for "moderate" and "poor" condition lands is estimated to be 3,450 square miles in the Middle Mountains. The overall condition of land in these two zones is deteriorating at an unknown rate which, although unquantified, is expected to accelerate in the future if ameliorative measures are not taken. Clearly, by any standard, these are sizeable problem acreages.

It must also be recognized that over half of Nepal's growing population lives in the hills and that population density is high, approximately three-hundred persons per square mile (IBRD, 1981a). Thus, the 3,450 square miles of "moderate" and "poor" condition land in the Middle Mountains would involve about 1,035,000 people, using these over-simplified averages and calculations. The population of the RCUP watersheds is approximately a quarter of that amount (Campbell, 1978).

The preceding information is presented to establish the two-fold nature of soil and water conservation problems in the Hills of Nepal: (1) large acreages of land are in need of repair and better management, and (2) large numbers of people, primarily members of farm families, are an intimate part of the picture. Certainly, the high density of population in the hills is the main source of the conservation problem, but potentially it is also part of the solution.

Recognizing the large acreages of land involved, RCUP, other donors, and HMG individually or collectively face a massive challenge in attempting to solve the problems of soil and water conservation in the hills. However, the key to the

long-term success of soil and water conservation efforts in Nepal rests with a fundamental imperative: the active and willing participation of the people who live in the hill areas. If the people cannot be enlisted to implement soil and water conservation measures, little hope can be held for ultimate success.

If the people can be enlisted, however, there is hope that the task can be accomplished with relatively modest resources. This observation is based on the generalization that success in soil and water conservation programs is not predicated on the implementation of massive, high cost, high technology, large scale solutions, but rather the widespread implementation of relatively low cost, simple technology. Small scale, proven interventions that are reasonably within the capability of local residents, given motivation and given the provision of advice, encouragement and modest assistance from government, are primarily what are needed.

Of course generalizations have shortcomings. Some interventions are more costly than others; for example, the construction of river training works and landslide stabilization are relatively expensive undertakings. But most measures are labor intensive with comparatively modest capital and technical requirements (Nelson, 1980). Small efforts like reforestation near villages, better grazing practices here and there, construction of small check dams, and the leveling of terraces or bank/slope stabilization with grasses do not demand substantial financial resources if the local population has the will. Large numbers of people doing even relatively minor, simple works can have a large cumulative effect in terms of soil and water resources.

To sum up, in the words of the Department of Soil Conservation and Watershed Management (HMG, 1977): "The achievement of a land using ethic which brings about the repair of damaged soil and water resources and maintains productivity of lands now in production or capable of increasing production depends upon the involvement of people. It depends upon participation of local people contributing to community awareness of conservation practices while at the same time assisting in the lowering of the conservation expense. Involvement of the people develops a partnership between land use and resource conservation."

The Scope of RCUP - Planning Targets

One of the most difficult tasks facing the original designers of RCUP was to establish goals and targets which could serve as valid measures of accomplishment as well as practical management tools for judging effectiveness. To be meaningful, specific targets should not only be a measure of program accomplishments, however, they should also be logically related to the scale of the problems being addressed. Unless there is some sort of strategic relationship between the targets which are chosen and the overall scale of the condition to be corrected, the achievement of the targets themselves does not necessarily have any significance.

However, the design of RCUP and the selection of targets faced several difficulties. In the first place, while the selection of targets was based on considerable field work and exposure to conditions in the two watersheds selected, the data available were not complete. There was not, for example, any current aerial photography or reliable soil classifications to work from. Secondly, the RCUP was designed primarily as a mechanism to assist HMG to identify and develop long term technical and institutional responses to the problems of environmental degradation. The RCUP itself was not intended as a means actually to reverse the decline in the catchment areas through direct project activities. Rather, its purpose was to demonstrate methods which might be utilized and to engage the energies of the government and local citizens for the long-term effort. Finally, the conditions in the hills generally and the two catchment areas specifically are not static; they are dynamic and must be periodically re-examined. Not only are physical changes continually taking place in the environment, but population growth and movement also impacts upon project objectives. Thus, physical targets based on one set of conditions could well be rendered obsolete by changes in the physical or social environment.

Consequently, the designers of the RCUP selected activities and developed project targets based on a combination of factors. In the first place, they chose interventions which experience elsewhere suggested could be effective in reducing environmental degradation, were economically and socially efficient and exhibited a potential for application elsewhere in Nepal. Secondly, they attempted to establish specific targets for each intervention which were manageable, yet were

on a sufficient scale to fulfill the requirements for effective demonstration and were relevant to the institutional development objectives of the project. Finally, as part of the design effort, a cost/benefit analysis was undertaken to determine whether each of the proposed interventions was economically viable.

On these bases, the design of the RCUP and the implementation plan which followed incorporated targets for each physical activity to be carried out by the cooperating line agencies. These targets represented a collaborative decision regarding the combination of technologies, phasing, scale and mix of interventions which would be most appropriate for each of the two catchments. Those targets have been incorporated into National Planning Commission documents and have provided a basis for measuring project progress. In the project design studies, targets were set for five, ten and fifteen year periods and cost/benefit analyses were undertaken for the same time frame. Five-year targets were then disaggregated into one-year segments for implementation purposes.

Attached as Annex C is a report on the status of progress toward physical targets as of January 1983. This chart does not include the year-by-year targets. For the first complete year of project activity, i.e. July 1981 - July 1982, over ninety percent of the physical targets were reported completed by implementing departments. The RCUP headquarters staff believe that targets for the current year will be met by the end of the government's fiscal year in July.

Other Related Activities

In attempting to assess the impact of RCUP on the problems of environmental deterioration in Nepal, it is important to recognize that there are other projects and programs that also directly and indirectly impact on this problem. A number of integrated rural development projects supported by various donors have forestry, water and soil conservation components. Some of these have been mentioned earlier in the report in another context, but are summarized below as well:

1. Rasuwa -- Nuwakot Rural Development Project. Begun in 1976.
- includes agriculture, irrigation, forestry, soil and water conservation.

2. Sagarmatha Integrated Rural Development Project. Begun in 1978.
- includes agriculture, forestry, soil and water conservation.
3. Mahakali Rural Development Project. Begun in 1976.
- includes agriculture, irrigation, forestry, soil and water conservation.
4. Rapti Integrated Rural Development Project. Begun in 1980.
- includes farming systems, renewable resource management.
5. Koshi Hill Area Rural Development Project. Begun in 1979.
- includes agriculture, irrigation, forestry, credit and cooperatives.
6. Integrated Hill Development Project. Begun in 1980.
- includes agriculture, forestry, irrigation, water and energy.
7. Karnali-Bheri Integrated Rural Development Project. Begun in 1981.
- includes agriculture, irrigation, forestry, soil and water conservation.

In addition to these rural development programs, the Ministry of Forest and Soil Conservation administers multi-sectoral watershed management and community forestry projects as follows:

1. The Phewa Watershed Project and the Tinahu Watershed Project. Begun approximately 1979.
- supported by FAO, Swiss and Germans
- catchment areas are considered the planning unit for development.
2. Community Forest Program. Begun in 1979.
- Supported by IBRD/IDA
- to be implemented in 29 Districts.
- people participation to regenerate, protect and preserve the forests.
- has other components linked with energy, livestock and agriculture.

Scope versus Scale: Tentative Conclusions

Despite the number of activities being carried out by the RCUP and other similar projects, the Evaluation Team was not able to arrive at a firm judgment whether RCUP alone, or in a combination with others, has the potential for reversing the long term environmental decline threatening Nepal. While the targets set by RCUP seem to be sensible and appropriate in themselves, they do not appear to be adequately linked to the strategic purposes of the project. At this stage, it does not seem to be possible to state reliably, for example, that if the activities projected over the fifteen year period are actually carried out as

planned, whether there is or is not a reasonable likelihood that the environmental decline can be arrested in the two catchment areas. The team was encouraged to learn from the district chairmen in both Myagdi and Ghoroka that, in their judgement, if the scale of project activities now underway continues and the forest replanting which can take place from the already established and planned nurseries actually takes place, there will be sufficient progress by the end of a ten-year period to stabilize the watershed conditions in their respective districts. They both felt the physical progress thus far had provided an enormous boost for village morale -- that it offered for the first time in many years grounds for optimism that the decline in living conditions in the hills could be reversed. Nevertheless, no analytical framework presently exists for drawing a relationship between the scale of the environmental problem facing Nepal and the scale of the RCUP and other activities now underway.

Obviously, there are many unknowns and perhaps unknowables that make projections on the basis of physical targets difficult, if not impossible. The RCUP rests on the proposition that appropriate demonstrations and support for local institutions and farm families on the planned scale will begin a process that can be sustained and expanded largely through the efforts of local people. While there appears to be a reasonable basis for this assumption, only time and experimentation will demonstrate its validity. On the other hand, sustained population growth in the hills might well overwhelm all the activities being carried out under the project.

Thus, while the team is concerned with the adequacy of the rationale linking the scale of RCUP activities to the scale of the problems being addressed, it also recognizes the impossibility of developing such a rationale on a once-and-for-all basis. Consequently, the team recommends that RCUP staff undertake, on a periodic basis, a re-examination of project targets in both quantitative and qualitative terms. Such a review has not taken place since implementation began in 1981. Experience gained thus far and the availability of more (and more-reliable) data, plus recent aerial photography, should facilitate such a re-examination. This re-examination should include a special emphasis on developing a quantitative and/or qualitative linkage between project targets and strategic objectives so that if the physical targets are met, there is a reasonable basis for believing the basic project purposes will also be fulfilled.

Evaluation of Interventions

Related to the re-examination of project goals and targets, the team also believes a more systematic continuing evaluation effort is needed. At this stage, the monitoring and evaluation system of RCUP seems to be primarily a monitoring program that tracks progress in implementation, basically of construction and the physical interventions carried out by the various departments of HMG. The monitoring is carried out primarily by the implementing departments.

The RCUP is sponsoring a large number of widely distributed interventions in the catchment areas. As to be expected with this kind of arrangement, some of the interventions are likely to have more impact on soil and water conservation problems than others. For example, an irrigation system to supply water to a panchayat nursery which in turn supplies trees for reforestation will probably have a more direct impact on conservation problems than will a drinking water project for a village. Yet the cooperation of villagers may be more likely if some of their priority needs are met along with other high priority conservation interventions.

A challenge to the RCUP is to make certain that an appropriate balance is struck between what people want, which is inclined to be short term in focus and directed at immediate basic needs, and what is in the best interest of soil and water conservation, usually requiring a longer term focus. A related requirement is to ensure that concurrence with village-level priorities carries an understanding on the part of the people to support, in an appropriate way, the other interventions required in a conservation program. Also, since RCUP is substantially a demonstration and education project, the combinations of interventions throughout catchments should be designed to have "spread" effect, that is, have the potential to be replicated elsewhere and on a wide scale.

The task of involving a wide range of participants in intervention selection, satisfying at least some of the local requests, implementing a large number of effective soil and water conservation practices, and designing projects with "spread" potential is complex. The complexity is such that RCUP needs to have a

formal, continuous and independent system to evaluate outputs in the field. Evaluation will become increasingly important as more field interventions come on line and are ready for review in terms of effectiveness. A major goal of evaluation will be to learn what works and what does not and why. The evaluation process will help identify useful principles and will assist in the replication of results in other areas. Evaluation will also provide information to RCUP on which investments have been proven cost effective and which have not. This information can then help guide future project investments.

Clearly, evaluation should not be limited to an accounting of the number of physical works completed. The interventions should be assessed from a physical, biological, social and institutional perspective. By way of example, some of the questions that could be usefully asked about the output of implemented interventions are:

- Did productivity increase, and why or why not?
- Which interventions were successful soil and water improvement measures; which were not, and why?
- Did the interventions strengthen political and government institutions for achieving soil and water conservation goals? How?
- Did the interventions encourage and motivate local people?
- Did the interventions provide a basis for replication elsewhere and is there any evidence of spread effect?
- Have the interventions been maintained?

Since many interventions are included in varying levels of detail in RCUP, some lumping of activities by category may be necessary for purposes of analysis and evaluation.

RCUP should formally strengthen its efforts to evaluate the output and effectiveness of interventions in the field. Such an evaluation system will provide:

- An independent assessment of the physical, biological, social and institutional impact of implemented interventions, and assessment of their spread potential,

- A basis for modification of interventions and implementation strategies to improve effectiveness.
- A basis for modifying RCUP activities to stay focused on those interventions that are most likely to be successful. That is, the evaluation system should be interactive with on-going and planned interventions in the field.
- An improved basis for linking specific interventions with strategic goals as discussed in the previous section.

This proposed increased effort will demand additional project resources, time and perhaps staff. The team suggests that these resources will be well spent in a project that has many activities that require careful coordination, monitoring and management in time and space.

XII. REQUIREMENTS FOR FUTURE USAID SUPPORT

In the scope of work prescribed by the mission for the Evaluation Team, four basic questions were raised, the last of which was derived from the first three. That is, in light of the conclusion reached regarding the issues of integration, organization and local impact, is there a "reasonable probability that the project can achieve the objectives claimed?" In other words, is the project feasible? No evaluation can guarantee project success. Only time provides an answer to that question. However, as the previous sections of this report indicate, the team sees no serious evidence that the project is not feasible. Problems have been encountered, but progress has also been achieved. There are no valid grounds to conclude that the original project design in its basic elements was fallacious. Therefore, we have concluded that there is a reasonable probability that the project can achieve its objectives.

In the context of its conclusions regarding feasibility, the team was also asked to comment on "time frame alternatives." This is interpreted as a request for Evaluation Team views regarding the question of over what period of time and in what manner should USAID support for RCUP be provided.

The team approached this issue with some trepidation. As is established elsewhere in this report, the RCU Project is still in relatively early stages of evolution. The second year of field operations is not yet complete. In addition, the focus of the team's efforts was primarily a re-examination of the original assumptions on which the project was based rather than an evaluation in the usual sense. Consequently, the assessment of future requirements is essentially subjective and based on a relatively limited period of project implementation as well as team observations. Nor does the team lay claim to special insights in this matter.

The RCUP project paper states that "while the first phase of RCUP is a five-year project covering two catchment areas, ideally it will be extended after the first five-year phase to include two additional catchment areas for a total fifteen year period." As authorized by AID/W, the project provided for a mid-term evaluation, tentatively scheduled for 1983. This evaluation

would determine if sufficient objectives have been accomplished to warrant an extension of project activities to two additional catchment areas. The two catchments suggested for additional consideration are the Kulekhani and Jumla basins.

The original fifteen year expectation was based largely on the obvious fact that soil and water conservation programs are long-term in nature. While the team fully endorses this proposition, it does not necessarily mean that donor assistance for such programs must be carried out over the same time frame as reforestation. The Government of Nepal is embarking on a relatively permanent effort to stabilize and improve its natural environment. Even fifteen years is a short time period from that perspective. The question is, rather, what period of time is needed for the financial support and technical insights deriving from outside donor assistance to set in motion a self-sustaining effort by HMG?

The team proceeds from the assumption that the United States will continue to provide development assistance to Nepal--one of the world's relatively least developed countries--for the foreseeable future. In this context, the issue then is not whether there will be funds available for such support, but what are the most appropriate uses for development aid in light of national problems and priorities. Based on the team's admittedly limited knowledge of the constraints impeding Nepal's long-term development, the intertwined problems of population growth and the deterioration of its natural resource base must surely rank among the most central issues facing the country. The basic requirement for assistance in natural resource conservation is matched by the relatively high levels of technical skills which have been developed in the United States in soil and water conservation and watershed management. The U.S. has a rich experience in dealing with conservation problems and thus has a great deal to offer.

Consequently, the team considers the assistance to HMG in countering environmental degradation should, logically, continue to constitute a basic element of the USAID program. However, that does not answer the more specific question of how long USAID should support the RCU Project itself.

The fundamental question which must be asked is how long will it take to institutionalize on a relatively lasting basis the technical and organizational

lessons learned under RCUP? As has been reiterated throughout this report, the long-term effectiveness of this effort will depend upon the widespread, willing adoption of conservation and related agriculture technologies by the people inhabiting the hill areas covered by the project. This will involve the evolution of governmental institutions both in the center and at district and village panchayat levels. This is obviously a complicated and long-term proposition. The project has made an acceptable beginning, but obviously much remains to be done. Based on its own field observations and discussions with HMG participants, the team does not believe that five years is a sufficient length of time to achieve this basic project objective. On the other hand, the team is also of the opinion that fifteen years is probably more than enough time to test and put in place viable institutional arrangements and technologies. In the team's judgement, a ten-year period and, subject to reassessment later, possibly even a slightly shorter length of time should be adequate to fulfill RCUP objectives as now defined. This is not to say, of course, that there will be no further need for outside donor assistance in the broad area of environmental degradation, but only by that time the concepts put forward should have been tested, adapted and institutionalized.

The answer to the question of whether it will make sense to add two or more catchment areas to the coverage of RCUP is not entirely clear to the team. One logical approach would be to begin a gradual shift of USAID support from the two present catchments toward the end of the present five-year project period to an additional catchment or two. This would permit some experimentation regarding the effect on panchayat and district institutions of selectively reducing USAID assistance without totally withdrawing, while at the same time it would test the effectiveness in new areas of the techniques developed in the first two catchments. However, it is really too early to judge whether or not this will make good program sense. Perhaps in another year a more reliable assessment can be made.

The question has also been raised of whether the mission should consider a phase-out or reduction of project support even short of the planned five-year period. The Evaluation Team would recommend strongly against consideration of such an option at this time. The RCUP project is the cumulative result of over

five years of effort by large numbers of both HMG and US technicians and planners. The team can see no grounds for concluding at this stage that the project is likely to fail. The U.S. has signed a five-year commitment to a joint effort on an agreed scale. There will doubtless be sensible bases for marginal adjustments in the make-up of the project to reflect rates of progress or to deal with emerging problems. In addition, over the next year or so experience may well demonstrate some planned interventions to be relatively marginal to project purposes so that they can be reduced or eliminated, in collaboration with HMG. Conversely, some important new, unanticipated activities may grow out of the village-level planning being fostered under the project. The team feels it is important, for the present, to carry out the project more or less as planned. It is still too early to write off any one component as being unnecessary or unimportant. Any attempt to withdraw or basically alter the nature of the U.S. commitment in the absence of clear evidence of failure would be seen as a serious breach in USAID-HMG relations. And it would almost certainly bring into question the reliability of the USAID as a development partner.

Finally, the proposed mid-term evaluation anticipated in the project paper is tentatively scheduled for later this year. This timing was based on the assumption that the project would actually get under way during 1980. As discussed earlier in this report, most project activities did not get underway until mid 1981. In view of this, and the fact that this study has dealt with some of the same issues which would be considered by the proposed evaluation, the team recommends that the mid-term evaluation be rescheduled for some time next year. By mid or late 1984, the answers to some of the questions relating to possible expansion into additional catchments should be considerably clearer. At this stage, the RCU Project could use an extended period to focus on the problems of implementation rather than facing the disruptions which would be associated with another evaluation.

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ANNEXES

- ANNEX A Evaluation Scope of Work
- ANNEX B Persons Met by the Team
- ANNEX C Physical Activities Completed
- ANNEX D Soil and Watershed Conservation Act, 1982
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ANNEX A

EVALUATION OF SCOPE OF WORK

CABLE EXERPTS

Kathmandu 6489
December 3, 1982

I. SUBJECT EVALUATION STATEMENT OF WORK FOLLOWS PER REFTEL: QUOTE

1. The Project

The resource conservation and utilization project (RCUP-367-0132), with LCP funding of \$32.5 million (AID contribution \$27.5 million), is the principal vehicle of AID support to natural resource management of the Government of Nepal (GON). The project grant agreement between the GON and AID was signed on August 31, 1980, and the Associated Technical Assistance Contract signed by AID and SECID (South-East Consortium for International Development) on February 6, 1981. The project is designated as a Title XII undertaking, and SECID was involved in the development phase which was conducted by the GON and AID during the period 1977-1980 as a part of the RCU/RAD design project, No. 367-0133. Located along the southern slopes of the geologically young and fragile Himalayan mountains and experiencing the phenomenon of rapid population growth so common to the world's least developed nations, Nepal is faced with alarming trends of natural resource depletion and stagnation in land productivity. These trends are particularly severe in the hills, where over half of the nation's fifteen million people live. As the result of intense and increasing population pressures on the limited resource base, forests are gradually disappearing, landslides are occurring with increased frequency, and soils are being leached and eroded at an alarming pace. The natural environment is being badly degraded.

RCUP is one of several major initiatives of the Government of Nepal in its program to halt and reverse these environmental trends. Focused squarely on two large and problematically representative catchment areas in this country of many watersheds, the project is designed to identify, develop and apply a wide range of conservation techniques with the purpose of achieving lasting redress in the delicately balanced equation of people to land. Fundamentally an educational project, RCUP works with and through the village people of the Kali Ghandaki and Daraundi watersheds to apply a full range of conservation and management interventions to their resource problems. The project which also works in resource management policy at the country level and in education and training through the national university, is perceived by the GON as a fifteen year program effort. The AID present commitment is for a shorter period, with a PACD of JULY 15, 1985.

II. PURPOSE AND TIMING OF THE EVALUATION

This special evaluation is designed to answer certain basic questions of fundamental importance to the project and to AID's Development Assistance Program in Nepal. Essentially, the evaluation will be concerned with assessing whether the approaches adopted for the project have a reasonable probability of achieving the objectives set and in what time frame. As noted above, the AID funding commitment at this stage is limited to the first five or six years, but the project itself is predicated on a 15-year program outlook. The evaluation should assess the prospects for self-sustaining and continuing progress after AID assistance ends. If a cutoff at the five to six year point does not prove feasible, the evaluation should establish at what later stage the probabilities will balance in favor of such progress or, alternatively, whether the AID investment should be terminated even before the present phase has been completed. The question basically is whether this multifaceted project is feasible in terms of its objectives. To reach that question, it is necessary in the first instance to address three conclusions which were reached during development of the project and which were accepted as basic assumptions.

The first and most fundamental of these assumptions is that the essential purpose of the project demands a comprehensive and integrated multi-sectoral approach to the identification, development and application of conservation techniques under Nepalese conditions. (This requires coordination of inputs by eleven different departments and agencies of the GON.)

The second assumption is that technical assistance (TA) to the project can best be channeled through a team of experts drawn from a variety of disciplines and bound together in a central project office related to but separate from the GON departments and agencies involved in project implementation.

The third is that the project's activities must be structured yet flexible, i.e., described in terms specific enough to provide essential guidance and yet loose enough to encourage widespread participation and allow decision-making by the village people who live in the project's two catchment areas.

The design of the project and the formulation of its components and methods of operation clearly reflect these three basic assumptions. The project is integrated and multifaceted. It is organized around a central project office and relies on a multi-disciplinary team of TA contract experts, and the project is heavily dependent upon local participation and local decision-making with respect to the selection, prioritization and implementation of specific activities being undertaken.

III. QUESTIONS THE EVALUATION TEAM WILL ANSWER

The Evaluation Report should answer the following major questions:

1. Is the integrated approach chosen for the implementation phase a valid and workable one? Are there possible alternative approaches? If so, what are they? What would be the advantages and disadvantages of each of them? Would a shift in approach be feasible and what costs would such changes in approach entail?
2. Is the present organization and staffing of the central office, and the structure and elements of the technical assistance team, make good sense for the integrated approach taken? What, if any, changes and/or improvements should be considered -- under a continuation of the integrated approach; under a modified approach? Are available expertise and resources being applied appropriately and wisely? Are all essential components being adequately covered and supported?
3. Are local people sufficiently involved within the framework of the first two basic assumptions? Are the objectives of the project understood by local participants? Are local people receiving accurate information? Do local decisions reflect an appreciation of the project's purpose and a commitment to its objectives? Can local participation be improved and, if so, how should this be accomplished?
4. In general, these three questions contribute to the fourth and overall question of essential feasibility, i.e., the reasonable probability that the project can achieve the objectives claimed, the prospects for self-sustaining progress and the timeframe alternatives.

ANNEX B
PERSONS MET BY THE TEAM

PERSONS MET BY THE TEAM

Mustang District

1. Prakash B. Malla, Acting C.D.O, Mustang
2. Mohan Koirala, Forest Officer, Mustang
3. Prithivraj Poudel, Engineer, District Panchayat Secretariat, Mustang
4. Pasang Khampachhe Sherpa, Marfa Farm, Mustang
5. Madhukar Upadhya, CCO, Mustang
6. M.B. Thapa, Livestock Development Officer, Mustang
7. Kritya Nanda Gupta, Assistant Agronomist, Mustang
8. S.K. Shrestha, Agriculture Development Officer, Mustang
9. Krishna Prasad Paudyal, Assistant Agronomist, Marfa Farm, Mustang
10. Surya Nath Adhikary, Acting Cooperative Officer, Mustang
11. Harish Chandra Wagle, Sub-Branch Manager, A.D.B. Mustang
12. Surendra Kumar Hirachan, Pradhan Pancha of Marfa Panchayat
13. Bishnu Thakali, Memembr, Mustang District Panchayat

Myagdi District

1. Padma Raj Regmi, C.D.O. Myagdi
2. Basudev Poudyal, L.D.O. Myagdi
3. Kiran Nath Shrestha. Catchment Conservation Officer
4. Manahar Lal Shrestha, Divisional Forest Officer
5. Hari Bahadur Koirala, Manager, ADB
6. Jit Bahadur Gurung, Agriculture Officer
7. Balram Sachin, Cooperative Inspector
8. Babu Ram Jamarkahel, Assistant Veterinary Doctor
9. Rudra Bahadur K.C., Chairman, Myagdi District Panchayat

10. Mok Bahdur Pun, Vice-Chairman, Myagdi District Panchayat
11. Tek Bahadur, Member, District Panchayat
12. Asha Bahadur, Member, District Panchayat
13. Lal Prasad Gauchar, Memebr, District Panchayat
14. Thabir Pun, Pakherpani Villave Panchayat
15. Indra Prasad Gauchar, Member, District Panchayat
16. Prithvi Bahadur Sahi, Pradhan Pancha, Rakhu Pipele Village Panchayat
17. Devi Bahadur Malla, Pradhan Pancha, Rakhu Bhagwati Village Panchayat
18. Krishna Bahadur Rana, Pradhan Pancha, Tatopani Village Panchayat
19. Gopi Ram, Pradhan Panchaya, Begh-Khola, Village Panchayat
20. Dalsingh Thapa Magar, Chairman, District Farmers Organization
21. Kismat Mani Shrestha, Treasurer, District Youth Organization
22. Mrs. Khadga Kumari Serchan, Chairwoman, District Women's Organization
23. Mrs. Durga Devi Karki, Member, Zonal Women's Organization
24. Ram Bahadur Roka, Member, District Panchayat
25. Krishna Prasad Sharma, Kuhu Village Panchayat

Gorkha District

1. Daya Ram Kharel, Acting C.D.O. Gorkha
2. Ram Prasad Sharma, Acting L.D.O., Gorkha
3. Krishna Prasad Rimal, Project Engineer, Irrigation Scheme
4. Madan Bahadur Shrestha, Cooperative Inspector
5. Babu Ram Acharya, Ranger, Gorkha Division
6. Shiva Ratna Rajbahak, Project Engineer, Water Supply Project

7. Debra Dunahay, PCV
8. Mohan Wagley, Asst. Soil Conservation Officer, Headquarter
9. Ram Babu Bista, ADB
10. Dr. K.B. Bohara, Livestocks Development and Animal Husbandry, Gorkha
11. Lal Chand Pradhan, Catchment Conservation Officer
12. G.P. Ojha, Agriculture Development Officer, Gorkha
13. Birendra Pokhrel, Chairman, District Panchayat, Gorkha
14. Miss Bimala Shrestha, Teacher
15. Miss Manju Arya, Social Worker
16. Miss Kalpana Joshi, Chairman, District Women's Organization
17. Bhim Kumar Joshi, Secretary, Zonal Committee, Nepal Youth Organization
18. Hari Ram Sharma, Ex-Chairman, District Panchayat
19. Budhi Bahadur Kunwar, Ex-Chairman, District Farmers Organization
20. Amrit Kunwar, Pradhan Pancha, Raniswara Village Panchayat
21. Krishna Narayan Shrestha, Member, District Panchayat, Gorkha
22. Ganga Bahadur Paneru, Pradhan Pancha, Sorpani Village Panchayat
23. Dhiraj Bahadur Maskey, Ex-Vice-Chairman, District Panchayat
24. Subha Sharma Khanal, Member, District Education Committee
25. Mohan Narayan Shrestha, Head Master
26. Mohan Lal Shrestha, Pradhan Pancha, Gorkhakali Village Panchayat
27. Bhairab Bahadur Basnyat, Nareswar Village Panchayat, Gorkha

Kathmandu

1. Dennis Brennan, Director, USAID/N
2. Tom Rose, Assistant Director, USAID/N

3. Doug Pickett, USAID/N
4. William Nance, USAID/N
5. Carlton Coon, U.S. Ambassador to Nepal
6. Emerald J. Rana, Secretary, Ministry of Forests and Soil
7. M.D. Joshi, Director General, Department of Soil Conservation and Watershed Management
8. Kumar Upadhyaya, Project Co-ordinator, RCUP
9. Gerald Richard, Team Leader, SECID
10. Santa Bahadur Rai, Additional Secretary, Ministry of Panchayat and Local Development
11. Ram Chandra Bahadur Singh, Vice-Chancellor, Tribhuvan University
12. P.B.S. Pradhan, Planning Chief, Ministry of Forests and Soil Conservation and Training Wing
13. S.K. Upadhyaya, Acting General Manager, ADB/N
14. Ek Raj Sharma, Chief, Forestry Survey and Research Division, MFSC
15. Chitra Dev Bhatta, Director General, Dept. of Irrigation, Hydrology and Meteorology
16. Karna Dhoj Adhikary, Secretary, Ministry of Finance
17. Dev Bahadur Rayamajhi, Chief Engineer, Department of Water Supply and Sewerage
18. Manzooral Haque, Chief Conservator, Department of Forests
19. Thir B. Singh, Director General, Department of Livestock Development and Animal Husbandary
20. Narendra Basnet, Registrar, Department of Cooperative
21. Dr. Mohan Man Sainju, Vice-Chairman, National Planning Commission

PVC Volunteers

1. Steve C. Hall
2. Thomas E. Mafera
3. Mark A. Conley
4. Jeff Peterson
5. Debra Dunahay

SECID Team/Nepal

1. Gary White, Hydrologist
2. John Lamb, Engineer
3. William Hart, Training
4. Jan Briede, Range, Pasture Specialist
5. William Leuschner, Forest Management
6. Don Messerschmidt, Sociologist
7. Robert Adams, IRNR
8. Dan Amos, Soil and Specialist
9. John Davenport, Civil Engineer
10. Kerry R. Liven Good, Resource Economist

ANNEX C

PHYSICAL ACTIVITIES COMPLETED

TABLE 1:

PHYSICAL ACTIVITIES COMPLETED
DEPARTMENT OF SOIL CONSERVATION & WATERSHED MANAGEMENT

ACTIVITY	UNITS	5 YEAR TARGET	TOTAL TO DATE	JULY 82 TO JAN 83	JULY 81 TO JULY 82	BEFORE JULY 81
PANCHAYAT NURSERY NEW	NO.	35	19.2	A/ 1.2	8	B/ 10
PANCHAYAT FOREST	HA.	685	90.35	19.35	58	13
RENOVATION OF OLD PLANT	HA.	406	32.7	32.7	NA	NA
RENOVATION OF OLD NURSRY	NO.	29	2.4	2.4	NA	NA
TRAIL IMPROVEMENT	KM.	20	5.8	.75	1.9	.15
TERRACE IMPROVEMENT	HA.	132	24.4	4.5	19.6	.3
MAJOR GULLEY CONTROL	NO.	8	.3	.3	0	NA
ROAD SLOPE STABILIZATION	KM.	2	.46	.12	.34	0.06KM
COM. WATER SOURCE PROTEC	HA.	200	59	9	50	NA
STREAM BNK STABILIZATION	KM.	.3	.015	.015	0	NA
FLOOD PLAIN TREE PLANT	HA.	170	33.5	1.5	32	NA
STAGE REORDER & CABEL WAY	NO.	3	.45	.45	0	NA
CLIMETOLCICAL STATION NEW	NO.	5	2.3	.3	2	NA
CLIMETOLCICAL STATION OLD	NO.	11	.75	.75		NA
CATCHMENT POND	NO.	27	3.3	.3	3	NA
COMMUNITY FISH POND	NO.	12	.2	0	2	NA
IRRIGATION CANAL	NO.	11	.75	.75	0	NA
WINDMILL	NO.	5	1.15	.15	1	NA
HYDROLOGG SURVEY	M.HA.	350	79.4	0	79.4	NA
GEOLOGICL SURVEY	M.HA.	491	151.8	0	151.8	NA
SOIL SURVEY	M.HA.	450	114.7	13.5	101.2	NA
LAND CAPABILITY	M.HA.	260	22.3	0	22.3	NA
HAZARD MAPPING	M.HA.	260	10.5	0	10.3	NA
ADAPTIVE RESEARCH	NO.	AS NEEDED	5	0	5	NA
IMPACT EVALUATION	PLOT		15	0	6	NA
PANCHAYAT PLANNING	NO.	C/	1	0	1	NA
DOCUMENTTTION	POINTS		270	241	156	105
IMPROVED STOVES	NO.	190	190	25	165	NA
SOLAR DRIER	NO.	16	5	0	5	NA
SOLAR WATER HEATER	NO.	38	3	0	3	NA
SECONDARY TECHNOLOGIES	NO.	AS NEEDED	22	0	22	NA

NA = NOT APPLICABLE

A/ 7/82-1/83 COMPLETION IS AN ESTIMATE. THE DEPARTMENT REPORTS 15 PERCENT ACTIVITY ACCOMPLISHMENT TO THE NATIONAL PLANNING COMMISSION. ENTRIES FROM "PANCHAYAT NURSERY" TO "WINDMILL" ARE ESTIMATED BY MULTIPLYING THE ANNUAL DEPARTMENTAL TARGET BY 0.15.

B/ INCLUDES DESIGN PHASE

C/ NEW PROGRAM. 5 YEAR TARGET NOT YET SET.

TABLE 2: PHYSICAL ACTIVITIES COMPLETED

 DEPARTMENT OF FOREST

ACTIVITY	UNITS	5 YEAR TARGET	TOTAL TO DATE	JUL 82 TO JAN 83	JUL 81 TO JUL 82	BEFORE JUL 81
CENTRAL NURSERY	NO.	3	3	A/ 0	3	NA
RENOVATE CENTRAL NURSERY	NO.	3	1.05	1.05	NA	NA
NATIONAL FOREST PLANTAT.	HA.	2130	209.1	147	62.1	NA
ESTABLISH P.F.F.	HA.	7513	1643	793.8	849.2	NA
FOREST DEMARCATION	KM.	2590	467.35	231.15	233.2	NA
SEEDLING DISTRIBUTION	NOS.	493800	52134	34	52100	NA
PREPARE PPF MGMT PLAN	HA	6013	586.95	586.95	0	NA
IMPLEMENT PPF MGMT PLAN	HA.	4280	258.3	258.3	0	NA
PERFORM FOREST INVENTORY	HA.					
GORKHA		25670	25670	0	25670	NA
MYACDY/MUSTANG		26895/6398	0	0	0	NA
PREPARE NATL FOR MGT PLAN	HA.					
GORKHA		25670	0	0	0	NA
MYACDY/MUSTANG		26895/6398	0	0	0	NA
IMPLEMENT NATL FOREST MGMT. PLAN.						
GORKHA		25670	0	0	0	NA
MYACDY/MUSTANG		26895/6398	0	0	0	NA
ESTABLISH TRIAL PLOTS	NO.	195	21	0	21	NA

NA = NOT APPLICABLE.
 A/ 7/82-1/83 COMPLETION IS AN ESTIMATE. THE DEPARTMENT REPORTS 35 PERCENT ACTIVITY ACCOMPLISHMENT TO THE NATIONAL PLANNING COMMISSION. ENTRIES FROM "CENTRAL NURSERY" TO "IMPLEMENT PPF MGMT PLAN" ARE ESTIMATED BY MULTIPLYING THE ANNUAL DEPARTMENTAL TARGET BY 0.35.

TABLE 3: PHYSICAL ACTIVITIES COMPLETED

 DEPARTMENT OF AGRICULTURE

ACTIVITY	UNITS	5 YEAR TARGET	TOTAL TO DATE	JUL 82 TO JAN 83	JUL 81 TO JUL 82	BEFORE JUL 81
IMPROVED VARIETIES AND PRACTICES						
RICE	HA.	3044	616	0	616	NA
MAIZE	HA.	8683	1747	11	1736	NA
WHEAT	HA.	2749	2094	1460	634	NA
MILLET	HA.	624	6	6	NA	NA
POTATO	HA.	313	131.5	43.5	88	NA
PULSE	HA.	83	32	18	14	NA
VEGETABLE FRUITS	HA.	A/	197	197	NA	NA
	HA.	A/	16.5	16.5	NA	NA
MINIKIT DISTRIBUTION	NO.	8101	0			NA
CEREAL SEED	NO.		1088	476	612	NA
VEGETABLE SEED	NO.		2987	1447	1540	NA
FRUIT SAPLING	NO.	192450	22500	0	22500	NA
VERIFICATION TRIAL	NO.	111	12	0	12	NA
VARIETAL TRIAL	NO.	179	29	10	18	NA
STORAGE TRIAL	NO.	19	6	0	6	NA
V.A.A. TRAINING	NO.	750	195	0	195	NA
JT/JTA REFRESHER	NO.	22	4	0	4	NA
JT/JTA ORIENTATION	NO.	68	12	0	12	NA
FARMERS TRAINING	NO.	300	79	5	74	NA
CROP YIELD COMPETITION	NO.		0			NA
VILLAGE LEVEL	NO.	A/	6	6	0	NA
CATCHMENT LEVEL	NO.	A/	5	5	0	NA
ORCHARD DEMONST.	NO.	A/	0	0	0	NA
FRUIT PLANT PRODUCTION	NO.	4700	0	0	0	NA
VEGETABLE SEED PRODUCT.	KG.	A/	200	200	0	NA
FRUIT BRANDY PRODUCTION.	LTR.	A/	500	500	0	NA
SATELITE NURSERY	NO.	5	1	0	1	NA
AGRICULTURAL SUB-CENTER	NO.	8	12	6	6	NA

NA = NOT APPLICABLE

A/ = NEW ACTIVITIES. 5 YEAR TARGET NOT YET SET.

TABLE 4:

PHYSICAL ACTIVITIES COMPLETED
DEPARTMENT OF LIVESTOCK DEVELOPMENT & ANIMAL HEALTH

ACTIVITY	UNITS	5 YEAR TARGET	TOTAL TO DATE	JUL 82 TO JAN 83	JUL 81 TO JUL 82	BEFORE JUL 81
PANCHAYAT COVERAGE BY LDSC	NO.	59	10	5	5	NA
FORAGE CROP DEVELOPMENT	HA.	172.2	12	5	7	NA
IMPRVD PASTURE DEVEL PF	HA.	300.4	38	0	38	NA
IMPRVD PASTURE DEVEL PLANT	HA.	225	31	0	31	NA
RANGE MANAGEMENT	HA.	947	10	0	10	NA
STUDY OF FOREST RANGE MGT.	NO.	40	0	0	0	NA
LIVESTOCK PRODUC. STUDY	NO.	24	0	0	0	NA
FIRST AID KIT DIST.	NO.	528	0	0	0	NA
FODDER TREE SAFL. DIST.	NO.	0	15400	0	13400	NA
SALT MINERAL BLOCK-DIST.	NO.	2674	300	0	300	NA
DISTRIBUTION:						
MULE	NO.		2	2	0	NA
BUFFALO BULL	NO.	59	7	0	7	NA
JERSEY CROSS BULL	NO.	132	17	7	10	NA
JAMUNAPARI GOAT	NO.	20	8	0	8	NA
CROSS BUCK	NO.	55	0	0	0	NA
CROSS RAM	NO.	45	15	5	10	NA
IMPVD CHICKS	NO.	10000	2300	800	1500	NA
FERTILE EGGS	NO.	10000	3000	1500	1500	NA
CASTRATION	NO.	2070	51	0	51	NA
VACCINATION	NO.	AS PER REQUIRED	40917	5917	35000	NA
LIVESTOCK TREATMENT	NO.		26672	26672	NA	NA
DRENCHING FOR PARASITE	NO.	114950	64439	33839	30600	NA
DIP & DUST SHEEP & GOAT	NO.	132000	7185	7185	0	NA
INSTALL DIPPING TANK	NO.	42	5	0	5	NA
TREVICE AND R.P. UNIT IMP	NO.	10	0	0	0	NA
LIVESTOCK ASST. TRAINING	NO.	118	32	0	32	NA
LIVESTOCK ASST. REFRESHER	NO.	276	0	0	0	NA
FARMER TRAINING	NO.	550	160	90	70	NA
FARMERS FAIR	NO.	57	3	0	3	NA
JT & JTA INSERVICE TRAINI.	NO.	245	24	0	24	NA

NA = NOTAPPLICABLE

ANNEX D
SOIL AND WATERSHED CONSERVATION ACT, 1982

ANNEX D

MINISTRY OF FORESTS

AND

SOIL CONSERVATION

(Unofficial Translation)

SOIL AND WATERSHED CONSERVATION ACT, 1982

HIS MAJESTY'S GOVERNMENT OF NEPAL

KATHMANDU - 1982

(Royal Titles).

A Law Enacted to Make Arrangements Relating
to Soil and Watershed Conservation

Preamble : Whereas it is expedient to make legal arrangements in respect to the control of such natural disasters as floods, landslides, and soil erosion, and to ensure the convenience and maintain the economic interests of the public.

Now therefore, His Majesty King Birendra Bir Bikram Shah Dev has enacted this law on the advice and with the approval of the National Panchayat.

1. Short Title and Commencement

- (1) This law may be called the Soil and Watershed Conservation Act, 1982.
- (2) It shall come into force at once.

3. Definitions

Unless otherwise meant with reference to the subject or context, in this act:

- (a) Protected Watershed Area means a protected watershed area as declared under Section 3.
- (b) Soil and Watershed Conservation means the work of protecting or saving any area from such natural disasters as floods, landslides, and soil erosion, keeping the volume and flow of water in normal condition, or maintaining the purity of the flow of water without letting it get muddy.
- (c) Land Use System means the process of using land on a long-term basis by cultivating it or using it otherwise in such a manner that its fertility is maintained, and its physical and chemical properties are not weakened or destroyed, or are preserved.

- (d) Department means the Department of Soil and Water Conservation.
- (e) Watershed Conservation Officer means prescribed or in the manner prescribed in rules framed under this act.

3. Power to Declare Protected Watershed Area

- (1) In case it so deems necessary for the conservation of soil and watersheds, His Majesty's Government may declare any area of the Kingdom of Nepal as a protected watershed area by notification in the Nepal Rajapatra after indicating the boundaries on four sides.
- (2) His Majesty's Government may alter the boundaries of a protected watershed area as declared under Sub-Section (1) according to need by notification in the Nepal Rajapatra.

4. Measures Which May be Taken in Protected Watershed Area

For the purpose of soil and watershed conservation, the Soil and Watershed Conservation Officer may take the following measures in a protected watershed area :

- (a) Construction and maintenance of dams, check dams, embankments, terrace improvement, irrigation channels, subsidiary irrigation channels or diversion channels, retaining walls, tanks, or similar other structures.
- (b) Arrangements for trial plots and maintenance thereof.
- (c) Afforestation, planting of grasses, bushes, or other vegetation, and maintenance and nurturance thereof.
- (d) Protection of forests, bushes, grasses, or other natural vegetation on lands which may be eroded by landslides as well as on steep hillsides, and maintenance and nurturance thereof.
- (e) Cultivation of crops and fruits.
- (f) Maintenance of the fertility of the soil and the purity of water and environment in a balanced manner.

- (g) Electrification of the concerned places.
- (h) Other measures relating to soil and watershed conservation prescribed by His Majesty's Government.

5. Classification of Lands Within Protected Watershed Area

For the purpose of Section 4, the Soil and Watershed Conservation Officer may classify lands within the protected watershed area in the prescribed manner.

6. Cultivation Under Land Use System

- (1) The Watershed Conservation Officer may undertake or arrange for the cultivation of any crop or fruit, or the planting of trees, plants, or grass, on lands prescribed within the protected watershed area by adopting a land use system.
- (2) In case lands prescribed under sub-Section (1) are the private property of any one, the concerned landowner or tenant must undertake such activities on his lands by adopting a land use system.
- (3) The Department shall make available in the prescribed manner technical know how and services, as well as necessary financial cooperation, to landowners or tenants for the purpose of working on the basis of a land use system according to Sub-Section (2).
- (4) In case any tenant is liable to be evicted from any land as a result of any work caused to be done on the basis of a land use system according to Sub-Section (1), His Majesty's Government shall pay compensation to such tenant. In case the concerned landowner desires to relinquish to His Majesty's Government his ownership of lands on which any work is being done on the basis of a land use system, he may do so. Compensation to such landowner and tenant shall be paid with due consideration to current prices.

7. Provision of Technical Knowhow, Services, and Financial Cooperation

In case any person desires to undertake on lands owned by him the measures mentioned in Clause (a) of Section 4, the Department shall make available to him for that purpose necessary technical knowhow and services, as well as necessary financial compensation in the prescribed manner.

8. Compensation

In case the Watershed Conservation Officer undertakes the measures mentioned in Clause (a) or Clause (b) of Section 4 on lands comprising the private property of any one, he shall pay compensation to the concerned landowner in consideration thereof in consultation with the local Panchayat and with due consideration to current prices as well.

9. Power to Undertake Tests

- (1) While making arrangements for any experimental place under Clause (b) of Section 4, the Watershed Conservation Officer may sow or plant and nurture for the purpose of experiment any crop, fruit tree, plant, grass, or similar other vegetation at such place.
- (2) No one shall in any way destroy the crop, fruit, tree, plants, grass, or similar other vegetation sown or planted at an experimental place under Sub-Section (1).

10. Prohibited Actions in Areas Where Natural Disasters Occur or May Occur.

Notwithstanding anything contained in current law, no person shall be allowed to take any of the following actions without the permission of the Watershed Conservation Officer on lands located within any protected watershed area prescribed as those on which floods, landslides, washouts, or erosion occur or may occur:

- (a) Block or store in any way water from any stream, rivulet, waterfall, or underground water, or take away elsewhere or divert block or stored water through channels, subsidiary channels, drains, or otherwise, or use such water for any purpose by blocking, storing, or diverting it, or in any other way.

- (b) Cut or otherwise destroy tree, plants, or other forest products permitted to be freely used by current forest legislation.
- (c) Cut or otherwise destroy existing forests, trees, plants, bushes grasses, or other natural vegetation.
- (d) Do anything that results in the accumulation of boulders, soil, sand, mud, etc., or let such accumulated boulders, soil, sand, mud, etc., be washed away.
- (e) Dig, extract, or take away boulders, sand, or soil of other types.
- (f) Dump dirt or other garbage which may pollute the atmosphere, or construct places where such garbage may be dumped or accumulated.
- (g) Establish industrial, commercial, or resettlement colonies.
- (h) Take, keep, or graze cows, buffaloes, sheep, goats, chicken, or other domestic animals and birds.

11. Power to Shift Industrial, Commercial, or Resettlement Colonies

- (1) In case His Majesty's Government considers it necessary for the purpose of soil and watershed conservation to shift industrial, commercial, or resettlement colonies established on lands within any protected watershed area to other places, or to acquire lands covered by such colonies, it may shift them accordingly, or acquire such lands according to current law relating to land acquisition.
- (2) His Majesty's Government must pay reasonable compensation for the loss caused to the concerned person while shifting any industrial, commercial, or resettlement colony under Sub-Section (1).

12. Power of Entry

- (1) The Watershed Conservation Officer, or an employee designated by him, may at any time enter into lands situated within a protected watershed area for taking any of the measures mentioned in Section 4, or to inspect and maintain them.
- (2) No person shall create any opposition or obstacle in entry under Sub-Section (1).

13. Power to Prohibit

The Watershed Conservation Officer may prohibit any other person from doing anything that may result in soil erosion or washout on lands on which any of the measures mentioned in Section 4 has been taken or in adjoining areas.

14. Power to Acquire Land

In case His Majesty's Government desires to acquire private-owned land for the purpose of soil and water conservation, it may do so according to current law relating to land acquisition.

15. National Resource Conservation Commission

- (1) His Majesty's Government shall form a National Resource Conservation Commission by notification in the Nepal Rajapatra in order to advise it on matters relating to soil and watershed conservation.
- (2) The functions, duties, and powers of the National Resource Conservation Commission formed under Sub-Section (1) shall be as prescribed.

16. District Soil and Watershed Conservation Committees

- (1) His Majesty's Government shall form a District Soil and Watershed Conservation Committee by notification in the Nepal Rajapatra for coordinating soil and watershed conservation operations in any district.
- (2) The functions, duties, and powers of District Soil and Watershed Conservation Committees formed under Sub-Section (1) shall be as prescribed.

17. Prohibition to Destroy, Use up, Damage, or Alter

No person shall destroy, use up, damage, or alter any work done in any protected watershed area under Section 4.

18. Obligation to Consult District Soil and Watershed Conservation Committee

While classifying lands within protected watershed areas under Section 5, or undertaking any measures on such lands according to a land use system under Sub-Section (1) of Section 6, the Watershed Conservation Officer must consult the District Soil and Watershed Conservation Committee.

19. Appointment of Watershed Conservation Officer

For the purpose of this act, His Majesty's Government may appoint Watershed Conservation Officers according to need. In circumstances where watershed conservation officers have not been appointed in this manner, His Majesty's Government may designate any other officer to discharge the functions of a Watershed Conservation Officer.

20. Power to Seize

In case any one acts in contravention of this act and the rules framed hereunder, the Watershed Conservation Officer may seize the tools, animals, vehicles, or other goods used in connection thereof.

Provided that in the case of animals, these shall be restored to the owner against a security deposit; in case the owner does not want to furnish a security deposit, the Watershed Conservation Officer may auction such animals,

21. Penalties

- (1) Any person, who acts in contravention of Sub-Section (2) of Section 6, or Sub-Section (2) of Section 12, shall be punished with imprisonment for a term not exceeding two months, or with a fine amounting to not more than Rs. 500, or with both.
- (2) Any person who acts in contravention of Section 10 shall be punished with imprisonment for a term not exceeding three months, or with a fine amounting to not more than Rs. 500, or with both.
- (3) Any person who acts in contravention of Section 17 shall be punished with imprisonment for a term not exceeding one year, or with a fine amounting to not more than Rs 1,000, or with both; the amount of the loss shall also be realized from him.
- (4) Any person who acts in contravention of this act or the rules framed hereunder shall be punished with imprisonment for a term

not exceeding three months, or with a fine amounting to not more than Rs. 500, or with both.

- (5) Tools, animals, vehicles, or goods connected with offences which are punishable under this act shall be confiscated.

22. His Majesty's Government to be Plaintiff

His Majesty's Government shall be the plaintiff in cases under this act.

23. Prosecution of Cases

- (1) The Watershed Conservation Officer shall prosecute cases relating to offenses which are punishable under this act.
- (2) For the purpose of prosecuting cases under Sub-Section (1), the Watershed Conservation Officer may take the advice of the government lawyer.

24. No Obstacle to the Use and Distribution of Water Resources by His Majesty's Government.

Nothing contained in this act shall be deemed to have prohibited His Majesty's Government from developing water resources itself.

25. Power to Frame Rules

His Majesty's Government may frame necessary rules in order to implement the objectives of this act.

Royal Seal affixed on
Marga 6, 2039
(November 21, 1982).

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ANNEX E

DECENTRALIZATION ACT, 1982

(UNOFFICIAL TRANSLATION)

ANNEX E

DECENTRALIZATION ACT, 1982

(Unofficial Translation)

Ministry of Law and Justice

Nepal Rajapatra, Vol. 32, No. 36 (Extraordinary) Marga 6, 2039
(November 21, 1982).

The following law enacted by his Majesty King Birendra Bir Bikram Shah Dev on the advice and with the approval of the National Panchayat has been published for the information of the public.

Law No. 19 of 2039 (1982)

(Royal Titles).

A Law Enacted to Make Provisions Relating
to Decentralization

Preamble : Whereas it is expedient to ensure wide public participation in the appropriation of resources and balanced distribution of the fruits of development with the objective of establishing a society free from exploitation so as to promote people's welfare as envisioned by the partyless democratic Panchayat system;

Whereas it is expedient to establish an effective system for the formulation and execution of plans at the local level according to the situation of regions and areas, and promote at the local level itself efficiency needed for the performance of such tasks so as to derive maximum advantage out of the country's geographical, economic and cultural diversity in the task of national development, inasmuch as the talent, potential and requirements (of regions and areas) differ according to such diversity;

Whereas it is expedient to develop democratic practice from the lowest levels of the partyless democratic Panchayat system and ensure institutional growth of local Panchayats so as to enable them to think in terms of all-round development of the people of their respective areas and assume responsibilities;

And whereas it is expedient to decentralize authority in order to enable the people to take decisions and make arrangements themselves on matters relating to their day-to-day needs and matters affecting public life;

Now therefore, His Majesty King Birendra Bir Bikram Shah Dev has enacted this law on the advice and with the approval of the National Panchayat.

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Chapter 1
Preliminary

1. Short Title and Commencement

- (1) This law may be called the Decentralization Act, 1982.
- (2) Section 1 of this act shall come into force at once, and other sections shall come into force from the date prescribed by His Majesty's Government by notification in the Nepal Rajpatra.

2. Definitions

Unless otherwise meant with reference to the subject or context, in this act :

- (a) Local Panchayat means the Village, Town and District Panchayats.
- (b) District Development Plan means the development plan mentioned in Section 6.
- (c) Office-bearers mean the Chairmen, Vice-Chairmen and members of Village, Town and District Panchayats, employees of district level government offices connected with development who function under the general guidance of District Panchayats, and the employees of local Panchayats.
- (d) Member of the National Panchayat means the elected or nominated member of the National Panchayat. The term includes members of the National Panchayat from the concerned districts who occupy the post of Prime Minister, Deputy Prime Minister, Minister, Minister of State, or Assistant Minister or Chairman or Vice-Chairman of the National Panchayat, if any.
- (e) Prescribed or as prescribed means prescribed or in the manner prescribed in rules framed under this act.

Chapter 2
Decentralization of Responsibility
and Power

3. Responsibility and Power of Local Panchayats

- (1) The responsibility to operate all district-level development activities to be undertaken in a district for the development of the district and for the general interest and welfare of the local inhabitants shall be vested in the local Panchayat under this act.
- (2) The power to formulate development plans and construction projects of all types to be undertaken or operated at the local level under the district development plan, collect and appropriate resources, supervise, operate and evaluate plan

4. Functions, Duties and Powers of Local Panchayats

For the purpose of this act, notwithstanding anything contained in current law, the functions, duties and powers of Village, Town, and District Panchayats and Assemblies, Ward Committees of Village and Town Panchayats and of the office-bearers and members of local Panchayats shall be as prescribed.

5. District-Level Offices to Exist as Branch Offices

The district-level development-related offices of His Majesty's Government mentioned in Schedule 1 shall exist as branch offices of the District Panchayat Secretariat.

Provided that the power vested in such offices or in chiefs of such offices under current law, except in matters relating to formulation and operation of development projects, shall not be subject to the control of any other office or office-bearer.

Chapter 3 Development Plans of Local Panchayats

6. District Development Plan

The plans to be formulated by His Majesty's Government according to need at the central or regional level shall be operated by His Majesty's Government. In addition, there shall be a district development plan which shall be a combined form of the plans to be operated at the local level by the district-level development-related offices of His Majesty's Government through the District Panchayat with the resources received from His Majesty's Government, and the construction and other projects of all categories to be implemented by local Panchayats at the local level through their own resources or the resources and grants received from His Majesty's Government.

7. Periodic Plans to be Formulated

Each District Panchayat shall be required to prepare a periodic plan for the development of the district under its jurisdiction.

8. Formulation of District Development Plan

- (1) Each year every District Panchayat shall be required to formulate a district development plan for the next fiscal year within the prescribed time-limit on the basis of the periodic plan prepared under Section 7.
- (2) The district development plan mentioned in Sub-Section (1) shall be formulated as an integrated district development plan by combining the resources and materials available from the following sources :

- (a) District Panchayat's own labor, resources and materials.
- (b) Grants to be obtained by the District Panchayat from His Majesty's Government or other institutions.
- (c) The amount of expenses to be incurred and investments to be made in various sectors by His Majesty's Government in the concerned district for the implementation of district-level development plans.
- (3) Subject to the policies and guidelines prescribed by His Majesty's Government as those to be followed while formulating plans for different sectors, the plans received from Village and Town Panchayats shall be regarded as the main basis while formulating the district development plan under Sub-Section (2).
- (4) It shall be the responsibility of the National Planning Commission to ensure the cooperation of all the concerned circles in formulating or directing the formulation of the district development plan in each district.
- (5) The appropriate organ of His Majesty's Government shall be required to make available to District Panchayats the policies and guidelines to be provided by His Majesty's Government under Sub-Section (3), and particulars of expenditure and investment to be made by His Majesty's Government for the next fiscal year under Clause (c) of Sub-Section (2), within the prescribed time-limit during the current fiscal year.
- (6) The National Planning Commission shall not approve any plan or program which has been formulated by any institution in any district for the purpose of district-level development works without preparing a district development plan, or in such a way that it contradicts the district development plan; and the expenditure to be incurred thereon.

Provided that :

- (a) In case the National Planning Commission is satisfied that local Panchayats have failed to formulate the district development plan in time, it may approve the district development plan presented by the appropriate organ for the concerned year, and the expenditure to be incurred thereon.
- (b) In case the district development plan submitted by any District Panchayat is considered inadequate from the viewpoint of the overall development of the district, the National Planning Commission may approve additional projects.

9. Priorities to be Followed while Formulating District Development Plan

The district development plan shall be ordinarily formulated on the basis of the following priorities :

- (a) Projects which provide direct benefits to the general public, and which fulfill minimum needs.
- (b) Projects which help in increasing agricultural production.
- (c) Projects which can be implemented through local resources and skills.
- (d) Projects which help in increasing productivity and employment opportunities.
- (e) Projects which have been assigned priority in national-level plans.
- (f) Projects which help to protect the environment.

10. Plan Formulation Committee

Every District Panchayat shall be required to form committees as mentioned in Schedule 2 for the purpose of formulating district development plans. The functions, duties and powers of such committees shall be as prescribed.

11. Formulation of Final Draft of Projects

(1) After the committees formed under Section 10 have formulated their respective programs, the Local Development Officer shall convene a joint meeting of all committees in order to prepare a balanced and integrated district development plan by comparing the program formulated by one committee with the one formulated by another and reviewing the programs.

(2) The meeting convened under Sub-Section (1) shall be presided over by the member of the National Panchayat representing the concerned district. In the case of the district which has more than one National Panchayat member, it shall be presided over by each of them for one year by rotation according to the alphabetical order. The National Panchayat members who are not presiding over the meeting shall attend joint meetings of committees as members. In the absence of the National Panchayat member who is required to preside over joint meetings of committees, another National Panchayat member shall preside over it according to the alphabetical order.

Provided that in case National Panchayat members cannot attend any joint meeting of committees because of National Panchayat session, or any other factor, the Chairman of the concerned District Panchayat shall preside over joint meetings of committees.

- (3) Once a plan is finalized and decision made accordingly at a joint meeting of committees, the draft of such plan shall be forwarded to the District Panchayat.
- (4) After holding necessary debate on the draft of the plan presented before the meeting of the District Panchayat under Sub-Section (3), and also determining the order of priorities of projects, it shall forward it to the District Assembly for final approval. Such plan shall be deemed to have been approved once it is approved by a meeting of the District Assembly.

12. To Function as Executive Officer

The Local Development Officer shall be required to function as executive officer of the District Panchayat in respect to the formulation, implementation and evaluation of the district development plan.

13. Formulation of Town Development Plan

- (1) Every Town Panchayat shall be required to formulate a periodic plan for the development of the town under its jurisdiction.
- (2) Each year every Town Panchayat shall be required to formulate a town development plan for the next fiscal year within the prescribed time-limit on the basis of the periodic plan prepared under Sub-Section (1).
- (3) The Town Panchayat shall formulate the town development plan mentioned in Sub-Section (1) treating the projects demanded by each ward as the main basis, with due consideration to the Town Panchayat's own labor, resources and materials, and the grants to be obtained from His Majesty's Government. The priorities indicated in Section 9 shall be taken into consideration while formulating a plan in this manner.
- (4) For the purpose of formulating the town development plan under this section, the Town Panchayat may form necessary committees including, as far as possible, experts in relevant subjects.

14. Formulation of Village Development Plan

- (1) Every Village Panchayat shall formulate a periodic plan for the development of the village under its jurisdiction.
- (2) Each year every Village Panchayat shall formulate a village development plan for the next fiscal year within the prescribed time-limit on the basis of the periodic plan prepared under Sub-Section (1).

- (3) Subject to the guidelines and directives received from the District Panchayat, every Village Panchayat shall prepare a village development plan under Sub-Section (1), with due consideration to its own labor, resources and materials, and the economic, material and technical cooperation to be available from His Majesty's Government, treating the projects demanded by each ward as the main basis, and keeping in view the priorities indicated in Section 9.

15. Scrutiny and Clearance Committee

A Scrutiny and Clearance Committee shall be formed in the prescribed manner for the purpose of scrutinizing and clearing construction, related projects under the development plan of the local Panchayat.

Explanation : For the purpose of this section, the term "scrutiny and clearance" includes performance audit.

16. District Supervision Committee

- (1) A District Supervision Committee, consisting of National Panchayat members, the Chairman and the Vice-Chairman of the District Panchayat, the Chief District Officer, the Local Development Officer, and an Engineer from the Public Works Section or, in his absence, the person who performs his functions, shall be formed in each district. The Local Development Officer shall also function as Secretary of the District Supervision Committee.

- (2) Every meeting of the Supervision Committee formed under Sub-Section (1) shall be presided over by the National Panchayat member representing the concerned district. In the case of the district which has more than one National Panchayat member, it shall be presided over by each of them for one year by rotation according to the alphabetical order. The National Panchayat members who are not to preside over meetings of the Supervision Committee shall remain therein as members. In the absence of the National Panchayat member who is required to preside over a meeting, it shall be presided over by another National Panchayat member according to the alphabetical order.

Provided that in case National Panchayat members cannot attend any meeting because of the National Panchayat session, or any other factor, the Chairman of the concerned District Panchayat shall preside over it.

- (3) For the purpose of supervision of the district development plan and ensuring economy and fiscal discipline in the course of its implementation as well as of initiating appropriate action in the event of any errors being detected in the execution (of the district development plan), the District Supervision Committee shall have such functions, duties and powers as may be prescribed.

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17. Service Centers

- (1) For the purpose of making available material and technical cooperation in regard to the development work of Village Panchayats lying within each area of the District Panchayat, His Majesty's Government may establish one Service Center in such a way that it is located generally in the center of such area.
- (2) The Service Center established under Sub-Section (1) shall be the lowest organ of His Majesty's Government responsible for providing assistance to Village Panchayats in matters relating to local development.
- (3) The functions and duties of the Service Centers shall be as follows :
 - (a) To provide necessary services in the formulation, implementation and review of plans for the development of Village Panchayats.
 - (b) To help in the establishment and smooth operation of consumers committees in Village Panchayat areas.
 - (c) To make available such technical services as may be necessary to enable Village Panchayats to operate their development programs.
 - (d) To help ensure the availability of necessary financial and material resources to Village Panchayats.
 - (e) To make periodic reviews of the development efforts of Village Panchayats.
 - (f) To take the problems and needs of Village Panchayats to the higher level, and arrange for their inclusion in plans.
 - (g) To encourage competition among Village Panchayats lying within the area (of the District Panchayat) in developmental matters and arrange area-level meetings, conferences, and seminars of Panchayats and inspection visits to enable them to exchange views on each other's experiences and problems and on ways to solve them.
- (4) Other functions, duties and powers of the Service Centers shall be as prescribed.

18. Review Room to be Maintained

- (1) Every local Panchayat shall be required to make arrangements for a review room. Charts of the annual programs relating to the development plan of the concerned Panchayat, detailed particulars relating to progress report, etc, shall be prepared and exhibited on an up-to-date basis in such a review room.

- (2) Every 6 months, the office-bearers, members and employees of the concerned Panchayat shall sit down at the review-room and review the development work of their respective areas.

19. Formation of Consumers Committees and Functions, Duties and Powers Thereof

(1) The local Panchayat shall hold a meeting of persons expected to benefit from any plan to be operated by the local Panchayat at the place where such plan is proposed to be operated, and after ascertaining their views, form a Consumers Committee consisting of not more than five persons from among themselves as prescribed by the concerned Panchayat.

(2) The functions, duties and powers of consumers committees shall be as prescribed.

Chapter 4
Financial Arrangements

20. Collection of Panchayat Development and Land Tax

(1) Every Village or Town Panchayat shall write to the District Panchayat asking for the collection of Panchayat development and land tax in the Village or Town Panchayat area under its jurisdiction subject to the following conditions :

- (a) It must have prepared the plan or scheme concerning the purpose for which the amount collected in the form of such tax will be spent.
- (b) It must have worked out approximate estimates of the total expenditure required for completing the plan.
- (c) It must explicitly mention the sources from which the total amount of expenditure required for the plan is to be obtained and the estimated percentage of such expenditure required to be met through the Panchayat development and land tax.
- (d) It must explicitly indicate what arrangements have been made for maintaining accurate accounts and records of the proceeds of such tax.
- (e) A two-thirds majority of the total membership of the concerned Village or Town Assembly must have approved the proposal for raising such tax.

(2) In case the District Panchayat receives a written request under Sub-Section (1), it shall conduct investigations, and if it is satisfied that the concerned Panchayat has fulfilled all the conditions mentioned therein, it shall write to His Majesty's Government asking for the imposition of such tax in such Village or Town Panchayat area.

- (3) While raising the Panchayat development and land tax, the concerned Village or Town Panchayat shall prepare and maintain records of lands within its area, as well as correct statistical records regarding the yields of lands of particular categories, and forward a copy thereof to the District Panchayat.
- (4) Out of the amount raised as Panchayat development and land tax under this section, five percent shall be deposited with the Consolidated Fund, ten percent with the District Panchayat Fund, and the remaining eighty-five percent with the concerned Village or Town Panchayat Fund.

21. Power to Raise Contributions

- (1) The local Panchayat may, subject to Sub-Section (2), raise contributions.

Provided that such contributions shall not be raised in the form of taxes.

- (2) A detailed plan and program on which the amount of contribution is to be spent shall be prepared, and passed by a two-thirds majority of the total membership of the concerned Village or Town Assembly, and then approved by the District Panchayat, if contributions are to be raised in the Village or Town Panchayat area; and in case the contributions are to be raised by a District Panchayat this must be approved by a two-thirds majority of the total membership of the District Assembly. The amount of contributions raised in this manner shall be spent only on such plans or programs, and accounts of income and expenditure shall be published for the information of the public.

Provided that in case it becomes necessary for any Village or Town Panchayat to raise contributions up to Rs 5,000, the Village or Town Panchayat itself; and in case it becomes necessary for a District Panchayat to raise contributions up to Rs 10,000, the District Panchayat itself, may decide to do so.

22. Collection of Dues as Government Arrears

In case any person fails to pay any tax, charges, fees, etc prescribed or imposed by the local Panchayat, the same shall be recovered by the District Office as if these were government arrears.

23. Allocation of Grant by Local Panchayat

The local Panchayat itself shall allocate the amount of the grant received from His Majesty's Government for different purposes.

24. Amounts to be Spent in Specified Sectors

The amount sent by His Majesty's Government for the purpose of district level work shall not be spent in any sector other than the one for which it is actually meant, nor shall it be spent in such a way that it falls short of the amount specified for that sector.

25. Limitation on Administrative Expenses

Local Panchayats shall not spend on administrative work more than the specified percentage of the amount raised from taxes, charges, fees, duties, contracts, etc, or the amount of contributions or the amount granted by His Majesty's Government for development purposes.

Chapter 5 Arrangements Regarding Audit

26. Audit of Accounts of Local Panchayats

- (1) The internal and final audit of accounts of income and expenditure of local Panchayats shall be made annually.
- (2) The internal audit of accounts of local Panchayats shall be done by His Majesty's Government or by a person designated by it.
- (3) The final audit of accounts of District Panchayats and Town Panchayats shall be done by the Auditor-General's Department, while the final audit of accounts of Village Panchayats shall be done by a person designated by the Auditor-General.

27. Audit Report

- (1) On the completion of the final audit of accounts of the local Panchayat, the auditor shall submit one copy of the audit report each to the Auditor-General's Department, the appropriate Panchayat, the concerned District Supervision Committee, and, in the case of the District Panchayat, or the Town Panchayat, to the appropriate ministry, within a period of three months.
- (2) After receiving the audit report under Sub-Section (1), the concerned Panchayat shall convene a meeting of the concerned assembly within three months and submit the report for discussion.
- (3) After the audit report is submitted, the meeting of the concerned assembly shall regularise such cases of irregularity pointed out in the report as it can regularize to the extent it can do so according to current law. In the case of other irregularities which it cannot clear in this manner, the secretary of the concerned Panchayat shall refer them to the appropriate person for appropriate action to ensure clearance thereof.

- (4) All such irregularities as cannot be cleared under Sub-Section (3) shall be referred to the Zonal Commissioner in the case of the District Panchayat or Town Panchayat, and to the Chief District Officer in the case of Village Panchayats for the purpose of recovery (of amounts involved in such irregularities).
- (5) After receiving a request for the clearance of irregularities under Sub-Section (4), the concerned Zonal Commissioner or Chief District Officer shall act as follows :
 - (a) In case of corruption, initiate action according to the provisions of the anti-corruption law.
 - (b) In the case of need to recover arrears from any person, initiate action to recover the same as if these were government arrears.

Chapter 6
Miscellaneous

28. Power of His Majesty's Government

In case it so deems necessary in public interest, His Majesty's Government may order or direct the reduction, withdrawal or rescission of any tax, charge, fee, duty, raised or levied, or any contract entered into by any local Panchayat, after obtaining a clarification from the local Panchayat, and, if it so deems appropriate, explaining the reasons for doing so. It shall be the duty of the concerned Panchayat to comply with such order or directive.

29. Delegation of Powers

- (1) His Majesty's Government may, by notification in the Neel Rajapatra, delegate all or any of the powers vested in it under this act to any office-bearer, institution, committee or employee.
- (2) The District Panchayat may delegate any of the powers vested in it under this act to any Village Panchayat or Town Panchayat with or without prescribing any conditions. The District Panchayat may withdraw at any time the power so delegated.
- (3) The District Panchayat, the Town Panchayat or the Village Panchayat may delegate any of the powers vested in it to any member of the concerned Panchayat or to any committee or sub-committee of members or to any employee. The concerned Panchayat may withdraw at any time the power so delegated.

(4) The Chairman of the District Panchayat or of the Village or Town Panchayat may delegate any of the powers vested in him to any member or the secretary of the concerned Panchayat. The Chairman of the District Panchayat or of the Village or Town Panchayat may withdraw at any time the power so delegated.

30. Delegation of Powers Under Other Current Law

His Majesty's Government may, by notification in the Nepal Rajapatra, delegate any of the powers vested in it under other current law to any local Panchayat or to any office-bearer of the local Panchayat.

31. Delegation of Judicial Powers to Local Panchayat

(1) His Majesty's Government may delegate in the prescribed manner powers to any Village or Town Panchayat to hear and dispose of minor cases of local nature other than the cases which have to be disposed of under the 1961 State Cases Act.

(2) An appeal against the decision made by a Village Panchayat or Town Panchayat after hearing any case under Sub-Section (1) may be filed with the prescribed authority.

(3) The procedures to be followed by the adjudicating authority and the appellate authority under this section shall be as prescribed.

32. Employees to be Under the Administrative Control of District Panchayat

The Local Development Officer and the chiefs of the offices mentioned in Schedule 1 shall function under the general administrative control of the District Panchayat, and the arrangements in respect to such administrative control shall be as prescribed.

33. Government Attorney to Tender Advice

The government attorney shall tender advice if sought by the District Panchayat in the event of any legal hitch arising in the course of performance of its functions.

34. Power to Frame Rules

His Majesty's Government may frame rules to implement the objectives of this act.

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- (3) Chairman of the District Working Committee of the Nepal Women's Organization ... Member
- (4) Chairman of the District Working Committee of the Nepal Adults Organization ... Member
- (5) Chairman of the District Working Committee of the Nepal Ex-Servicemen's Organization ... Member
- (6) District Chief of the Agriculture Development Bank ... Member
- (7) Land Reform Officer ... Member
- (8) District Chief of the Agricultural Inputs Corporation ... Member
- (9) Livestock Development Officer ... Member
- (10) District Irrigation Officer ... Member
- (11) District Cooperative Officer ... Member
- (12) Agricultural Development Officer ... Member-Secretary.
- (b) Works and Maintenance Committee
- (1) Two persons designated by the District Panchayat from among its members ... Members
- (2) Chairman of the District Working Committee of the Nepal Youth Organization ... Member
- (3) Chairman of the District Working Committee of the Nepal Adults Organization ... Member
- (4) Chairman of the District Working Committee of the Nepal Ex-Servicemen's Organization ... Member
- (5) Officer of the District Public Works Section ... Member-Secretary.
- (c) Industry, Forest and Soil Conservation Committee
- (1) Two persons designated by the District Panchayat from among its members ... Members
- (2) Chairman of the District Working Committee of the Nepal Ex-Servicemen's Organization ... Member

- (3) Chairman of the District Working Committee of the Nepal Workers Organization ... Member
- (4) District Chairman of the Chamber of Commerce and Industry ... Member
- (5) District Industry Officer ... Member
- (6) District Forest Officer or District Cottage Industry Officer designated by the District Panchayat ... Member-Secretary.
- (d) Health and Population Committee
- (1) Two persons designated by the District Panchayat from among its members ... Members
- (2) Chairman of the District Working Committee of the Nepal Women's Organization ... Member
- (3) Chairman of the District Working Committee of the Nepal Youth Organization ... Member
- (4) Chairman of the District Working Committee of the Nepal Ex-Servicemen's Organization ... Member
- (5) District Chairman of the Nepal Red Cross Society ... Member
- (6) District Chairman of the Children's Organization ... Member
- (7) Officer of the District Family Planning Office ... Member
- (8) District Health Officer ... Member-Secretary.
- (e) Education Committee
- (1) Two persons designated by the District Panchayat from among its members ... Members
- (2) Chairman of the District Working Committee of the Nepal Adults Organization ... Member
- (3) One person designated by the District Panchayat from among guardians, educationists and social workers ... Member

- (4) One person designated by the District Panchayat from among lecturers of the Campuses within the district ... Member
- (5) One person designated by the District Panchayat among from head masters of secondary schools within the district ... Member
- (6) One student designated by the District Panchayat among from students of secondary schools within the district ... Member
- (7) District Education Officer ... Member-Secretary.

Note :

- (1) National Panchayat members, the Chairman and the Vice-Chairman of the District Panchayat, the Chief District Officer and the Local Development Officer of the concerned district shall be the members of each of the aforesaid committees.
- (2) Meetings of each committee shall be presided over by District Panchayat members for one year each by rotation according to the alphabetical order.

ANNEX F
PROFILES OF INTEGRATED
RURAL DEVELOPMENT PROGRAMS
IN NEPAL

This profile is drawn from Pradham, B.B., 1982. Rural Development in Nepal: Problems and Prospects, Kathmandu.

Profile of Rasuwa-Nuwakot IRDP

Project Area: Rasuwa and Nuwakot districts of Bagmati Zone

Population: 29,000 families

Objectives:

- a) To increase production
- b) To provide employment
- c) To provide physical and social facilities
- d) To extend basic necessities of life.

Major Components: Agriculture, Irrigation, Forestry, Soil and Water Conservation, Health, Transportation, Social Services, Cottage Industry and Panchayat Development.

Total Cost: Rs.135,985,000

Source of Financing: Rs.100,000,000 (IDA)
Rs. 29,735,000 (HMG)
Rs. 6,250,000 (UNDP)

Expenditure at the end of 1980/81: Rs.92,710,000

Project Period: 1976/77 - 1980/81

Date of Agreement with the Donors: April 30, 1976

Commencement Year: 1976/77

Extension: 1 year i.e. up to 1981/82

Profile of Sagarmatha IRDP

Project Area: Siraha, Saptari and Udaipur districts of Sagarmatha Zone.

Population: 847,900

Objectives: To strengthen the production, employment and income generating base in the rural economy of 3 districts.

Major Components: Agriculture, Irrigation, Roads, Forestry, Rural Market, Village and Cottage Industry, Soil and Water Conservation, Social Services.

Total Costs: Rs. 450,120,000

Source of Financing: Rs. 157,300,000 (IFAD)
Rs. 169,400,000 (ADB, Manila)
Rs. 78,045,000 (HMG)
Rs. 45,375,000 (EEC) Grant

Expenditure at the end of 1980/81 Rs. 44,221,700

Project Period: 1978/79 - 1982/83

Date of Agreement with Donors: December 26, 1978

Commencement Year: 1978/79

Profile of Mahakali IRDP

Project Area: Baitadi, Dadeldhura and Darchula districts of Mahakali Zone

Population 333,000

Objectives: The principal aim of the project would be to raise agricultural production to levels whereby farmers could meet full family subsistence.

Major Components: Agriculture, Irrigation, Village and Cottage Industry, Forest, Soil and Water Conservation, Social Services, Drinking Water, Rural Works and Panchayat Development.

Total Cost: Rs.161,400,000

Sources of Financing:Rs.132,000,000 (IDA)
Rs. 13,100,000 (UNDP)
Rs. 16,300,000 (HMG)

Expenditure at the end of 1980/81 Rs.3,888,800

Project Period: 1979/80 - 1983/84

Date of Agreement with the Donors: 9 August, 1979

Commencement Year: 1979/80

Profile of Rapti IRDP

Project Area: All the five districts of Rapti Zone

Population: 850,000

Objectives: a) To increase the measurable aspects of the quality of life including income and production level of families in Rapti Zone.

b) To improve local level demand for and control of the national level delivery systems for improved agriculture, health, education, resource management, and family planning.

Major Components: Farming system, Renewable Resource Management, Employment and Skill Development, Rural Works, Institutional Development and Technical Assistance.

Total Costs: \$ 33.7 million

Source of Financing: \$26.7 million (USAID)
\$ 7.0 million (HMG)

Expenditure at the end of 1980/81: \$ 112,182

Project Period: 1980/81 - 1985/86

Date of Agreement with the Donors: 12 August, 1980

Commencement Year: 1980/81

Profile of Koshi Hill Area IRDP

Project Area: Sankhuwasabha, Teranthum, Bhojpur and Dhankuta districts of Koshi Zone

Population: 554,104

Objective: To strengthen local services and to help HMG/N promote balanced economic, social development of Koshi Hill Area in order to gain maximum benefit from Dharan-Dhankuta road.

Major Components: Agriculture, Irrigation, Forestry, Credit and Cooperation, Cottage Industries, Communication, Water Supply, Health, Education and Women's Training.

Total Costs: Rs.113,068,000

Sources of Financing: Rs.113,068,000 (U.K. Government)

Expenditure at the end of fiscal year 1980/81: Rs.13,906,000

Project Period: 1979/80 - 1983/84

Date of Agreement with the Donors: 10 December, 1979

Commencement Year: 1979/80

Profile of IHDP (Phase II)

Project Area: 14 Village Panchayats in Sindhupalchowk District and Dolkha District

Population: 220,000

Objective:

- a) To assist the local population and local institution in their efforts to improve their living conditions in short and medium terms.
- b) To re-establish ecological equilibrium on a sustainable basis as a pre-condition for their well being in the long run.

Major Components: Education, Agriculture, Forestry, Irrigation, Water and Energy, Health, Small Scale and Cottage Industries, Engineering and Transportation.

Total Cost: Rs.87,080,000

Sources of Financing: Rs.77,750,000 (Swiss Government)
Rs. 9,330,000 (HMG)

Expenditure at the end of 1980/81: Rs.7,783,000

Project Period: 1980/81 - 1984/85

Date of Agreement with the Donors: 20 August, 1980

Commencement Year: 1980/81

Profile of Karnali-Sheri IRDP

Project Area: Surkhet, Dailekh and Jumla Districts

Population: 384,405

Objective: To develop a series of integrated self-sustaining development projects and activities which will contribute towards the economic and social betterment of the residents of these districts.

Major Components: Agriculture, Irrigation, Cottage Industry, Education, Electricity, Health and Family Planning, Forest, Soil and Water Conservation, Public Works and Panchayat Development.

Total Costs: Rs.156,000,000

Source of Financing: Rs.123,000,000 (Canadian Government)
Rs. 33,000,000 (HMG)

Expenditure at the end of 1980/81: x

Date of Agreement with the Donors: 21 July, 1981

Commencement Year: 1981/82

ANNEX F
PROFILES OF INTEGRATED
RURAL DEVELOPMENT PROGRAMS
IN NEPAL

This profile is drawn from Pradham, B.B., 1982. Rural Development in Nepal: Problems and Prospects, Kathmandu.

Profile of Rasuwa-Nuwakot IRDP

Project Area: Rasuwa and Nuwakot districts of Bagmati Zone

Population: 29,000 families

Objectives: a) To increase production
b) To provide employment
c) To provide physical and social facilities
d) To extend basic necessities of life.

Major Components: Agriculture, Irrigation, Forestry, Soil and Water Conservation, Health, Transportation, Social Services, Cottage Industry and Panchayat Development.

Total Cost: Rs.135,985,000

Source of Financing: Rs.100,000,000 (IDA)
Rs. 29,735,000 (HMG)
Rs. 6,250,000 (UNDP)

Expenditure at the end of 1980/81: Rs.92,710,000

Project Period: 1976/77 - 1980/81

Date of Agreement with the Donors: April 30, 1976

Commencement Year: 1976/77

Extension: 1 year i.e. up to 1981/82

Profile of Sagarmatha IRDP

Project Area: Siraha, Saptari and Udaipur districts of Sagarmatha Zone.

Population: 847,900

Objectives: To strengthen the production, employment and income generating base in the rural economy of 3 districts.

Major Components: Agriculture, Irrigation, Roads, Forestry, Rural Market, Village and Cottage Industry, Soil and Water Conservation, Social Services.

Total Costs: Rs. 450,120,000

Source of Financing: Rs. 157,300,000 (IFAD)
Rs. 169,400,000 (ADB, Manila)
Rs. 78,045,000 (HMG)
Rs. 45,375,000 (EEC) Grant

Expenditure at the end of 1980/81 Rs. 44,221,700

Project Period: 1978/79 - 1982/83

Date of Agreement with Donors: December 26, 1978

Commencement Year: 1978/79

Profile of Mahakali IRDP

Project Area: Baitadi, Dadeldhura and Darchula districts of Mahakali Zone

Population 333,000

Objectives: The principal aim of the project would be to raise agricultural production to levels whereby farmers could meet full family subsistence.

Major Components: Agriculture, Irrigation, Village and Cottage Industry, Forest, Soil and Water Conservation, Social Services, Drinking Water, Rural Works and Panchayat Development.

Total Cost: Rs.161,400,000

Sources of Financing:Rs.132,000,000 (IDA)
Rs. 13,100,000 (UNDP)
Rs. 16,300,000 (HMG)

Expenditure at the end of 1980/81 Rs.3,888,800

Project Period: 1979/80 - 1983/84

Date of Agreement with the Donors: 9 August, 1979

Commencement Year: 1979/80

Profile of Rapti IRDP

Project Area: All the five districts of Rapti Zone

Population: 850,000

Objectives:

- a) To increase the measurable aspects of the quality of life including income and production level of families in Rapti Zone.
- b) To improve local level demand for and control of the national level delivery systems for improved agriculture, health, education, resource management, and family planning.

Major Components: Farming system, Renewable Resource Management, Employment and Skill Development, Rural Works, Institutional Development and Technical Assistance.

Total Costs: \$ 33.7 million

Source of Financing: \$26.7 million (USAID)
\$ 7.0 million (HMG)

Expenditure at the end of 1980/81: \$ 112,182

Project Period: 1980/81 - 1985/86

Date of Agreement with the Donors: 12 August, 1980

Commencement Year: 1980/81

Profile of Koshi Hill Area IRDP

Project Area: Sankhuwasabha, Terahthum, Bhojpur and Dhankuta districts of Koshi Zone

Population: 554,104

Objective: To strengthen local services and to help HMG/N promote balanced economic, social development of Koshi Hill Area in order to gain maximum benefit from Dharan-Dhankuta road.

Major Components: Agriculture, Irrigation, Forestry, Credit and Cooperation, Cottage Industries, Communication, Water Supply, Health, Education and Women's Training.

Total Costs: Rs.113,068,000

Sources of Financing: Rs.113,068,000 (U.K. Government)

Expenditure at the end of fiscal year 1980/81: Rs.13,906,000

Project Period: 1979/80 - 1983/84

Date of Agreement with the Donors: 10 December, 1979

Commencement Year: 1979/80

Profile of IHDP (Phase II)

Project Area: 14 Village Panchayats in Sindhupalchowk District and Dolkha District

Population: 220,000

Objective:

- a) To assist the local population and local institution in their efforts to improve their living conditions in short and medium terms.
- b) To re-establish ecological equilibrium on a sustainable basis as a pre-condition for their well being in the long run.

Major Components: Education, Agriculture, Forestry, Irrigation, Water and Energy, Health, Small Scale and Cottage Industries, Engineering and Transportation.

Total Cost: Rs.87,080,000

Sources of Financing: Rs.77,750,000 (Swiss Government)
Rs. 9,330,000 (HMG)

Expenditure at the end of 1980/81: Rs.7,783,000

Project Period: 1980/81 - 1984/85

Date of Agreement with the Donors: 20 August, 1980

Commencement Year: 1980/81

Profile of Karnali-Bheri IRDP

Project Area: Surkhet, Dailekh and Jumla Districts

Population: 384,405

Objective: To develop a series of integrated self-sustaining development projects and activities which will contribute towards the economic and social betterment of the residents of these districts.

Major Components: Agriculture, Irrigation, Cottage Industry, Education, Electricity, Health and Family Planning, Forest, Soil and Water Conservation, Public Works and Panchayat Development.

Total Costs: Rs.156,000,000

Source of Financing: Rs.123,000,000 (Canadian Government)
Rs. 33,000,000 (HMG)

Expenditure at the end of 1980/81: x

Date of Agreement with the Donors: 21 July, 1981

Commencement Year: 1981/82