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**AN EVALUATION OF GRANT FUNDING TO
THE RESEARCH PROGRAMS OF

THE MAKALU-BARUN CONSERVATION PROJECT OF
EASTERN NEPAL
AND
THE QOMOLANGMA NATURE PRESERVE IN THE
PEOPLE'S AUTONOMOUS REGION OF TIBET (CHINA)**

For:
**The International Development Research Centre (IDRC)
Environment and Natural Resources Division**

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SUMMARY

This report concludes that the importance of a research program to the Makalu-Barun Project cannot be understated. There are direct results of research such as those produced by work in indigenous cloth and paper making (allo and lokta). There are also indirect results that come from the development of indigenous research capabilities and the building of institutional commitment to Park-People investigation. The evaluation team is supportive of a continuing and strengthened research program. The following recommendations are intended to help focus and clarify the role of research in the program.

An end-of-term evaluation was carried out for the International Development Research Centre (IDRC) of Ottawa, Canada of the research component of the Makalu-Barun National Park and Conservation Area Project. The Centre has contributed over \$150,000 Cdn for research in the project area.

The Makalu-Barun Conservation Project (MBCP) has been established by an International NGO based in West Virginia, USA called the Mountain Institute in co-operation with His Majesty's Government of Nepal (HMGN) through the Department of National Parks and Wildlife Conservation (DNPWC). The Project is significant in that it has helped establish a National Park reserve in one of the few remaining pristine areas of the country which still remains largely uninhabited by humans. Further it establishes a buffer zone or Conservation Area adjacent to the Park in which about 32,000 people are resident. In all the Project area is over 2300 km².

The essential contradictions and practical difficulties of creating Park reserves in isolation from the input and management of local people are being recognized as world concern for the protection of biodiversity grows. Recent reports maintain that a key to the sustainable and equitable management of protected areas is through the involvement of the concerned indigenous population (Colchester, 1994; Pimbert and Pretty 1994; Nepal and Weber 1993; Cognetics 1994) although just how this is accomplished is not well established if only because each situation seems to beg its own solution. The significance of MBCP is increased not only for having established an important park preserve but also for evolving a ground-breaking approach to resolving the people-park conflicts evident in other biodiversity preserves like the Chitwan National Park. The MBCP is using the traditional government park management structure working side-by-side with a development approach in the conservation area. Park offices are located within the conservation area; Park scouts are selected from the local population; rather than excluding residents from their traditional grazing lands in the Park efforts are being made to engage the users as co-operative managers and researchers. In return local people are beginning to see improvements in their livelihood. Forest areas are being turned over to Community Forest User Groups at an accelerated rate; economic development training and demonstrations (such as indigenous cloth weaving) are underway; infrastructure is being improved; and cultural activities based on religion, art and music/dancing are supported. Ecotourism

provides an important basis for the Park management - economic development interface. Management of the Park resources sustainably can have economic benefits far beyond the traditional subsistence purposes for which it is currently used. Helping local people not only to manage the Park but also to take economic advantage of the expected influx of tourists makes sense by linking biodiversity to improved livelihoods.

IDRC has been supporting research in the Park since the late 80's. The first phase of funding was provided to finance baseline research. This phase of research was not evaluated by the mission but its effectiveness cannot be understated. The initial funding provided a sound basis for making important decisions around issues such as: Park boundaries, key species, and economic development priorities of the local population. Although agreements were signed for a second round of research funding in 1991 and some research was carried out on an ad-hoc basis, research programs were not effectively commenced until mid-1993. This makes it difficult to assess the effectiveness of research programs in meeting their stated objectives. Most results were still in publication at the time of the mission. At year-end 1995 although research budgets are allocated about a quarter of the total grant is still awaiting disbursement.

The intent of the evaluation was not to audit the Project, but to answer a question linked to the key objective of the Project. Has research been effective in reducing the people-park conflict which has plagued so many similar attempts to establish biodiversity reserves in proximity to indigenous people?

Strictly speaking the evaluation was not able to answer this question. It is still too early to determine the effectiveness of research and to measure its direct impact on the lives of local people and the biodiversity of the Park. On the other hand the evaluation mission noted the overall effect of the MBCP on reducing conflict. To the extent that research contributes to the overall goals of the Project, impact can be attributed based on the success of the Project in decreasing conflict.

It is apparent the Project is enjoying considerable success in gaining the respect and co-operation of local people. Numerous programs have been initiated with direct impact on biodiversity such as forest management user groups. Other programs have an indirect impact but nevertheless are important for the development of community support as well as the infrastructure and management capabilities. These programs include literacy courses, financing and admin courses, women's income raising activities and so on. These programs have had the intended effect of building strong community support. For example, there are stories of belligerence and threatened violence in some Conservation Area communities at the inception of the Park. This aggression has, from observation, changed entirely to co-operation largely due to the Project's efforts in providing economic benefits, in providing concrete evidence that local people can retain control of resources and in educating locals about alternative visions of life adjacent to a National Park. Support appears to be strong enough so that communities not adjacent to the Park (and therefore not eligible to become part of the Conservation Area) are requesting now to formally join the Project.

Recommendations have addressed specific aspects of the research program. Because it is early to evaluate the results of research the major focus of recommendations has been on two aspects: the Planning and the Implementation/Operations of research.

Planning

Research planning was carried out largely in Phase I. Priorities were determined through the coordination and co-operation with local people in cases where research would directly impact the Conservation Area. On issues of more scientific nature primary stakeholders in HMG and a broader international scientific community were consulted. Because earlier research had identified important issues the program generally was consistent with problems most relevant to both the community and the scientific community.

The recommendations made here concerning planning and organization of research recognize the important first steps of Phase I in establishing initial priorities and in Phase II in establishing a research management framework. In addition Phase II has initiated some important biodiversity-related research in the fields of mapping (land use and contour), development of a biodiversity database and field investigation of people-wildlife conflicts. Nineteen small grant social science research projects are completed or are underway. This research is important and should be continued, however, it is the perception of the mission that additional research priorities should be considered and that the research management framework simplified.

- 1. The research co-ordinator should organize research priorities according to two major categories:**
 - a). A Grant Program which employs the institutional mechanisms established for the Small Grants program. A Grant program would broadly define research priorities and issue a call for proposals from Nepali researchers. These would be vetted by the Research Coordination Committee and others the Co-ordinator saw as appropriate. The purpose of this program as with the Small Grants program would be to provide new research information within broadly designated areas, to build expertise and interest for people-parks issues within a Nepali research community and to provide learning opportunities for Park staff and Conservation residents.**
 - b). A Directed Research program which establishes key MBCP research priorities and which develops specific Terms of Reference to fill these priorities. National and international researchers and consultants should be eligible for this research always with a view to obtaining sound scientific output with the maximum transfer of experience to local staff and residents. Joint Nepal and international teams are to be encouraged. Priorities for directed research will be set on a yearly basis. Terms of reference will be developed by the Scientific Co-ordinator using outside expertise as appropriate. Normal tendering procedures will be**

followed to ensure that budgets, timelines and the expected deliverables are provided. Recommendations 2 to 5 elaborate on immediate Direct Research priorities.

RESEARCH PRIORITIES

2. **Forest User Group support for the development of monitoring and evaluation systems detailed in; Valkeman, Gerrit Post Formation Support to Forest User Groups (undated, 1995). Participatory research techniques will be required to develop simple plot based and transect methods for user monitoring and evaluation of Community Forests. A complementary scientific research program should also be established to conduct quantitative research on different management regimes. The sustainable use of Community Forests are a key to protecting Park resources so that this research is a high priority. The excellent advisory services of the SNV volunteer, Gerrit Valkeman, are available in the next two years and should be used.**
3. **Grazing User Group support for the development of monitoring and evaluation systems detailed in; Valkeman, Gerrit, Contribution to the Development of a Grazing Management Plan for the Park Area Between the Apsuwa Khola and Ipsuwa Khola 1995. Participatory research techniques will be required to develop simple sampling and transect methods for user monitoring and evaluation of Park grazing sites. A complementary scientific research program should also be established to conduct quantitative research on different grazing regimes. Grazing is a major impactor of Park flora and fauna so that this research is a high priority. The excellent advisory services of the SNV volunteer, Gerrit Valkeman, are available in the next two years and should be used.**
4. **Park planning is an important task for both Park management and community planning in the Conservation Area. Specific detailed terms of reference are required to research a multifaceted plan for the park under a range of scenarios which cover topics as diverse as: tourist facilities, trails and infrastructure, community economic opportunities, financial planning, cost benefit analysis of development scenarios and so on.**
5. **Indicator research is urgently required at this stage of project. Elements are in place including the socio-economic baseline analysis carried out by the original Project Task Force as well as the biodiversity database. A comprehensive plan is required, however, which identifies key criteria in the Park and Conservation Area to judge the success and evaluate progress of the Project. Some areas where preliminary thinking suggests indicators should be sought include: Community Forests, Grazing tracts in the Park, Flora biodiversity in the Park, Indicator Species of fauna in the Park and so on. Initial indicators for many of these have been identified through the Mountain Institute global program. This work should be expanded. Indictors must also be sought amongst the resident population to establish their socio-economic welfare and their participation in biodiversity management. Immediate research is**

required to both establish key indicators in selected criteria areas and establish or consolidate baseline information on key indicators.

Implementation and Operations

Generally the program has been well implemented and the Project has been an effective administrator and manager. The small Grants Program component funded by IDRC has been effective in establishing a cadre of Nepali research professionals with burgeoning interests in the issues presented by the MBCP. The findings of research and the skills of the researchers are of national and international relevance. These will be of immediate use in other National Parks of Nepal.

External factors have had a tremendous impact on the implementation of research:

Terrain is extremely rugged and remote. Communication and coordination is difficult. The Arun III Hydroelectric Project originally the focus of a portion of research activity was cancelled. Research had to be refocussed while many of the infrastructure luxuries of good transport and communications did not materialise. Nepal lacks a large group of experienced researchers with interests in MBCP issues. The Small Grants Program had to be strongly promoted before it found applicants.

Beyond these externally related weaknesses implementation of the program has been weak in two areas:

publication and dissemination of results has been slow;
more emphasis can be placed on the training and building human resources of local stakeholder groups in research;

Recommendations are intended to address these specific concerns. They are entirely operationally oriented and are not intended to imply disagreement with the goals or methodological basis of research. On the contrary these are strongly endorsed. The Project is to be commended for operationalizing research under difficult conditions and in a creative way.

- 6. Extend the role of peer review now adopted by the Scientific Coordination Committee to include the review and comment on completed research. Final contract payment to the researcher should be contingent on the satisfactory completion of revisions. The original members of the MB Task Force have a valuable perspective which should not be neglected. Consideration should be given to including these scientists in peer review of proposals/final draft reports and on the Scientific Coordination Committee.**
- 7. Expand the Research Application Form to require a clear statement of the expected outcomes of research and their applicability to local issues and needs in the field. Establish the above-mentioned peer review process to clearly assess the validity and**

clarity of research to field applications. Make it a role of the Field Scientific Co-ordinator established by Recommendation 8 to monitor and document the success of research in field applications.

8. **The current Resource Co-ordinator function in the Kathmandu support office should be retained in situ. Consideration should be given to a Field Research Co-ordinator position from the field headquarters. The role of this position would be to coordinate research activities with sector offices, ensure staff involvement and training in each research endeavour, identify local village research needs and opportunities through Village Initiated Planning (VIP), and spearhead new research initiatives with forestry and grazing user groups described in Recommendation 2 and 3. Priority should be given to a woman filling this position.**
9. **A publication Unit should be established as rapidly as possible given budget constraints. Publication, however, should be clearly detached from the Scientific Co-ordinator's role and a full-time manager be appointed. The Co-ordinator should be primarily concerned with the scientific quality of research results.**
10. **An important research activity has begun on people-wildlife conflict within the Park boundary. To facilitate this work a modest research station should be erected in Saisima as called for in the Management Plan.**

Although outside the immediate terms of reference of the IDRC evaluation mission the consultant has evaluated and made a series of recommendations designed to improve the management of the MBCP. These are included in an Annex to this report.

IDRC requested that their grant to the Qomolangma Nature Preserve (QNP) in the People's Autonomous Region of Tibet be reviewed to the extent possible without visiting the site or research facilities. Both QNP and MBCP received equivalent amounts of grant funds managed by The Mountain Institute. A cursory evaluation was done by a literature review and discussions in Nepal with Mountain Institute staff who are helping co-ordinate the project.

The Qomolangma Nature Preserve, an area of 34,000 km² on the southern border of the Tibet Autonomous Region of the People's Republic of China, has successfully been established as a national protected area. Coordinated through a 12 year agreement with the Mountain Institute (TMI) the QNP will follow many of the People-Park biodiversity preservation principles promoted by the adjacent Makalu-Barun Project in Nepal.

IDRC funding, directed through TMI to support research, has been crucial in the development of the Preserve:

to date IDRC funding has financed 100% of all research and is a significant portion of the Preserve's budget;
the QNP is the first in China to be created after research has identified key issues. These

have been significant in creating zones within the Preserve, demarcating the Preserve area and identifying ways of minimizing People-Park conflict;

Research has created an extensive baseline database;

in the course of research at least one major institution, the Institute of Botany, has reoriented its overall priorities to be more in line with the biodiversity preservation goals of QNP;

the research and data was instrumental in promoting the Preserve in national fora. As a result the QNP, formerly a State Preserve, has been designated as a national preservation area thereby giving financial stability from the central government.

significant opportunities have been created for researchers to attend international fora. The work of the QNP and the transboundary discussions with the MBCP have received international attention and recognition.

Funding has had less impact in two significant areas:

involving Tibetan researchers in the work and;

demonstrating the benefits of interdisciplinary research.

Both these failings have occurred largely beyond the influence of TMI. The organization is working to rectify these shortcomings in the middle term through, for example, the higher education of a Tibetan social scientist and the convening of interdisciplinary fora.

Major future research tasks have been identified in three areas:

Transboundary scientific exchange and co-operation;

Indigenous research capacity building is required through monitoring programs and through scholarship training and education;

Monitoring systems are required for natural resource management, socio-economic development and the evaluation of the project.

1. AN EVALUATION OF THE SCIENTIFIC RESEARCH COMPONENT OF THE MAKALU-BARUN CONSERVATION PROJECT

1.1 Background: Setting Research Priorities

The Makalu-Barun National Park and Conservation Area (MBNPCA) was established in 1992 as Nepal's eighth national park and the first to include an inhabited conservation area as a buffer zone. The area covering 2,330 km² is a vital component of the greater Mount Everest protected ecosystem which includes Nepal's Sagarmatha (Mount Everest) National Park (1,148 km²) to the west and the 35,000 km² Qomolangma Nature Preserve in the Tibet Autonomous Region of China to the north. Reasons for establishment of MBNPCA include the unusually high bio-diversity, and spectacular pristine high altitude mountain landscapes. Within a distance of 40 km, elevations rise from 435 m at the Arun-Sankhuwa River confluence to 8,463 m at the summit of Mount Makalu, the world's fifth

highest mountain. Within this altitudinal range, a large number of ecological zones are found, ranging from tropical forest formations at the lowest reaches to nival (permanent snow) zones at mountain peaks.

The MBNP/CA is divided into a Conservation Area (CA) or buffer zone in the southern and eastern one-third of the area, while the remainder is gazetted as National Park. More than 32,000 people of ethnically diverse backgrounds inhabit the CA, and only two small enclaves are found inside the Park area (Saisima and Dragnag). The majority belong to various tribes of Rai who practise shamanistic religion, whereas Shingsawas, Sherpas and Bothia people originating from Tibet and living at higher elevations carry on Buddhist religion. A number of other hill tribes including Gurung, Tamang, Magar, Newar, Brahmins, Chhetris and occupational casts live at lower elevations.

People are mainly dependent on subsistence agriculture and pastoralism of low productivity. Many families supplement their daily needs from forests, from which a variety of wood and non-wood products is collected. Cultivation on narrow permanent terraces in places covering the entire steep mountain slope is commonly practised, but also rotational slash-and-burn cultivation is taking place, especially in the eastern Seduwa and Hatiya Sectors. While culturally rich, most people in the area are economically very poor, lacking adequate basic communication, health and sanitation facilities. Where subsistence farming does not produce sufficient food for the whole year, seasonal migration for wage-earning jobs is a common feature.

Based on numerous studies by national and international specialists of a founding Task Force, a Management Plan for the area was drafted in 1990. The Mountain Institute (TMI), an American NGO from West Virginia, with long-standing experience in Nepal, has been involved in the area during the Task Force study phase. In 1993, TMI, under the aegis and in close cooperation with HMG/DNPWC, was assigned the task to implement the MBNP/CA-project with international donor support.

The Makalu-Barun National Park and Conservation Area Management Plan was produced in 1990 after two years of extensive Task Force study. An important aspect of the Plan was the *Scientific Research Component* Report in part financed by the International Development Research Council (IDRC) Canada. The Scientific Component report was produced as an informative supplement providing a valuable baseline of background, research priorities, institutional linkages and budget requirements. Both the Makalu-Barun *Management Plan* and the *Scientific Component Report* are comprehensive documents of high quality which provide a valuable basis for the design and implementation of the Makalu-Barun Conservation Project (MBCP). The Management Plan was the culmination of more than 3000 person-days conducting field research, meeting with local people and analysing data. This early work has led to twenty working papers and eleven consultant reports. The *Scientific Component* reflects a high degree of consideration not only for the preservation of natural Park ecology which one would expect in such a scheme but also a high degree of sensitivity to the needs and desires of a group of key stakeholders: the 32,000 residents of the Conservation Area buffer zone.

Reflecting this concern for people - park issues and recognizing the fundamental concern for integrating the welfare of local residents with protection of the Park the proposed research program is composed of two parts: Multi-Disciplinary Management Research and Basic Scientific Research. Multi-Disciplinary Management Research comprises research investigation largely in the socio-economic requirements of the population resident in the Conservation Area while Basic Scientific Research comprises investigation into the biodiversity and ecosystems of the Park area. Besides these two priority areas four other recommended programs were identified. Table 1.1 outlines the scope of each of the priority areas.

The Plan further provides for an institutional structure to guide research. This structure calls for several important elements:

1. A Scientific Review Committee to guide research proposals, facilitate linkages between park staff and research organizations, maintain the objectives and high standards of the MBCP and ensure quality data and publications.
2. Linkages with National and International Organizations
3. Research Facilities to utilize existing Nepali facilities and to establish two simple field research stations in the Park area.
4. Research Grants and Fellowships to support and encourage indigenous research capabilities.
5. Regulations and Procedures to guide the conduct of research in the M-B region.

Table 1.1: Research Priority Areas Identified in the M-B Management Plan

PROGRAM AREA	PRIORITY AREA	PROGRAM ELEMENTS
Multi-Disciplinary Management Research	Slash and Burn	Inventory and Mapping Cost-benefit analysis Ecosystem Dynamics Wildlife crop damage Tenure and Social Institutional Factors
	Livestock and Pasture Development	Breeding trials Stall feeding trials Forage plant and Fodder tree Inventory On-farm Fodder Production Pastoralism Wildlife depredation
	Non-Timber Forest Products	Medicinal and Aromatic plants Allo cultivation and processing Lokta cultivation, harvest and processing Bamboo ecology, harvesting Rattan propagation
	User Groups and People's Participation in Natural Resource Management	Traditional User Groups in forestry, livestock, irrigation etc. User Group management
	Material and Folk Culture	Documentation Economic techniques and relationship to the natural environment Recording and preservation of material
Basic Scientific Research	Ecosystem Dynamics and Monitoring	Vegetation and Land use Mapping Transect studies Climatology, Streamflow and Sedimentation
	Key Wildlife and Plant Indicator Species	Identification and inventory of Key Species Indicator species management studies Endangered Species
	Biodiversity surveys	Biodiversity Inventories Management surveys of protected sites
Other Recommended Programs	Geomorphology	
	Hazards Mapping	
	Tourism Development	
	Geographic Information System (GIS)	

1.2 Donor Support for Research

The International Development Research Centre (IDRC) of Canada has been a long time supporter of the MBCP providing funding in 1989 to support the development of a Management Plan and again in 1991 to support a portion of the research program. A grant of \$341,170 was provided of which about half was to be devoted to the M-B region while the other 50% went to similar research in the adjoining Park and Reserve region of Qoomalunga in the Autonomous Region of Tibet. This funding has facilitated a range of multi-disciplinary management research including:

- slash and burn agriculture research
- livestock and pasture development
- non-timber forest products
- user groups and people's participation in natural resource management
- material and folk culture
- tourism development
- impacts of large scale development particularly the Arun Hydroelectric facility which had been proposed at the eastern border of the Conservation Area

About one third of funding was to be provided for overhead: salaries, administration, publications, student grants, travel and so on.

The overall objectives for the IDRC grant in Nepal are:

"to develop improved resource use and conservation strategies through multi-disciplinary studies of existing and alternative management systems within Makalu-Barun National Park and Conservation Area".

The underlying concern is minimisation of people-park conflict and the furtherance of the Makalu-Barun vision that indeed encourages local people to become stewards of the biodiversity representative of their Park.

IDRC funding has been particularly important in establishing a Scientific Research Office headed by Dr. Nanda P. Joshi and in allowing the creation of a Small Research Grants program allocating resources to Nepali researchers to conduct research in targeted areas. The Small Research Grant program is directed largely toward the management-oriented research activities established in the original Management Plan. It is non-directional in the sense that it encourages proposals from local research organizations and individuals within the broadly defined categories of the program. The intent here is to solicit and support Nepali interest in the Project, to build national research expertise over time and to establish sustainable academic support for the concepts embodied by Makalu-Barun. These institutional arrangements were established in mid and late 1993 so that research is in mid stride at the time of writing.

IDRC funding terminates at the end of 1995.

Other donor support has come from Denmark for assistance in creation of a biodiversity database and from USAID and the Global Environment Facility (GEF) lead by the UNDP for the implementation of the people Wildlife Project and aspects of the Small Research Grants Project. The People-Wildlife Project is an initiative to address wildlife predation on community crops and livestock. The focus of the study is on collecting quantitative information on specified depredation patterns, identification of key wildlife species responsible for such damage and their ecological study for better management through wildlife management techniques. A strategy will be developed to better integrate agriculture and the protection of indigenous species of wildlife. The project is divided into two parts: workshops and field research.

Danish support for research has ended. USAID support continues until early 1996. GEF funding continues until 1999.

1.3 Effectiveness of Research

Planning and Implementation

Research priorities have been established at the outset of the project by the Task Force review from 1988 to 1990 through an extensive consultation and expert review process. Task Force consultation encompassed the peasant farmers, the national and international scientific communities and HMG government officials. The priorities established in that process have largely remained constant although sector officers have the opportunity to re-establish priorities through an annual Project planning exercise. Wildlife depredation, for example, has only recently been given high priority by locals for research and adds emphasis to the importance of the People/wildlife research. The central theme of the MBCP is the participation of local people in biodiversity protection and enhancement. The participatory approach has been used in the priority setting and, to a lesser degree, in the implementation of research.

The Small grant Program was established on the basis of Task Force priorities. Annex 3 is a summary of 19 Small research grants completed or underway as of year end 1995. The Program grants touch on nearly all priority areas established by the Management Plan. Additional priorities are research directed to tourism development and the impacts of the Arun III project. Research into this latter area is less pressing since the project has been cancelled. World Bank funding has been declined for the project meaning its postponement at least for a decade.

The Small Grant Program has been central to the Project strategy of building a cadre of committed and knowledgeable Nepali researchers and to building national research capacity. The Program appears to be successful in the training and building of academic human resources by providing opportunities to young scientists.

Funding allocation within the research program was not closely investigated. Reports reviewed for the IDRC component of funding show that about 60% of funds went to direct research costs with the remainder going to support project salaries and allowances, support services (including transportation) and publications. This proportion is deemed entirely reasonable given high start up costs of the Program and difficult access and support issues in the research area.

In October 1993 the Research Co-ordinator established guidelines for research in the Project area. These establish policies, objectives, regulations and procedures for research; they also clearly reflect priorities for research as established by the Management Plan. Criteria for grants are presented in four categories:

- Multi-disciplinary Management Research
- Basic Research
- Independently Financed Collaborative Research
- Small Research Grants and Fellowships

Proposals for research undergo peer review to determine their applicability to the priorities of the project. A standardised form provides consistency. Annex 4 contains a sample Grant Application form and a Standardised Proposal Peer Review Form.

Guidelines further define reporting requirements among which significantly is included a stipulation that report findings be presented to project staff.

Once research is underway proponents are able to act independently to set up their research programs and to make logistic arrangements within the research area of their choice. Coordination with the pertinent Sector Managers is not a requirement nor is involvement of Park staff in the research. Local resident and other stakeholder involvement in the research is dependent on the nature of research; socio-economic research topics naturally require close interaction with residents of the Conservation Area, scientific research in the Park area for example on flora and fauna does not.

Dissemination of the results of research is an issue for the project. The Research Program shows a clear commitment to the dissemination of results through:

- the presentation of results to the project staff in a seminar;
- the publication of research in a research series which is distributed widely within the project, to national and international researchers;
- the discussion of research results in planning workshops.

Although the commitment exists for dissemination the practice sometimes falls short. Investigation indicates that field staff feel uninformed of the results, and publication of results is very slow (only two new research papers have been added to the series since 1991 and there is a tremendous backlog).

External factors have played an important part affecting implementation of research.

Access to the research area is extremely difficult. A three to seven day difficult trek from area airfields is required just to enter the Project area;

Communication is difficult. The radio sets in sector offices do not function well and there is no access to handheld sets for use in the field;

Living conditions in the field are harsh with poor sanitation, no electricity, high altitude living conditions;

The cancellation of Arun III has shifted research priorities away from the impact of this large scale project on the project site but has also meant that some of the infrastructure benefits of the Arun project (eg. good air transport links and radio communication) have not been available.

Results of Research

Since the inception of the project in 1991 directed research in both multi-disciplinary management research and basic research has been directed to several areas:

Mapping Project - Land use maps and GIS plotting for the project area have been developed. In progress are projects to produce contour maps and produce small scale (1:10,000) Village level maps.

Biodiversity Database - A database has been established and data entered for selected flora and fauna. The usefulness of the database needs to be expanded by additional floral and faunal data and implementation of socio-economic database.

The People Wildlife Project - This project is just underway. A DNPWC researcher has been seconded to MBCP.

Managing Natural Resources for the Environment - A DNPWC researcher has been seconded to MBCP to work in a remote part of the project area.

With the addition of a research co-ordinator and the establishment of a Small Grants Program in 1993 activity has increased so that currently 19 small projects are underway. Because significant research activity has taken place only in the last two and half years the results of research are difficult to observe. The Program has contributed to the building of capacity amongst national scientists. Comments from field staff, however, show that more effort could be made to ensure that research provides results and achieves its objectives.

The quality of research results is uneven: some work is first rate providing new data, insights, analysis and areas for further work. Such was the case with the Lokta research which had a limited database/ research framework but which provided sound practical recommendations; other work is a rehash of secondary information providing nothing of value to staff immersed in the research topics on a daily basis. Such was the case with slash and burn research and early work on grazing. Livestock numbers from this latter study now being shown to be unreliable.

Coordination appears weak in many cases with field staff. Notwithstanding the requisite presentation of findings to Park staff reports from the field indicate that translation of research findings into specific actions by staff and residents is weak. Research reports are late in coming and not circulated to staff.

Research has resulted in enhanced linkages with research national and international agencies. These include:

Nepal's Tribhuvan University (Botany, Zoology, Geology and so on)
Nepalese research agencies; ICIMOD, Nepal-UK Community Forestry Project, Nepal-Australia Forestry, Nepal Forest Research Council, Nepal Agricultural Research Council;
Charles Strut University, Wildland Study Group, Nepal-Cornell Study Program, AKRSP in Pakistan, CCE and WII India.

Links have also been established with local NGOs and User Groups particularly in Forestry, Grazing, Allo weaving, Lokta making, and other income generation activities.

1.4 Discussion and Recommendations

The importance of research program to the Makalu-Barun Project cannot be understated. There are direct results of research such as those produced as a result of work in allo research and lokta paper making. There are also indirect results that come from the development of indigenous research capabilities and the building of institutional commitment to Park-People investigation. The evaluation team is supportive of a continuing and strengthened research program. The following discussion items and resulting recommendations are intended to help focus and clarify the role of research in the program.

The appointment of a Research Co-ordinator is a very important step for the project. He has been instrumental in establishing an umbrella mechanism for soliciting research, for reviewing proposals and for disseminating results. Early difficulties in soliciting proposals under the Small Grants Program have been largely overcome and promising results from this work are expected. With this in mind the coordination and management role of the Research Co-ordinator must in some cases be expanded and in others be focused. The coordination of research should be comprehensive and include:

personnel management in the field, in central office and amongst researchers;
setting and adjusting of research priorities and objectives based on local and Project perceptions;
transfer and communication of research results so that they may be readily be applied in the field;
setting standards for and maintenance of quality control in research proposals and results;

Publication of research and other field documents has been slow and the Scientific Co-ordinator, as chief and publisher, has had valuable time taken away from his other duties.

Issue: Quality Control of Research Results

In the area of quality control a large variation has been identified in the results of research particularly amongst Nepali researchers. It is recognized that besides providing sound data a complementary objective of local research is the development of research skills. Initially these skills have not been of uniform high quality and a valid objective is to help improve them.

RECOMMENDATION 1

Extend the role of peer review now adopted by the Scientific Coordination Committee to include the review and comment on completed research. Final contract payment to the researcher should be contingent on the satisfactory completion of revisions. The original members of the MB Task Force have a valuable perspective which should not be neglected. Consideration should be given to including these scientists in peer review of proposals/final draft reports and on the Scientific Coordination Committee.

Issue: Communication of Results

The communication of applied results to the field creates a vitality in research and prevents it from becoming detached from the goals and priorities of the Project. The application of research at the local level becomes a test of its viability. It is therefore important that proposals be designed and research is evaluated so that the application of results are clearly stated. Despite the stated intentions of the Scientific Research Component of the project direct field involvement is still lacking.

RECOMMENDATION 2

Expand the Research Application Form (Annex 4) to require a clear statement of the expected outcomes of research and their applicability to local issues and needs in the field. Establish the above-mentioned peer review process to clearly assess the validity and relevance of research to field applications. Make it a role of the Field Scientific Co-ordinator established by Recommendation 3 to monitor and document the application of research in field applications.

Issue: Staff Coordination for Research

There is an observed lack of communication between the central research office in Kathmandu and the field. Sector offices are often unaware of impending research until the researcher arrives and there appears to be few attempts to involve Rangers and Scouts in research. This means that significant opportunities are being lost for staff training.

Research should be viewed as an excellent source of applied operational training transferring skills in logical analysis, data base development, natural resource management and participatory action research. There is a continuing important need for good communication links with central Kathmandu and international research communities. Nevertheless there is a concomitant need for strong field linkages particularly with new research priorities being recommended that emphasize participatory research with local user groups and with a new emphasis on field staff involvement.

RECOMMENDATION 3

The current Resource Co-ordinator function in the Kathmandu support office should be retained in situ. Consideration should be given to a Field Research Co-ordinator position from the field headquarters. The role of this position would be to coordinate research activities with sector offices, ensure staff involvement and training in each research endeavour, identify local village research needs and opportunities through Village Initiated Planning (VIP), and spearhead new research initiatives with forestry and grazing user groups described in Recommendation 5 and 6. Priority should be given to a woman filling this position.

Issue: Research Categorisation

Research categorisation according to early priorities described by multidisciplinary management and basic research were useful in conceptualising and structuring early research efforts. With the position of research co-ordinator filled and with the overlap of research within the Park and Conservation Area the distinction between the two areas has become blurred. With the inception of the Small Grants program a good direction is provided for future research management. This direction depends more on the organization and funding of research priorities and less on the research priorities themselves.

RECOMMENDATION 4

The research co-ordinator should organize research priorities according to two major categories:

- a). A Grant Program which employs the institutional mechanisms established for the Small Grants program. A Grant program would broadly define research priorities and issue a call for proposals from Nepali researchers. These would be vetted by the Research Coordination Committee and others the Co-ordinator saw as appropriate. The purpose of this program as with the Small Grants program would be to provide new research information within broadly designated areas, to build expertise and interest for people-parks issues within a Nepali research community and to provide learning opportunities for Park staff and Conservation residents.**

b). A Directed Research program which establishes key MBCP research priorities and which develops specific Terms of Reference to fill these priorities. National and international researchers and consultants should be eligible for this research always with a view to obtaining sound scientific output with the maximum transfer of experience to local staff and residents. Joint Nepal and international teams are to be encouraged. Priorities for directed research will be set on a yearly basis. Terms of reference will be developed by the Scientific Co-ordinator using outside expertise as appropriate. Normal tendering procedures will be followed to ensure that budgets, timelines and the expected deliverables are provided. Recommendations 5 to 8 elaborate on immediate Direct Research priorities.

Issue: Directed Research Program Immediate Priorities

Some directed research priorities can be identified from ongoing research initiatives. These should be continued to be monitored by the Research Co-ordinator and the results integrated into the ongoing work of the project; in databases or into community development projects and so on. These important ongoing directed research activities include:

- the Park-Wildlife research funded by USAID;
- the continuing research to identify flora biodiversity in the Park;
- the research of Park fauna on rough population status, habitat, migration and reproductive characteristics and so on. Agreement has been reached on chief indicators for both flora and fauna being specie diversity, density of indicator species, sample plot size (40x40 m), seasonality, scat/pellet droppings, shelters/animal beds/ browsing marks. These indicators should be followed up by data collection;
- habitat (micro and macro) classifications, permanent plots and transect walks;
- continued development of a biodiversity and GIS database resource through data collection, verification and entry.

Directed Research can also support new initiatives summarized in this evaluation. In particular terms of reference should be developed to support research goals in the following priority areas:

RECOMMENDATION 5

Forest User Group support for the development of monitoring and evaluation systems detailed in; Valkeman, Gerrit Post Formation Support to Forest User Groups (undated, c1995). Participatory research techniques will be required to develop simple plot based and transect methods for user monitoring and evaluation of Community Forests. A complementary scientific research program should also be established to conduct quantitative research on different management regimes. The sustainable use of Community Forests are a key to protecting Park resources so that this research is a high priority. The excellent advisory services of the SNV volunteer,

Gerrit Valkeman, are available in the next two years and should be used.

RECOMMENDATION 6

Grazing User Group support for the development of monitoring and evaluation systems detailed in; Valkeman, Gerrit, Contribution to the Development of a Grazing Management Plan for the Park Area Between the Apsuwa Khola and Ipsuwa Khola 1995. Participatory research techniques will be required to develop simple sampling and transect methods for user monitoring and evaluation of Park grazing sites. A complementary scientific research program should also be established to conduct quantitative research on different grazing regimes. Grazing is a major impactor of Park flora and fauna so that this research is a high priority. The excellent advisory services of the SNV volunteer, Gerrit Valkeman, are available in the next two years and should be used.

RECOMMENDATION 7

Park planning is an important task for both Park management and community planning in the Conservation Area. Specific detailed terms of reference are required to establish a multifaceted research plan for the park under a range of scenarios which cover topics as diverse as: tourist facilities, trails and infrastructure, community economic opportunities, financial planning, cost benefit analysis of development scenarios and so on.

RECOMMENDATION 8

Indicator research is urgently required at this stage of project development. Elements are in place including the socio-economic baseline analysis carried out by the original Project Task Force as well as the biodiversity database. A comprehensive plan is required, however, which identifies key criteria in the Park and Conservation Area to judge the success and evaluate progress of the Project. Some areas where preliminary thinking suggests indicators should be sought include: Community Forests, Grazing tracts in the Park, Flora biodiversity in the Park, Indicator Species of fauna in the Park and so on. Initial indicators for many of these have been identified through the Mountain Institute global program. This work should be expanded. Indictors must also be sought amongst the resident population to establish their socio-economic welfare and their participation in biodiversity management. Immediate research is required to both establish key indicators in selected criteria areas and establish or consolidate baseline information on key indicators.

Issue: A Publication Unit

A clear need has been identified by the Research Co-ordinator for the establishment of a publication unit. There is little question that an efficient Unit must be established to

provide editing and publishing capability to MBCP. The Research Co-ordinator until now has been saddled with the role of publications management along with his other demanding and expanding responsibilities.

RECOMMENDATION 9

A publication Unit should be established as rapidly as possible given budget constraints. Publication, however, should be clearly detached from the Scientific Co-ordinator's role and a full-time manager be appointed. The Co-ordinator should be primarily concerned with the scientific quality of research results.

Issue: Research Facilities

RECOMMENDATION 10

An important research activity has begun on people-wildlife conflict within the Park boundary. To facilitate this work a modest research station should be erected in Saisima as called for in the Management Plan.

2. EVALUATION OF THE QOMOLANGMA NATURE PRESERVE (QNP) PROJECT: RESEARCH COMPONENT

2.1 Introduction

The Qomolangma Nature Preserve was established in 1989 initially as a State Preserve and buffer zone area by the Tibet Autonomous Region of China. The Preserve was designated as a National Protected Area in 1995. It lies adjacent to the southern border of the Region on the north slope of the Himalaya. The Preserve encompasses more than 34,000 km² of territory and is inhabited by about 68,000 people; 95% of whom are Tibetan.

The QNP Project has been designed by the Mountain Institute in collaboration with the Government of the Tibet Autonomous Region. Chief organizations associated with the Project are: Working Commission of the Preserve, the Chinese Academy of Sciences, the Tibet Academy of Social Sciences (TASS), and the Tibet Development Fund (TDF) a local Tibetan non-governmental organization. The Mountain Institute (TMI) is to provide partial long-term support over 12 years. The Project has been designed to conserve the unique natural and cultural heritage of the Mount Everest ecosystem in environmentally sound, culturally viable and economically feasible ways. It is being coordinated by TMI in conjunction with the Makalu-Barun Park and Conservation Area adjacent to the QNP in Nepal. The TMI linkage between the two Parks and between two nations presents exciting transboundary opportunities for the sharing of information of Park and Conservation Area protection and for co-operation in managing aspects of operation such as ecotourism in the Parks.

A recently approved Master Plan guides the management of the Project. It is the result of years of multidisciplinary research in the Park and consensus-building among concerned local, government and international agencies. The Plan states the overall goals of the Project to be:

- protect the ecology of the region;
- alleviate poverty;
- increase cultural awareness;
- contribute to increased scientific understanding.

Management actions, initiated in 1990, pursue these goals through a range of activities which include the coordination of nature protection with socio-economic development as well as strong efforts in education, training, cultural conservation, and applied scientific research. The area has been divided into three designated areas:

- a Core Zone comprising 31% of the total area. The management strategy for the area is the protection and enhancement of natural ecosystems and landscapes. Limited, traditional human activities are permitted as long as they permit sustainability of the natural systems.
- five buffer zones centred around settlement enclaves proximate to the Core Zone comprising 19% of the area. Intensified human use is balanced to the extent possible with the preservation of the natural environment.
- an Economic Development Zone comprising the remaining 50% of the area. Here human economic activity is to be enhanced primarily in agriculture.

The International Development Research Centre (IDRC) has been supporting the Project's Applied Research from its inception. Initial funding was directed toward establishment of the Master Plan. In 1991 a second grant of about \$150,000 was directed through the Mountain Institute using research and training to help meet four objectives:

- Develop baseline information;
- Promote applied research capabilities through key institutions, Academy of Sciences, Institute of Botany, Milu biodiversity Research Centre - all in Beijing - and the Tibet Academy of Social Sciences in Lhasa;
- Demonstrate interdisciplinary research into protected areas management using cross-sectoral management agencies;
- Provide funding for Chinese researchers to conduct and attend planning workshops and meetings, train staff, publish research findings and purchase research equipment.

The funds provided by IDRC provide 100% of all money directed to research and nearly all outside funding available to the project.

Tibetan and Chinese institutions each have their own interests and expertise to bring as researchers. The Tibet Academy of Social Sciences is an academic institution seeking to inventory, catalogue, and research Tibet's unique cultural heritage. The Tibet Development Fund is a local non-governmental organization which works to encourage

economic development and cultural preservation especially in the poor regions. The Institute of Botany, a Beijing-based academic institution operating under the aegis of the prestigious Chinese Academy of Sciences, conducts and co-ordinates research into the natural and physical sciences.

An over-sight evaluation has been conducted on the Project for IDRC to mark the expenditure of all funds in this Phase. Although a site visit was not possible a review of progress was made with Mountain Institute administration in Nepal. Project documents were also reviewed.

2.2 Meeting Research Objectives

Objective 1: Developing Sound Baseline Information

Research funding has been highly effective in allowing the Institute of Botany to develop, record, monitor and disseminate information on species of the Preserve. Data is provided from QNP directed research and secondary sources. In all scientists have recorded over 2300 plant species, 300 vertebrates and numerous invertebrates. The database allows entry by scientific name, distribution, elevation and endangerment status.

Socio-economic data has also been entered although not to the same complexity as the biodiversity data. Entries have now been made on demographics and agricultural activity. This information resulted from field research based on household interviews. Topics covered areas such as household economy, agriculture, livestock, health and education as well as related information local history. Baseline information was undertaken on tourism development and impacts.

Information from the database has contributed to a detailed GIS mapping exercise for the entire Preserve area. Thematic maps have been developed for terrain type, climatic zones, preserve management zones, agricultural land area, livestock ownership, grain and vegetable oil production, percapita income and population density of humans.

Topographic maps for the entire preserve area have been digitized.

Database and GIS training for field level staff will completed shortly.

Objective 2: To Build the Institutional Capacity of National and State Institutions

The Institute of Botany based in Beijing has become the lead agency for the direction of QNP. Under their direction the primary research on biodiversity within the Preserve has taken place. They are responsible for the baseline research and database development to date. It is significant that so strong has become the Institute's interest and commitment to the goals and tasks of the QNP that they have changed their name to the Biodiversity Conservation Training Centre. The Institute latterly sponsored a national conference on

protected areas with huge success. They are collaborating with the International Centre for Integrated Mountain Development (ICIMOD) for a conference concerned with People and Protected areas. They have also been responsible for the mapping and GIS work on the project. They are currently collaborating with ICIMOD and seeking funding to extend their mapping work to transboundary areas. The project has been defined and is ready for implementation. About \$40 to \$50,000 is required.

Research by TDF and TASS have identified key cultural centres within the QNP. A general inventory has been made of the maintenance and reconstructive work required after years of decline. Ten major Centres have been identified. Other identified areas requiring support are library and text preservation, establishing local museums, and enhancing education and skills training opportunities. The TDF has recently used \$1000 of IDRC funds to lever \$15,000 from other donors for the restoration of the Rongbuk Gompa. This is the only class 1 National Historical Monument of the QNP as designated by the Bureau of Historical Monuments. It is a popular tourist attraction of great local cultural significance.

The Tibet Academy of Social Sciences is the third key institution to be involved in the project. TASS's input has been minimized by the departure of Wang Chuk Anmgyl the Academy's chief scientist and a fervent proponent of QNP. He has been reassigned as head of the Tibet commerce department. His experience with research into ecotourism in QNP is influencing the policies of his ministry. Lack of research depth within TASS has limited their ability subsequently to play a strong role. Research funding is helping to pay for the education of a Tibetan scientist in the US and it is hoped with his return that TASS will once again play a more dominant role.

Objective 3: Interdisciplinary Research Enhancement

Limited success has been achieved in encouraging institutions to work together. The most notable success was an Interdisciplinary workshop held early in the Project with local people, Chinese Scientists and international experts. Earlier research data was used to map and to identify key management areas. through discussion the workshop was able to identify and help define cross-cutting issues dominant in each of the three zones.

Interdisciplinary research is not common in China so that research has been tended to be defined through singular scientific interests. As the People-Park them is expanded, however, to integrate economic development with the protection of biodiversity it is expected that interdisciplinary research will increase.

Objective 4: Researchers to Attend and Conduct Workshops, Train Staff and Publish Research

funding has permitted significant interchanges through workshops. Planning workshops have been held within the QNP; a national conference has been organized by the Institute of Botany to discuss National Nature Preserves. As a result of QNP presentations and

research findings at this conference the QNP was re-designated from a State to a National Protected Area. National funding now becomes available.

International Conferences were attended:

a joint conference with Nepal at the Regional Conference on Sustainable Development of Fragile Areas of Asia permitting an extensive tour of Sagmartha National Park;

The 4th International Congress on Protected Areas in Caracas, Venezuela. A joint session was conducted with scientists from the Makalu-Barun Conservation Project and QNP.

The session was hailed as a Congress highlight.

The 7th International Snow Leopard Symposium in India

a major international conference in Australia on Parks with transboundary issues

Funding has also permitted GIS training in the US and a study tour of other protected areas in China by QNP managers.

ANNEX 1:

AN EVALUATION OF MAKALU-BARUN CONSERVATION PROJECT MANAGEMENT AND INFRASTRUCTURE

A1. AN EVALUATION OF PROJECT MANAGEMENT AND INFRASTRUCTURE

Original and Current Management Arrangements

The enormous ground-breaking role of the project should be appreciated not only for its novel approaches to people and park conflicts/management but also for the challenges presented for the joint management of a complex project by a national government and an international NGO. The Evaluation Team well appreciates that the project is sometimes faced with conflicting goals in operationalizing its primary principles:

- to establish an HMG institution capable of providing sustained management of the Park system and;
- to operate in the development phase in the first ten years with the flexibility of an NGO to allow rapid implementation of novel concepts.

Although somewhat outside the terms of reference of the Evaluation Mission comments and recommendations are provided on aspects of Management because of a general recognition of the importance of the project and an appreciation that management issues may well be key to sustained progress.

The 1991 Management Plan provided a reasonably comprehensive mechanism for establishing and managing the MBCP. Review and evaluation of what was laid out in the planning document shows that current management arrangements conform closely to the vision established for the project. As established in the Management Plan a Project Coordination Committee (PCC) chaired by the Secretary of the Ministry of Forests and Soil Conservation meets at least once a year. The PCC has largely an over-sight role and provides coordination with other key HMG Ministries, Departments and Agencies as well as other donors and NGOs. The Project Executive Committee (PEC) chaired by the Director General of the Department of National Parks and Wildlife Conservation (DNPWC) provides official liaison between HMG and the Mountain Institute (TMI) and provides for general project coordination. This body meets on a regular basis and appears to be successfully providing guidance to the Project. Minor recommendations for its improvement are provided in a later section.

The original staffing plan called for the Project to be managed by a senior Warden from DNPWC co-managed with a representative from TMI. This has been done and appears to be working successfully. Logistic problems are a major problem for senior officers and will be explained later. In the field as well four Assistant Wardens (or sector managers) supervise Rangers and Scouts in the sectors of Bung, Tamku, Seduwa and Hatiya.

The project has departed slightly from the original Staffing concepts in the hiring of "Output Managers". This management system replaces the original concept of three Wardens or Project Officers, responsible for Natural Resource Management, Community Development and Kathmandu Liaison as well as two assistant Wardens or Assistant Project Officers responsible for training /publicity and women's development. The current Organization Chart of the Project shows an array of support positions under both Natural Resource Management and Community Development. Although all posts are not filled Output Manager positions have been identified for conservation education, tourism development, biodiversity, Range science, training, income generation, cultural conservation, and women's development. This arrangement has largely developed because of the need to get skilled resources to the field in each of the designated skill areas and to facilitate the production of "outputs" for expectant HMG and donor agencies. The system of Output Managers has been understandable given the exigencies of Project start-up. It has lead however, to a confusion in roles in responsibilities and, at times, friction between Section Managers and Output Managers. Looking toward the long-term sustainability of the Park concept calls for an adjustment in staffing arrangements. These issues will be addressed in the following section.

The original senior management location and logistic arrangements originally conceived for the project have been the cause of some difficulties. These are nearly all due to events and circumstances beyond the control of the senior management. They are to be commended for the great successes the Project has enjoyed in the face of these difficulties and their willingness to adapt to changing circumstances fraught with uncertainties. Khandburi was originally to be a temporary headquarters replaced by another location in the Project area once the Sector offices were established and the effects of infrastructure that the development of Arun would bring were known. The Chief Warden and the TMI Co-manager were to have spent nearly all their time in the field based with their families in Headquarters not Kathmandu.

These logistic arrangements have not been followed, however, and are the basis for some strains in the HMG / TMI partnership. Increased time of the senior management has been required in Kathmandu largely due the frequent political and administrative changes characteristic of Nepal's young democracy as well as the underestimated time required by the Project's five major donors. The cancellation of Arun meant that anticipated communication and transportation facilities for the sector did not appear leaving the Project field staff cut-off to a greater degree than anticipated without the budget to easily supply alternative communication facilities. Strains in the relationship played a role in the appointment of a new TMI co-manager 2.5 years into the project with an understanding that more management time would need to be spent in the Nation's Capital than originally planned.

By the third year of implementation with Sector offices opened in the Bung and Hatiya Sectors field staff doubled and the demands of both Kathmandu and the field put additional strains on senior management. Senior managers were forced to open homes in both Khandburi and Kathmandu. In this last year the Chief Warden has spent less than a third of his time in the field, the co-manager has spent about half. Neither the Chief Warden nor the TMI co-manager are supported by senior administrative staff who have the capabilities to relieve them of day-to-day administrative, executive or financial responsibilities.

Project management and coordination is put in practice through semi-annual participatory planning sessions which lead to comprehensive annual Sector Plans of Operation. The Plans of the four sectors are compiled to give a comprehensive annual Project Plan. Plans of Operation have been developed for the three fiscal years 93/94, 94/95 and 95/96. These are sound documents detailing tasks and subtasks to be undertaken under defined "Outputs". Currently there are 13 output areas (see Box A1). Each task and subtask has indicators for planned impacts and achievements. Tasks are scheduled on a monthly basis for the year ahead. Staff are assigned person-days for each task and proposed budget allotments are made. In all MBCP senior staff are to be commended for a well established project planning system.

Box A1
MBCP Plan of Operation
July 1995 to July 1996

PLANNED OUTPUTS

1. Management System for protecting Park Flora and Fauna
2. Grazing Management Plan in the Park Established
3. Eco-Tourism Plan Established
4. Management Plan for the Park Settlement Enclave Established
5. Participatory Conservation Education Programs Implemented
6. Applied Ecosystem Research Conducted
7. Effective Project Management
8. Staff Training for Biodiversity Conservation
9. Documentation and Publication
10. Village Initiated Planning
11. Natural Resource Management Systems in the Conservation Area
12. Entrepreneurial Opportunities Provided
13. Cultural Conservation Support

The Plan unfortunately appears to suffer in its operationalization. Assistant Wardens lack the experience to systematically work with staff to apply the Plan, to set individual work schedules and to set targets. Outputs should likely be refined to a smaller number and emphasis placed on staff meeting task targets within these. Staff development at the Sector level suffers from a lack of direction. There are training sessions provided particularly on

issues of community development but these appear haphazard. There is not a strategic staff development plan for sector managers, rangers or scouts corresponding to the fulfilment of their job descriptions. These comments point to a lack of senior management supervision which can be explained by the high demands on their time to be both in Kathmandu and the field. Recommendations will be addressed in the next section.

Currently project Headquarters are based in Khandburi although it appears that Kathmandu handles most administrative matters as well as publication of most materials. The DNPWC and Project staff are understandably anxious to move headquarters closer to the field to be more closely involved with the work in each Sector. Khandburi, situated outside the project area, is an arduous 2 to 3 day walk from the Tamku and Seduwa sector offices and 5 days from the Hatiya and Bung offices. On the other hand it is understandable that Khandburi is currently the Headquarters link to the field. It is the nearest Centre with electricity, phones to the outside, a fixed wing airport and banking facilities. Given the expectation for senior management time in Kathmandu ease of access is required. Sector offices are currently at a serious disadvantage because of lack of communication and small power facilities.

Discussion and Recommendations

Issue: Reorganization of Outputs and the Development of Performance Indicators

Although there is direct sector involvement in the creation of a Plan of Operation for the Project the emphasis on a large number of Outputs each having a list of tasks creates confusion and de-emphasizes the expected results of each task. The current management system of Outputs is not providing the management structure to adequately measure output of the Project by results. More emphasis needs to be placed on task definition, monitoring and results evaluation in the field. This means first developing comprehensive, convenient performance indicators against which progress can be measured. Setting of targets against these indicators is optional but strengthens management priorities. Clearly, however, targets cannot be set in the absence of a sound set of indicators. The most recent Management Plan has anticipated the need for results indicators but falls short of providing the specificity required for untrained Assistant Wardens to apply them. Impact indicators developed for the Plan are deficient because they: are vague or are expressed as an action as in, "Increase incomes"; lack the detail to tell how they will be measured or currently have no possible way of measurement as in, "Increased joy in work".

RECOMMENDATION

Compress Project Implementation Output Areas into four operational categories:

- 1. Conservation and Management of the National Park - The conservation of biodiversity in the National Park supported with sustainable management of adjoining Conservation Area resources. This includes:**
 - joint management of park infrastructure,**
 - grazing,**
 - visitors,**
 - wildlife,**
 - resident enclaves as well as**
 - the development of a conservation program.**
- 2. Sustainable Community Resource Management in the Conservation Area - The provision of sustainable sources of natural resources and new sources of income in the Conservation Area which reduce dependence on and conflict with resources in the National Park. This includes:**
 - development of community forestry,**
 - issues of slash and burn agriculture,**
 - wildlife depredation,**
 - agroforestry as well as**
 - the facilitation of complementary horticultural support.**
- 3. Community Support and Empowerment - The mobilizing of support for conservation and biodiversity through reciprocal agreements with communities which improve the quality of life and provide alternate income sources. This includes:**
 - Village Initiated Projects,**
 - Culture conservation,**
 - income generation activities,**
 - eco-tourism resource development,**
 - savings and credit programs,**
 - conservation education programs,**
 - infrastructure improvement as well as**
 - the facilitation of complementary community development support available through HMG and other NGOs.**
- 4. Monitoring and Research - The collaborative monitoring and research of ecosystem dynamics and community-based biodiversity conservation. This includes:**
 - participatory forestry and grazing user group monitoring,**
 - long-term impact monitoring on flora and fauna, and**
 - database development/maintenance.**

RECOMMENDATION

Planning and management emphasis should be placed on task outputs. To this end first key management indicators should be selected and second targets set for the evaluation of staff and project performance. Creation of these indicators should be an immediate

priority of senior management. A management consultancy review should include this in the Terms of Reference. Sample indicators are provided in Box A2.

Issue: Increasing the Effectiveness of Project Management

Project management is a key issue. The evaluation team has found that some management issues are reaching a critical point and should be addressed immediately to allow a smooth transition to Phase II. A comprehensive review is not possible in the scope of this evaluation. A set of immediately identifiable issues need to be considered by a thorough management review by an outside consultant. The Project had determined this need well before the current Evaluation Mission and is planning to retain the services of a management consultant as soon as preliminary results of the Mission are received. Some of the more immediate issues include:

Senior management must be present in the field to provide increased supervision over mid-management (primarily Assistant Warden) positions;

BOX A2
SAMPLE INDICATORS FOR RESULTS MEASUREMENT
MBCP

Portion of National Park grazers organized into user groups
Portion of available forests in the Conservation Area organized in User Groups
Portion of Forestry User Groups with a sustainability monitoring program
Portion of Park enclaves with management agreements
Increase/Decrease in slash and burn areas
Increase/Decrease in reported wildlife damage
Increase/Decrease of rated eco-tourism facilities
Increase/Decrease of community participants in conservation activities
Increase/Decrease of community cultural events
Increase/Decrease of tourist positive attitudes to the Park experience
Senior Management require senior administrative assistance to provide logistic, executive assistant, financial management and employee administration support;
The identification of other senior management options for resolving the Kathmandu - Field Headquarters dilemma. This could mean the creation of an additional senior project management position to be stationed either in the field or in Kathmandu;
A review of management capabilities of all Assistant Wardens with recommendations for improved management regimes, for further training and supervisory needs or for termination of contracts;
The development of on-the-job career development programs for Assistant Wardens, Rangers and Scouts;
The identification of processes for establishing and monitoring key indicators to measure Project performance.

RECOMMENDATION

Professional and independent management review be undertaken immediately to review project staffing policies and procedures, to advise on means both for strengthening project management and improving overall efficiency of outputs and to increase field staff support and morale. The issues provided in this Evaluation Report should be used as a basis for the development of a Terms of Reference for the consultant.

Issue: Communications

One of the most serious obstacles to improved management, increased project output and improved safety is the lack of adequate communication equipment. Makalu-Barun comprises over 2300 sq km of extremely rugged terrain, divided by 7 deep river valleys and perhaps the highest vertical rise of any Park in the world. No road or phone service is found anywhere in the Park or Conservation Area. These will not be available in the near future especially with the cancellation of Arun. Even radio contact is difficult hampered by the terrain.

At the time of the evaluation despite Project specification of radio sets that are both technically proficient (meeting international standards) and cost efficient within the limited budget of MBCP, procurement is delayed by HMG regulations preventing their import. Immediate approval will only be given by the Department of Communications for sets at twice the cost with identical performance characteristics. The Project is limping along with only 2 working sets in 6 offices.

Lack of communications present dangers as well as management difficulties. Project staff deserve the best opportunities for treatment in the event of emergencies. With helicopter access available in most areas it is essential to ensure these services are available if required. This implies insurance or reserve funds be available to pay for rescue operations.

RECOMMENDATION

Radio communication equipment should be supplied immediately at a minimum to all project offices on a high priority basis. Hand held radios should also be supplied at each sector office. The initiative now rests with the Department of Communications to give approval for procurement of Project identified equipment within the next three months. Should this not be possible a compromise solution is recommended whereby HMG pay the additional cost to procure Department of Communications specified equipment.

RECOMMENDATION

The project immediately establish a reserve emergency fund with an allocation of money allowing two Helicopter round-trips per year from Kathmandu to the Hatiya

sector office. Investigation should be made of alternate insurance arrangements through private firms or co-operative ventures with other aid agencies in Nepal or trekking companies operating in Makalu-Barun.

Issue: Staffing

A range of middle and junior level staff issues exist.

HMG has agreed in principle to the creation of 66 positions for Assistant wardens, Rangers and Scouts within two years of formal Park recognition. Staff morale and security will improve once it is given. This implies, however, that the Project must move rapidly to resolve difficulties apparent at the Assistant Warden level before positions receive HMG approval.

Assistant Wardens are key to the smooth and efficient operation of Sector offices. Lack of responsible management is apparent in at least 3 of the 4 offices. Rangers and scouts feel excluded from decision making, they lack guidance on work schedules, staff performance or career development. Scouts are apparently used on a random basis for low level "peon" tasks at the whim of the Assistant Wardens. Assistant Wardens have been apparently chosen more for their technical abilities rather than management skills and with the absence of supervisory senior management mentioned earlier staff beneath them suffer from lack of direction. It is significantly to the credit of Output Managers and Rangers/Scouts that the Project is meeting most targets.

The roles of Assistant Wardens and Output Managers have been somewhat confused by an overlap in mandate for the generation of output. Given the weaknesses of Assistant Wardens and the enthusiasm of Output Managers this confusion has been exacerbated. The roles of these middle-level staff must be clearly defined to avoid conflict and resentment. At the same time consideration must be given to the sustainability of the support roles played by Output Managers. These will not become on-going HMG positions and have been created by the Project to address requirements for specialized expertise to allow the development of the novel People-Park approaches which it embodies. Greater recognition must be given to the specialist advisory role and to the sustainability of the Output Manager positions.

Staff hired early in the Project are, in keeping with MBCP policy and procedures, generally based on 3 year contracts. Many hired more recently have been done so for the duration of the contract. This has hampered management's review of staffing performance and project needs. The procedure conforms neither to normal project management practice nor to originally conceived MBCP procedures. It also unfairly discriminates among staff members with comparable duties, invalidating performance reviews. Staff morale suffers over this issue. Consistency on this issue will help resolve difficulties in performance ranking of Assistant Wardens.

RECOMMENDATION

Assistant Warden management capabilities and sector management procedures should be immediately reviewed by Senior Management and by an independent management consultant. As a minimum their procedures should include monthly staff review and clarification of task responsibilities and targets, weekly staff meetings to review progress, annual staff evaluations, and individual staff career development plans. Assistant Wardens should be assessed for their management skills and personal relation attributes.

RECOMMENDATION

All staff should be placed on renewable one or two year contracts. Those contracts currently written for project duration should be considered invalid and reissued in accordance with original MBCP renewable contract procedures. All contracts should provide for a one month termination notice with cause.

RECOMMENDATION

The staff position of Output Manager should be reassigned to Resource Specialist. Resource Specialists job descriptions should be redefined if necessary to that of an advisory, consultancy and coordination function. It should be the chief responsibility of Assistant Wardens to be accountable for output of Task results including their scheduling and budgeting. Assistant Wardens are to given complete authority for coordination of all Tasks in their sector.

RECOMMENDATION

The Project should look toward the long term sustainability of Resource Specialists positions. A flexible approach is warranted which allows Resource Specialists to be hired through a Nepal NGO and perhaps supports their creation. Emphasis should be placed on finding sustainable solutions to providing a similar range of services to DNPWC after the termination of the Project.

RECOMMENDATION

HMG should move to officially sanction the gazetted Park positions. The Project, however, must be clear on contractual relationships with its staff before this happens.

Issue: HMG and MBCP Budget Procedures

The National Planning Commission (NPC) of HMG now requires all DNPWC Park budgets for approval. Even though MBCP budget currently contains no HMG input it is important that the Project cooperate with all HMG requirements to assist its sustainability within

government systems. MBCP budgets for the Nepal fiscal year in June/July should be submitted to NPC via DNPWC by May at the latest to receive Parliamentary approval. The Project currently plans on a calendar year basis.

RECOMMENDATION

The Project should adjust its Annual Plan process to coincide with HMG fiscal year approval schedules. Annual Plans and budgets should be submitted by May to DNPWC.

Issue: The Establishment of Project and Park Headquarters

There are many complex issues controlling the outcome of this complicated decision. With adaptation and flexibility by both DNPWC and the Project answers can be found which, if they don't solve the problem, at least provide answers both parties can live with for a specified time. The Project is expected to be moving its Resource Specialists to specific Sector offices to establish demonstrations and training geared more to one sector rather than the whole Conservation Area. This initiative should be watched for successes and problems. Other solutions should be found in order to spread senior management responsibilities allowing them more time in the sector offices. It seems clear an office will be required in Khandburi for the foreseeable future to take advantage of its services.

RECOMMENDATION

The PEC should continue to take responsibility for regularly addressing the issues of a Field Headquarters location. A first step should be to establish requirements and assess the timing of a move to a location in the Conservation Area rather than Khandburi. The current temporary Khandburi Headquarters should remain while attempting to resolve related senior and Resource Specialists management issues.

ANNEX 2

EVALUATION TEAM AND ITINERARY

IDRC has been funding biodiversity research in Nepal and Tibet through the Mountain Institute, an US-based NGO concerned with both development issues and the conservation of biodiversity in the developing world. A scheduled evaluation of IDRC grant funding at the conclusion of Phase II in December 1995 was coordinated with a mid-term evaluation called for by complementary Netherlands funding. An evaluation mission was therefore constituted of one Dutch, one Canadian and two Nepali nationals to be carried out in November and December 1995. Resource people were provided to the mission from HMGN (The Ministry of Forests and Soil Conservation and the Department of National Parks and Wildlife Conservation) as well as the Mountain Institute. The mission participants and resource people were:

Bart van Lavier	- Team Leader, Netherlands
Stephen Graham	- Research Evaluation, Canada
Baban P. Kayastha	- Forestry Evaluation, Nepal
Kanchan B. Lama	- Community Development Evaluation, Nepal
Puran B. Shrestha	- Resource Person, DNPWC, HMGN
Damodar P. Joshi	- Resource Person, Min of Forests and Soil Conservation, HMGN
Gabriel Campbell	- Resource Person, the Mountain Institute, USA

Other Project staff including both the current and past Chief Wardens of the Makalu-Barun Park accompanied the mission and played a valuable role as resource people.

The mission was carried out over nearly a four week period:

Date	Location and Itinerary
Nov 22	Arrive Kathmandu - meetings with relevant donor agencies and Project staff
Nov 27	Helicopter to Phaphlu, East Nepal - trek to western boundary of MBCP area.
Nov 30	Arrive Bung - headquarters of western MBCP sector - meetings with groups and individuals
Dec 4	Helicopter to Tashigaon - eastern MBCP sector - meetings with groups and individuals
Dec 5	Trek to Seduwa, headquarters of eastern MBCP sector - meetings with groups and individuals
Dec 6	Trek to Khandburi, temporary headquarters of MBCP
Dec 8	Arrive Khandburi - meetings and draft report preparation
Dec 14	Trek to Tumlingtar for flight to Kathmandu - meetings with staff, HMGN and donor agencies
Dec 17	Leave Kathmandu

This report is the evaluation of the Scientific Research Component of the MBCP. A more complete evaluation of the Project covering not only research but also matters relating to biodiversity in the Park and Conservation Area, Community Development and Project Management is resident with the Government of the Netherlands.

SMALL RESEARCH GRANT

S.N.	TOPIC	RESEARCH	DATE OF SUBMISSION	DATE AWARDED	STATUS	BUDGET APPROVED (NRs)	TO DATE EXPENDITURES (NRs)
1	COMMUNITY INVOLVEMENT IN MAKALU BARUN CONSERVATION DEVELOPMENT PROGRAM: THIS WAS OUR FIRST GRANT	MR. M. THAPALIA			COMPLETE D REPORT SUBMITTED	50,000/-	50,000/-
2	EXPLORATORY AND DIAGNOSTIC SURVEY ON LIVESTOCK PRODUCTION SYSTEMS IN THE MBCP AREA: A SYSTEM APPROACH	MR. N.R. DEVKOTA	MAY 27, 1994		COMPLETE D FINAL REPORT SUBMITTED	100,000/-	43,750/-
3	PRODUCTIVE PERFORMANCE AND REPRODUCTIVE EFFICIENCY OF LIVESTOCK (YAK, CATTLE, BUFFALO, SHEEP AND GOAT) UNDER FARMER'S CONDITIONS IN THE MBCP AREA	MR. M.P. SHARMA	MAY 25, 1994		ONGOING FINAL REPORT AWAITED	100,000/-	70,900/-
4	FARMING-FORESTRY AND ENVIRONMENT SOCIOECONOMIC STUDY OF MBCP AREA ALONG THE GENDERLINES: AN INTEGRATED APPROACH TO ANALYSIS	MR. P.B. BHANDARI	BAISAKH 27, 2051		ONGOING FINAL REPORT AWAITED	90,200/-	72,000/-

5	LIVESTOCK DEPREDAATION LOSSES IN THE MAKALU-BARUN CONSERVATION AREA	MR. K.K. SHRESTHA	MARCH 30, 1994		ONGOING FINAL REPORT SUBMITTED	65,010/-	65,010/-
6	AN ASSESSMENT OF LIVESTOCK DEPREDAATION THROUGH WILD ANIMALS AT TAMKU-BALA AREA, MBCP	MR. TEJ B. THAPA	DEC. 26, 1994		COMPLETE D FINAL REPORT SUBMITTED	62,245/-	45,400/-
7	SURVEY AND MAPPING FOR THE CONSERVATION FOR SOME WILD MEDICINAL AND AROMATIC PLANTS OF SEDUWA SECTOR OF MAKALU-BARUN CONSERVATION AREA	DR. B.N. PRASHAD	SEPT. 14, 1994		ONGOING	100,00/-	44,300/-
8	EPIDEMIOLOGICAL INVESTIGATION OF COMMON DISEASES AND PARASITES OF LIVESTOCK IN THE LOWER BELT OF MBCP	DR. I.P. DHAKAL	OCT. 27, 1994		ONGOING	83,000/-	63,400/-
9	STUDIES ON LICHEN BIODIVERSITY OF MBCP AREA	DR. V.P. GUPTA	SEPT. 16, 1994	JUNE 2, 1995	ONGOING	112,000/-	56,000/-
10	PASTURE RESOURCE AND LIVESTOCK MANAGEMENT IN HIGH ALTITUDE AREA OF EASTERN NAPAL: A CASE STUDY OF WALUNG VILLAGE OF SANKHUWASABHA DISTRICT	MR. DHIRENDRA PARAJULI	FEB. 21, 1995	JULY 24, 1995	ONGOING	75,000/-	37,500/-

11	FEASIBILITY STUDY OF ANGORA RABBIT FARMING IN MAKALU-BARUN CONSERVATION AREA AND A DEMAND STUDY OF ANGORA WOOL, MEAT AND PELT IN THE MARKET OF KATHMANDU VALLEY	MR. DAMODAR NEUPANE		JULY 9, 1995	COMPLETE D REPORT SUBMITTED	82,170/-	41,085/-
12	INVENTORY OF MULTIPURPOSE TREE SPECIES (MPTS) MAKALU-BARUN CONSERVATION AREAS	DR. S.M. AMATYA		JULY 9, 1995	ONGOING	83,650/-	
13	ASSESS BIODIVERSITY AND EVALUATE THE WILDLIFE HUMAN INTERACTION IN YAPHU VDC OF MAKALU-BARUN CONSERVATION AREA	MR. ABHIJAYA DHAKAI		JUNE 1, 1995	COMPLETE D	100,000/-	50,000/-
14	PRELIMINARY STUDY ON SLASH-AND-BURN AGRICULTURE PRACTICES IN MAKALU-BARUN CONSERVATION AREA	APROSC			COMPLETE D FINAL REPORT SUBMITTED	99,800/-	99,800/-
15	ESTIMATION OF GROWING STOCK AND SUSTAINABLE YIELD OF LOKTA BARK IN MAKALU-BARUN CONSERVATION AREA	APROSC			COMPLETE D FINAL REPORT SUBMITTED	97,000/-	97,800/-
16	RURAL COMMUNITIES IN CONSERVING FORESTS OF MAKALU-BARUN AREA: AN ECO-INSTITUTIONAL APPRAISAL OF USER'S GROUP PARTICIPATION	APROSC			COMPLETE D FINAL REPORT SUBMITTED	99,800/-	99,800/-

17	MANAGING RESOURCES FOR THE ENVIRONMENT'S RESIDENT PEOPLE IN THE EVEREST ECOSYSTEM: A CASE STUDY OF SAGARMATHA AND MAKALU-BARUN AREA, NEPAL	MR. LHAKPA SHERPA			CONTINUED	30,000	
18	WILDLIFE AND PEOPLE IN NEPAL: A CASE STUDY IN MAKALU-BARUN CONSERVATION AREA	MR. SHIVA SHARMA		AUG. 29, 1995	ONGOING	76,500/-	
19	PEOPLE WILDLIFE PROJECT	MR. M. SHRESTHA			ONGOING	81,000	

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ANNEX 4

MBCP RESEARCH GRANT APPLICATION AND PEER REVIEW FORMS

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**16. Tableaux fournis par le Secretariat sur les Projets, les Budgets, les Chercheurs et les
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Annex C: Persons Interviewed

Dakar, June 3-10 1996

Directors of institutions

1. Joseph Yao Yao, Director CIRES, Côte d'Ivoire
2. Hervé Kabore, Director CEDRES, Burkina-Faso
3. Touna Mama, Dean, Faculté de Sciences Economiques, Yaounde, Cameroon
4. Thandika Mkandawere, Executive Director, CODESRIA, Dakar
5. Abdoulaye Diagne, Director, CREA, Senegal.

Researchers

1. Christian Emini, Cameroon
2. Mamadou Dansokho, Senegal
3. Bouabre Bohoun, Cote d'Ivoire
4. Mady Koanda, Burkina-Faso
5. Epiphane Adjovi, Benin
6. Bernadette Kamgnia, Cameroon

RPI Secretariat

1. Dominique Njinkeu, Coordinator
2. Nejib Bousselmi, former Coordinator, and present administrative assistant

Scientific Committee

1. Bernard Decaluwé, President
2. Mohamed Lahouel
3. Aristomène Varoudakis

IDRC

1. Réal Lavergne
2. Diery Seck

Europe, October 3-12 1996

CERDI, Clermont-Ferrand, France

1. Patrick Guillaumont, President
2. Sylviane Guillaumont
3. Elliott Berg
4. Jean-Paul Azan
5. Marie-Francoise Renard
6. Anne-Marie Gourgeon

OECD Development Centre

1. Jean Bonvin, President
2. Jean-Claude Berthelemy

3. Aristomene Varoudakis
4. Christian Morisson

European Commission, Brussels

1. Martin Minguella
2. John Roberts
3. Jean-Claude Bredeloux

Caisse Française de Développement

1. Collange
2. Hemery

Ministère de la Coopération, Paris

1. Gilbert Wernert

Washington, August 26 and 27

USAID

1. Joon Lee
2. David Attwood
3. Jerome Wolgin (telephone)

World Bank

1. Philip English
2. Brian Ngo
3. Peter Miovic (telephone)
4. Tom Eisemon
5. Bob Prouty