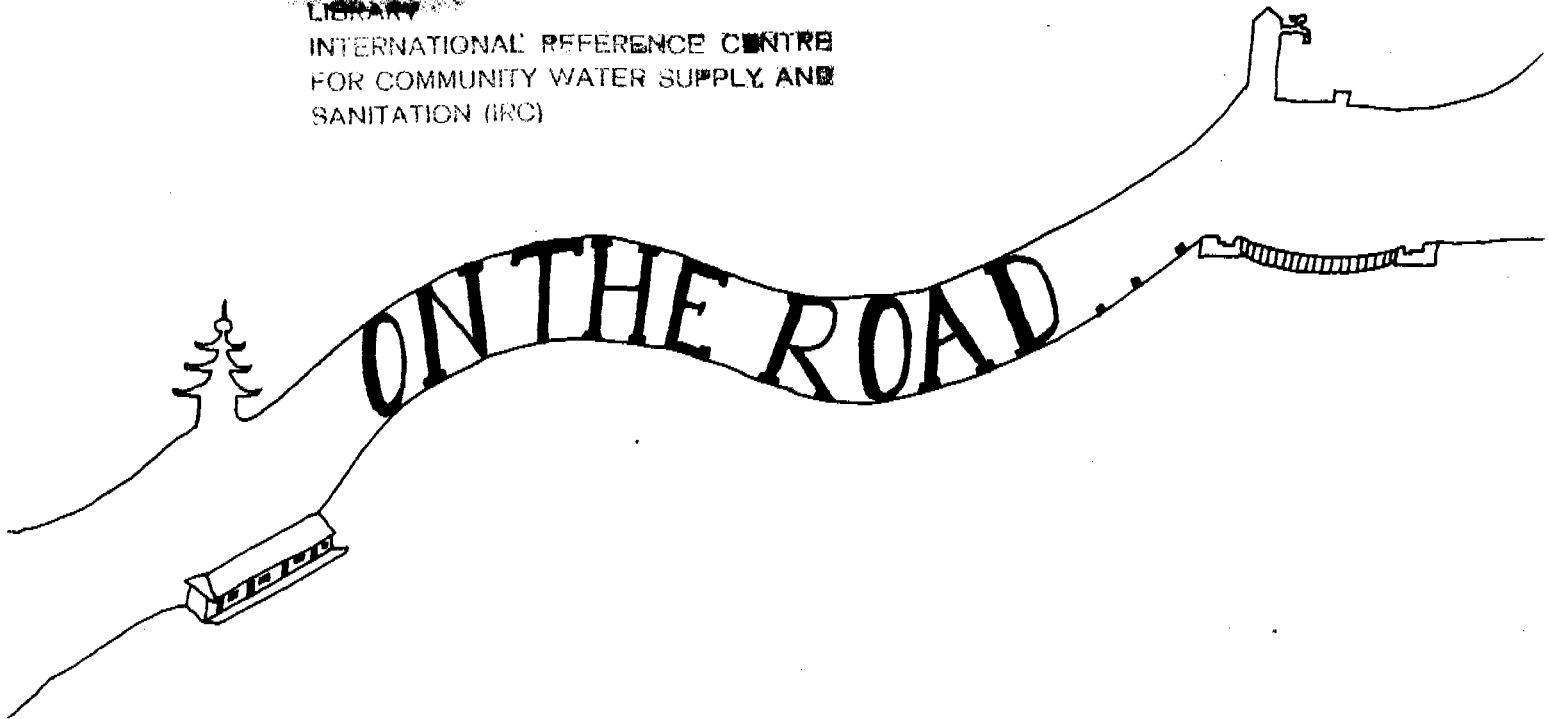


822 NP94

LIBRARY
INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)



Infrastructure Improvements
within ACAP,
Its Challenges for the future

Submitted to: King Mahendra Trust for Nature Conservation

Submitted by: René Verhage, Technical officer Infrastructure

Date: June 1994

822-NP94-12737

Acknowledgement

Herewith I would like to thank all my colleagues from ACAP. I am highly impressed by their motivation and dedication and they gave me a year in which I learnt more from them than the other way around.

It is very important to mention the inhabitants of Annapurna Area. The ACAP staff, together with the inhabitants of the Annapurna area, made me optimistic about the future and they also showed me that 'good' projects are possible in Nepal.

LIBRARY, INTERNATIONAL REFERENCE
CENTRE FOR COMMUNITY WATER SUPPLY
AND SANITATION (IIRC)

PO. BOX 9310 • 2300 AD The Hague

Tel. (070) 814011 ext. 141/142

RSN/ 12737
LO: 822 NP94

Content

Acknowledgement
Content

0. Introduction
1. Observations
 - 1.1. ACAP and Development
 - 1.2. Community Development and Infrastructure Improvements
 - 1.3. Achievements
 - 1.4. Observations with regard to implementation
 - 1.4.1. Manpower situation
 - 1.4.2. Equipment
 - 1.4.3. Budget
 - 1.4.4. Monitoring and Evaluation
 - 1.4.5. Cooperation with other agencies
 - 1.4.6. Responsibilities and policies
2. Policies and objectives of infrastructure improvements
 - 2.1. Wider objectives
 - 2.2. Specific objectives
 - 2.3. General implementation policy
 - 2.4. Programme objectives and policy
 - 2.4.1. School programme
 - 2.4.2. Health and sanitation
 - 2.4.3. Accessibility programme
 - 2.4.4. Tourism programme
 - 2.4.5. Heritage conservation
 - 2.4.6. Soil and water conservation
 - 2.4.7. Field office maintenance
 - 2.4.8. Alternative energy
3. Towards sustainable infrastructure improvements
 - 3.1. Manpower
 - 3.1.1. Manpower quantity
 - 3.1.2. Motivation of technical staff
 - 3.2. Equipment
 - 3.3. Budget
 - 3.4. Monitoring and evaluation
 - 3.5. Cooperation with other agencies
 - 3.6. Overhead costs
 - 3.7. Responsibilities and policies
4. Conclusions and recommendations

List of annexes

- Annex 1 Overview Infrastructure Improvement Activities.
(all sectors, 1985/86 - 1994/95)
- Annex 2 Summary Infrastructure Improvement Activities.
(amount of money involved, all sectors 1985/86 - 1994/95)
- Annex 3 Proposed budget 1994/1995
- Annex 4 Activities, number and amount.
- Annex 5 Job description engineer Pokhara
- Annex 6 Proposed budget for Infrastructure Improvement Section 1994/1995.
- Annex 7 Filing system
- Annex 8 Other organisations.

0. Introduction

The objective of this report is to initiate discussions on the future of the implementation structure for Infrastructure Improvements¹⁾ within ACAP under KMTNC.

After working for almost one year as a Technical Officer Infrastructure I felt the need to write my ideas and suggestions down. ACAP as an organisation is able to implement infrastructure improvement projects in a rather efficient and satisfactory way. However, the increasing scale of the activities creates the need for some adjustments. The total project costs for infrastructure improvements has grown from 528.000 NRs. in FY 1990/1991 to 10.355.000 NRs. in FY 1993/1994, an annual increase of 270 %! In FY 1994/1995 almost 20.100.000 NRs total project cost can be expected. These adjustments are the challenges ACAP will face. The main challenge is the need to establish an Infrastructure Improvement Section at the liaison office at Pokhara. Throughout this report this will be a basic underlying assumption.

To avoid confusion I will be consequent in the use of the following terms:

Project: The Annapurna Conservation Area Project.

Programme: A number of sub-projects with the same characteristics, for example; school programme.

Sub-project or activity; A sequence of tasks performed by ACAP staff in order to achieve the improvement of infrastructure or any other objective of ACAP.

The report starts with observations in which chapter also the achievements will be elaborated. This chapter is linked with annex 1 to 4 which gives an eye-opening insight in the programme hitherto. Chapter 2 will include policy and objectives of the activities. In chapter 3 discussion points will be raised, based on the observations of chapter 1. Finally conclusions and recommendations will be given.

1) The Infrastructure Improvements coincides with activities which were previously named 'Community Development'.

1. Observations

1.1. ACAP and development

ACAP's main objective is to conserve the Annapurna area. It is not possible to conserve an area without actively involving the inhabitants. ACAP attempts to do this by constituting a 'Conservation and Development Committee' (CDC) in each Village Development Committee. However, our executive director once stated "only if our people have food on their plates, they can think about conservation". Until now it is somewhat unclear whether ACAP strives for conservation and development or conservation through development²⁾. So far the importance of development activities is recognised. However, development activities do not get the highest priority. In ACAP's 'Community Development' programme all kind of activities are included, if the CDC's requests so. The relation between 'Community Development' and conservation is not always obviously visible. However these activities can serve the purpose of;

- trade-off for conservation activities,
- gaining the trust, support and cooperation of the villagers,
- saving the villager's time which can be used for conservation activities,
- enhancing the knowledge level and consequently insight in the need for conservation or
- facilitating tourism.

Therefore it is my opinion that activities to improve infrastructure do deserve a very high priority.

1.2. Community Development and Infrastructure Improvements

Since there are no internal definitions, every sector defines a series of activities under the heading of 'Community Development', according to their own interpretation. This results in inconsequent filing, budgeting and reporting, especially for multi interpretable activities like Women and Development. Since I consider all activities of ACAP as Community Development, either on the short or long term, I prefer the use of the term 'Infrastructure Improvements'. The definition of infrastructure could be "all things which are on a fixed place in relation to the earth surface". Therefore schools, health posts and offices are also infrastructure. The people who use them are not. Infrastructure is hardware.

Activities which can considered as infrastructure improvements and have been or will be undertaken by ACAP, can be categorised as follows:

1. School programme
 - 1a. School repair, maintenance and extension
 - 1b. School furniture supply
2. Health and Sanitation
 - 2a. Drinking water projects
 - 2b. School, community or individual latrines
 - 2c. Health post construction
 - 2d. Drainage construction
 - 2e. Day Care center construction

2) Some foreigners claim that it should be conservation or development.

3. Accessibility programme
 - 3a. Trail repair
 - 3b. Bridge construction
 - 3c. Culvert construction
4. Tourism programme
 - 4a. Campsite improvement
 - 4b. Police post construction
 - 4c. Check-post construction
 - 4d. Project houses
 - 4e. Museums
 - 4f. Porter shelters
 - 4g. Community lodges
 - 4h. Information centra
5. Heritage conservation
 - 5a. Gonpa renovation
 - 5b. Temples
 - 5c. Monasteries
6. Soil and water conservation
 - 6a. Irrigation
 - 6b. Landslide control
 - 6c. River-training
 - 6d. Field wall construction
 - 6e. Watershed management
7. Miscellaneous
8. Field office maintenance
9. Alternative energy³⁾

Specific activities in this area compromise construction, as well as rehabilitation where the main aim is to restore the original function. Appearance gets less priority (f.e. irrigation). In cases of important cultural heritage restoration can also take place. Here the main aim is to restore the appearance though compromises can be made towards the function. For example a gonpa can be restored into a museum. In renovation both function and appearance can be changed. Other activities are repair and maintenance.

1.3 Achievements

Since ACAP does not yet have a central filing, monitoring nor evaluation system it is very difficult to assess how many activities were executed in the above mentioned categories. In annex 1 and 2 figures are presented on several activities. They must be interpreted with care, since they are incomplete since not all data are available. In both annexes two figures are presented; the first compromises total project costs (total) and the second represents the amount charged to ACAP's budget (ACAP). The difference between the two figures is due to people's participation and/or contribution of other donors (like Helvetas and Unicef).

There is no well defined budgeting system so every sector made its own interpretation of activities to be included in the several budget headings. Some sectors separate salary and other expenses for the CD programme, others do not. Therefore it is difficult to assess the 'overhead' costs. This will be

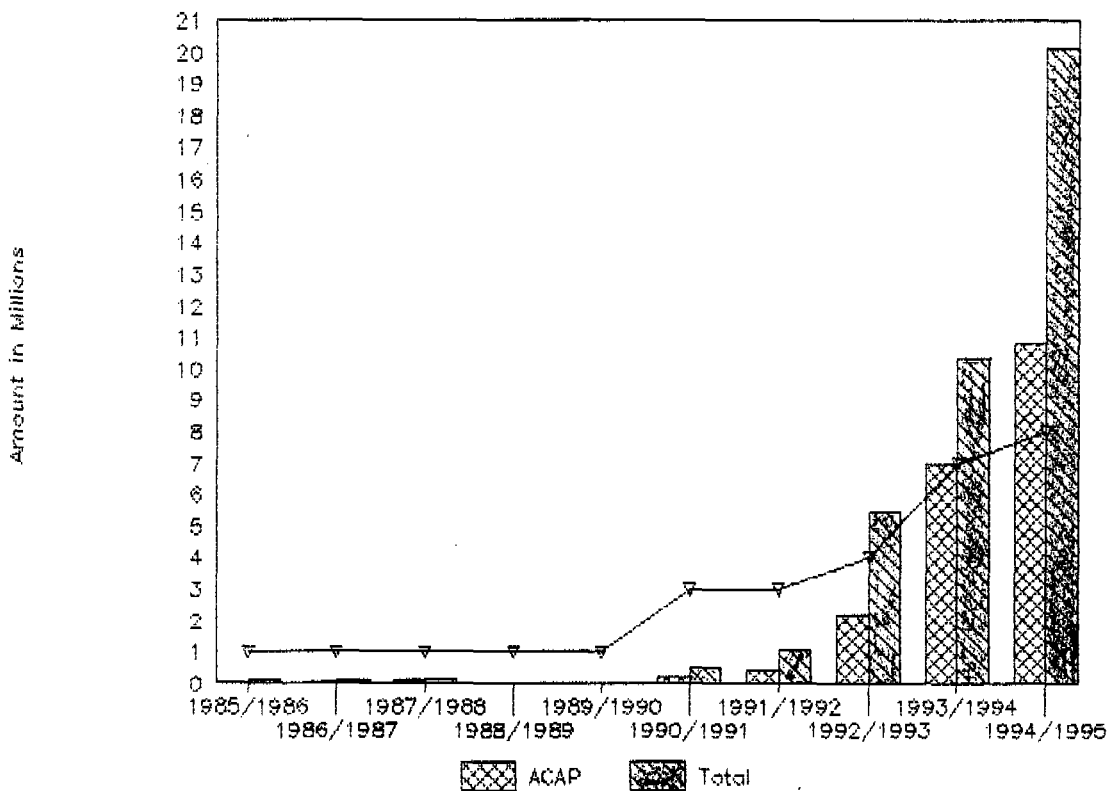
3) Micro Hydro Electricity is a clear example of infrastructure improvement. However the Alternative Energy Section is responsible for these sub-projects. Nevertheless sometimes technical staff is spending time and energy on activities in Micro Hydro like R.C.C poles and tailrace improvement (Tsarang)

discussed in more detail in chapter 3.

From annex 2 an enormous increase in infrastructure activities can be noticed. Total project costs raised from NRs 528,000 in FY 1990/1991 to 10,355,000 in FY 1993/1994 (which is still running) and are even expected to increase to more than 20,10,000 NRs. (201 Lakh) in FY 1994/1995. In FY 1993/1994 at least 7,000,000 will be charged to ACAP's budget (USD 1.43 million). Overhead costs are not included in this figure. The annual increase has been over 270 % during the last three years, with a further increase of 55 % for next FY. **This amount of money definitely requires more close monitoring and technical supervision.** The figures are represented in figure 1. The line drawn affirms the assumption that one senior overseer is able to supervise 10 lakh of total project costs each Fiscal Year, multiplied by the number of overseers.

Annex 4 gives more information on the type of activities. In the period 1985/1986 - 1993/1994 at least 186 activities have been carried out and registered. During this time most money (21 %) was spent on accessibility (trails and bridges). 18 % of the money was spent on health and sanitation and 14 % on soil & water conservation. The figure is a slightly skewed since it includes Sikles RHQ construction while it does not include Ghandruk HQ construction.

Figure 1: Infrastructure Improvements
Growth 1985/85 - 1994/1995



1.4 Observations with regard to the implementation

Infrastructure improvements fall directly under the responsibility of the Officers-In-Charge in each sector. The OIC again delegates the technical responsibility to the overseer. Since August 1993, a Technical Officer Infrastructure was stationed in Pokhara. His mandate however was limited.

1.4.1. Manpower situation

The manpower availability, as per May 1, 1994 is shown in table 2.

Table 2; manpower availability

| Sector | SNV-DA ⁴⁾ | TA ⁵⁾ | Overseer | JO |
|-------------|----------------------|------------------|----------|----|
| Pokhara | 1 | - | - | - |
| Ghandruk | - | - | 1 | - |
| Lwang | - | - | - | 1 |
| Sikles | - | - | 1 | - |
| Lo-Manthang | - | 1 | - | 1 |
| Jomsom | - | - | - | 1 |
| Manang | - | - | - | 1 |
| Bhujung | - | - | - | - |
| Ghalekharka | - | - | - | 1 |
| Total | 1 | 1 | 2 | 5 |

The motivation and dedication of the technical staff is satisfactory until now. However there are several demotivating factors, which make satisfactory functioning difficult.

- a) As there is only one technical staff member in most of the sectors, technical capability is very important. However most of the overseers do not have enough experience to work independently, and frequently need a 'second opinion'. The present situation therefore requires much external input, in casu assistance from the Technical Officer. Further the quality of the implementation can not always be guaranteed. This is a very serious matter, since the reputation of ACAP in other fields is high and should be high for technical works as well.
- b) The technical staff functions in a 'non-technical' environment. Sometimes, unfamiliarity of other staff with technical matters, results in unrealistic requests and expectations which the overseer cannot meet and he may be 'blamed' for bad performance.
- c) For more experienced staff a lack of career perspective is a serious demotivating factor. Besides the position of Technical Associate, there is no position for which they can strive. The risk is high that overseers will leave ACAP after obtaining several years of experience.

4) SNV has provided a 'Development Associate' for the period August 1993 - July 1994. The DA has written a positive continuation advice, thus a successor can be expected.

5) The level of TA (Technical Associate) is similar to that of a senior overseer (5 years experience) or junior engineer (no experience).

Demotivation of technical staff can become a serious problem in ACAP and should get proper attention from the management. Some suggestions for discussion are given in chapter 3.

1.4.2. Equipment

At this moment there is no equipment available at the liaison office in Pokhara. However most of the field offices have some basic surveying and drawing equipment. During the presence of a the DA, SNV has provided an Auto-level instrument. The limited availability of computers was quite inconvenient.

1.4.3. Budget

Since there is no Infrastructure Improvement Section at the moment budget was not available. Nevertheless it was possible to purchase the most necessary equipment via the field-office budgets. Cooperation in this respect was very good. To increase the productivity of the successor however, this situation should be changed.

1.4.4. Monitoring and Evaluation

Monitoring and evaluation is a very important activity which has not been carried out systematic until now. Every field-office maintained its own filing system and it turned out to be extremely difficult to compile even the basic information as presented in annex 1. Therefore it is proposed that Monitoring and Evaluation will be coordinated by the section in Pokhara.

1.4.5. Cooperation with other agencies

The liaison office at Pokhara has an important function in liaising with other agencies. Since ACAP itself lacks the basic equipment, this activity turned out to be essential. So far there has been a productive cooperative atmosphere towards ACAP among the different organisations.

1.4.6. Responsibilities and policies

At this moment the responsibilities are quite clear. However if the organisation is to be enriched with an extra hierarchical layer in the form of the Infrastructure Improvement Section as is proposed, some intransparancies might arise which need to be solved before they cause problems.

Many problems were encountered in the use of HMG policy and procedures. The norms that are used by HMG and ACAP are not accurate on every activity. Moreover the situation is very different in the respective sectors as the lower belt differs very much from the higher belt. In some places people work for 6 hours a day in other for 10 hours. The rate for skilled and un-skilled labour is not realistic. The rate for remote and/or tourist areas is usually much higher than in district headquarters. In general it is possible to implement according HMG rules, but it takes more time and there is less flexibility which require more manpower.

2. Policies and Objectives of Infrastructure Improvements

It is essential that infrastructure improvement activities keep pace with the high quality of other activities within ACAP. To ensure high quality it is necessary to clarify the basic underlying concepts of the infrastructure improvement programme. A first attempt will be made in this chapter.

2.1. Wider objective

The wider objective of infrastructure improvement is to improve infrastructural facilities for inhabitants of the Annapurna conservation area.

2.2. Specific objectives

The more specific objectives of infrastructure improvement are:

- To enhance the quality of life by providing facilities (e.g. health posts).
- To save time, to be used for income generating and/or conservation activities (e.g. drinking water).
- To create conditions and circumstances in which other development and/or conservation activities can be undertaken (e.g. school programme).
- To protect the environment, especially soil and water (e.g. river training).

2.3. General implementation policy

While undertaking infrastructure improvements, the benefitting community that benefits has to participate at the following levels:

1. The community has to request and support the project.
2. The community has to be involved in planning and design (non-technical aspects) of the project.
3. The community has to provide unskilled labour and transportation of materials from road head to sub-project site. The community will thus bear preferably around 50 % of the total project costs.
4. The community will have to establish two committees; the construction and the operation & maintenance committee. These committees have to be a fair representation of the community, which automatically includes women.
5. The construction activities has to be managed by the construction committee, with technical assistance and supervision of ACAP's technical staff.
6. The project has to be operated and maintained by the community through the operation & management committee.

Activities will only be undertaken if there are clear indicators that the concerned line-agencies are not capable or willing to implement the activity.

The infrastructure improvement application should be channeled through the CDC. If any application comes to office without CDC's recommendations, it should not be entertained.

2.4. Programme objectives and policy

For every activity, more specific objectives and refinements of the general policy can be made.

2.4.1. School programme

Programme objective

To improve the education of the children by making the learning environment more pleasant and comfortable. It is supposed that improved education will result in higher awareness on environmental issues.

Many schools, especially primary schools, are too small, leaking, lack furniture and are often in deplorable state. Therefore, it is important to improve them so that a favorable physical learning environment can be created. This programme is closely coordinated with UNICEF.

Programme policy

For school repair, maintenance and construction, the community will participate according to the general policy.

Furniture will be supplied by ACAP but transport to the school will have to be arranged by the community. Steel furniture is generally preferable. Wooden furniture will only be considered in abundance of timber wood in the area.

2.4.2. Health and sanitation

Programme objective

To improve the health situation of the community with special emphasis on groups who have difficulties visiting city health facilities, e.g. women and children.

The objective of drinking water activities is twofold. The first is to reduce the prevalence of water-related diseases and to improve personal hygiene. The second is to save time on fetching water.

Latrines will be build in order to reduce the risk of contamination. Special emphasis will be given to school latrines in order to teach the children the use of latrines. In certain areas tourists will also benefit from community or individual latrines. In case of drinking water sub-projects, the construction of individual latrines will be used as a trade-off.

Good health services are not available for the majority of the villagers. This can be improved by actively supporting existing health post programmes of line-agencies.

In order to decrease the prevalence of water-borne diseases, drainage should be improved especially in bazaar areas. Every drinking water sub-project should have a drainage component.

Programme policy

For all activities the general policy will be followed except for individual latrines. In cases where latrine construction is combined with a drinking water sub-project only technical and logistic support will be given. In areas where tourists possibly benefit as well a small subsidy can be made available.

2.4.3. Accessibility programme

General objective

To reduce the time spend on travelling, trails and bridges are (re-) constructed. Most rivers have an enormous run-off in the monsoon, since the AC area has one of the highest amounts of rainfall in the world (at least the

lower belt). Many places are therefore hardly accessible and bridges are essential as transport facility. The concerned line-agencies have only limited resources and focus on main trails only.

General policy

Trail repair will be subsidised according to a fixed amount per meter. In bridge building general policy is followed. However bridges require much material and require therefore much capital input. 50 % participation is often not feasible. Moreover beneficiaries are not easily identified, as many people from other areas will use the bridge as well. However, inhabitants of the most directly benefitting village will have to contribute unskilled labour and arrange transportation from the road-head.

2.4.4. Tourism programme

Programme objectives

To enhance the tourist influx (as income generating opportunity) and to minimise its impact. ACAP will directly benefit from a higher influx of tourists through entrance fees. Therefore it can also be seen as an investment programme. Campsites will be constructed to reduce 'wild-camping'. If drinking water is to be provided it should be combined with tap-stands for villagers as well. To provide safety and facilities to the tourists this programme includes the (re-) construction of check and police posts (safety), project houses, information centra, museums and community lodges (facilities) and porter shelters (safety and facility for porters).

Programme policy

Since the tourist programme is only exists in eco-tourism area's, the policy of the existing eco-tourism programme will be followed.

2.4.5. Heritage conservation

Programme objective

To conserve the cultural richness of the area and to promote Nepal's cultural life. To increase self-consciousness, self-respect and confidence of the population. Heritage conservation includes the renovation of gonpa's temples and monasteries.

Programme policy

The general policy will be followed with exception of specific cases where national (archeological) objectives are served.

2.4.6. Soil and water conservation

Programme objective

ACAP strives for nature conservation. To conserve an area, activities in the field of soil and water (and environment) conservation also have to be considered. These activities include irrigation, river training, landslide control, watershed management and field wall construction. The objective of watershed management, landslide control and river-training is to prevent losses of (agricultural) land. Irrigation may be expensive and already other (line-)agencies are involved. Thus ACAP has to avoid duplication, while at the same time has to keep some leverage for minimising the environmental impact of irrigation works.

In general four types of irrigation support can be distinguished:

- * Rehabilitation of existing schemes, constructed by farmers.
- * Construction of new, small scale schemes.
- * Emergency repairs.
- * Involvement in irrigation schemes built by other agencies.

The area is known to have a high amount of rainfall and since the geological structure is young and weak, many landslides occur. However landslide control is an expensive and labour intensive activity. Undertaking this activity will depend on economical cost/benefit calculations.

Every year much valuable land is lost by the ever unpredictable rivers in the area. Mechanical measures in river training are far too expensive for ACAP. In cooperation with the proper irrigation authorities cheaper activities are however possible, whereby ACAP should concentrate on the bio-engineering aspects.

ACAP could develop watershed management plans for the area on an experimental scale.

Programme policy

Priority should be given to renovation and upgrading of farmer built schemes whereby small scale systems with a low cost per hectare get the highest priority. The use of external materials has to be minimised and the applied technology should be simple and understood by the farmers. Irrigation should be put in its broader perspective of the overall farming system and be accompanied with extension activities on sustainable farming techniques. A maximum for costs per hectare should be set.

Focus should be on small landslides which are relatively easy to tackle. It is very important to take measures to prevent them from becoming bigger. Eventually the activities on landslide and river-training should be based on watershed management plans. These plan should include an inventory, prioritization and proposed measures. Bio-engineering should be preferred above mechanical measures.

2.4.7. Field Office Maintenance

FOM is an activity which can be considered as infrastructure improvement. However, the policy on FOM (and construction) will not be dealt with here. However, it should be realized that technical staff will spend time and energy on this activity.

2.4.8. Alternative Energy

For more information on activities on Alternative Energy, I refer to reports of the concerned Section. Again it must be realized that occasionally technical staff contribute to this programme.

3. Towards sustainable Infrastructure Improvements

The actual implementation modality was still adequate for the situation where both the number of sectors and the number of projects were limited. However, after the rapid expansion of the area and the increased number and complexity of projects, time has come to further improved the implementation modality. As we have seen in chapter 1, we can expect projects worth NRs. 210 Lakh in 1994/1995. This amount of money needs proper guidance to secure the overall (technical) quality, cost efficiency and cost-effectiveness. In this chapter discussion points and suggestions for improvements are given, according to the paragraphs of chapter 1.

3.1. Manpower

3.1.1. Quantity of technical staff

Since it is obvious that it is not possible to guarantee (high) quality work with the existing manpower, the quality as well as the quantity of manpower will has to be improved. The following manpower availability is proposed:

Table 2; proposed manpower availability

| Sector | SNV-DA | Engineer | TA | Overseer | JO |
|-------------|--------|----------|----|----------|----|
| Pokhara | 1 | 1 | - | 1 | - |
| Ghandruk | - | - | - | 1 | - |
| Lwang | - | - | - | 2 | 1 |
| Sikles | - | - | - | 1 | - |
| Lo-Manthang | - | - | 1 | 2 | 1 |
| Jomsom | - | - | - | 1 | 1 |
| Manang | - | - | - | 1 | - |
| Bhujung | - | - | - | 1 | - |
| Ghalekharka | - | - | - | 1 | 1 |
| Total | 1 | 1 | 1 | 11 | 4 |

It is proposed to recruit 9 extra staff members, among them 1 engineer and 1 overseer for Pokhara, 1 overseer for Lwang, 2 overseers for Upper and Lower Mustang and 1 overseer for Bhujung. Since technical staff must be able to work independently, at least 1 year working experience should be required, or the possibility should be created to work together with an experienced staff member for at least half a year. I assume that in general one overseer can supervise projects worth around 5 - 15 Lakh. The rationale is described in the following part.

a) Engineer in Pokhara.

The programme is too big to do without a coordinating and assisting engineer in Pokhara. His main tasks are described in annex 3. The engineer, who will ultimately be responsible for the technical implementation of the projects, might be assisted by a SNV DA for a period of about 2 years.

b) Overseer in Pokhara

Workload for overseers is relative unpredictable and unforeseen developments (like sickness and resignations) and extreme working pressure might occur. Therefore it is essential to have one person available who can assist in different sectors on temporary basis. Furthermore he can assist the engineer in Pokhara.

c) Overseer in every sector

There should be at least one overseer in every sector. The programmes are too big and complex to be handled by junior overseers. The quality of the technical work as well as the social aspects during survey, design, cost-estimation and implementation is crucial for the reputation of ACAP. A junior overseer can only function in presence of a more experienced overseer.

d) More manpower in Lo-Manthang

The financial amount as well as the complexity of the projects in Lo-Manthang, justify the input of more manpower who have to be more experienced. They can be shared with Jomsom.

3.1.2. Motivation of technical staff

Besides the number of technical staff, also their motivation should get proper attention. As outlined in paragraph 1.4.1, there are serious motivation problems noticed which already resulted in the resignation of several technical staff (Lo-Manthang, Lwang).

The field-based overseers should have the opportunity to work together more frequently. Overseers should assist each other in difficult surveys, or should be assisted by technical staff from the liaison office. This increases not only the motivation, but also the quality of the work.

The general attitude within ACAP towards infrastructure activities could be more constructive. Being the only technical staff-member in a field-office is already difficult, and lack of support and understanding makes it even harder.

The technical staff should have more career perspective. An engineer post in Pokhara is for example a position the overseers can strive for. Besides this perspective some other incentives like study opportunities should be considered as well.

3.2. Equipment

It is essential that equipment is easily available. If possible equipment can be borrowed from other organisations. However, this has already been experienced as a risky alternative. When Helvetas decided to hand-over their Theodolites to the District Drinking Water Office, the availability of this essential instrument became much more difficult. It should be realised that much energy and time of the staff in Pokhara was spend on borrowing equipment during the last year and much flexibility in the field was required.

A list for necessary equipment is presented in annex 6. This should be managed in Pokhara and a clear responsibility line should be developed. The equipment of the field-offices should be managed by the stationed overseer. Requirements can differ very much from station to station according to main local activities.

3.3. Budget

An own budget is necessary to manage the 'Infrastructure Improvement Section' efficiently and effectively. After purchasing all necessary equipment (around 5 lakh NRs) the yearly costs will only be around 1 lakh NRs. The following items are included in this budget (see annex 6).

- 1) Books on civil engineering, surveying and cost-estimation.
- 2) Simple surveying equipment. Some of this equipment can be shared with the Alternative Energy Section.
- 3) Complex surveying equipment including one 20 s. Theodolite and one automatic level set with angular circle. This will be the most expensive equipment, but as I have understood, purchasing is being arranged for (?) with budget from UMCDP (FY 93/94).
- 4) Drawing equipment.
- 5) Office equipment. Since the use of the computer is a major constraint at the moment, a computer is included. If the availability of computers at the liaison office increases, a separate one is not necessary.
- 6) Informative materials including maps and aerial photographs.
- 7) Twice a year a training/workshop for all technical staff is indispensable. Other trainings on basis of felt needs.

3.4. Monitoring and evaluation

To monitor and evaluate the activities, a clear flow of information should be created. To establish a proper M&E system the following discussion points are offered:

- 1) Regular progress reports (every three months) on all activities will have to be written by the overseers, according to a standardised format. This information should be compiled by the officer in Pokhara and forwarded to the management (Work Progress Monitoring).
- 2) An evaluation system of projects which have been finalised should be developed. These projects should be visited on a yearly basis and at least the chairman of the managing committee should be interviewed.
- 3) The system of collecting base-line information through forms should be improved. These forms are available but are not consequently used. The forms should be improved as well.
- 4) The present filing system for Infrastructure Improvements (an extension of ACAP's filing system, see annex 7), which has recently been created, should be maintained and updated.
- 5) A clear and transparent account system should give information on overhead costs spent on certain activities (Administrative Monitoring).
- 6) Coordination with activities of Bio-Diversity second phase should be encouraged.

3.5. Cooperation with other organisations

Cooperation with other organisations has been very constructive so far. Annex 8 presents information on organisations we have been cooperating with. It is important to maintain these contacts.

3.6. Overhead costs

The above proposed measures will not make the activities cheaper. The figures in annex 2 indicate that around 15 % of the project costs (29 % of ACAP's contribution) is now considered as overhead costs at field level, ranging from 6% (Ghalekharka) to 34 % (Manang). Since it is essential to minimise the overhead costs and on the other hand maximise the quality of work, a clear accounting system is indispensable. This accounting system should be able to provide information on the amount spend on overhead costs at different levels (see below). The survey, design, estimating and supervision of a certain activity are carried out for the benefit of that activity only. Therefore these costs should be included in the project costs. A separation into different types of overhead costs would be nice:

- 1) Costs of tasks which were specially performed for a certain sub-project. These should be included in the project costs.
- 2) Costs of tasks performed by staff of the field-office in order to facilitate several sub-projects. These are the overhead costs at field-office level.
- 3) Costs of tasks performed by liaison staff in order to run the Infrastructure Improvement Section smoothly. These are the section or liaison overhead costs.
- 4) Costs of tasks performed by KMTNC staff in order to facilitate the work of the Infrastructure Improvement Section.

It is only possible to justify the real overhead costs to outsiders (donors) if the costs are divided at different levels. For administrative purposes however, different costs should not be transferred to other levels, but expenses should only be registered at the respective levels.

3.7. Responsibilities and policies.

As remarked in paragraph 1.4.6. responsibilities should be clear. Since the technical staff has complained much on the subject of HMG rules, procedures and the use of HMG rates, this subject should get proper attention. I will not give any recommendations on this matter since I am not informed well enough.

4. Conclusions and recommendations

Over the years ACAP has proved to be very capable in implementing infrastructure improvement sub-projects. Although the type of sub-projects were very different, the sub-projects were mostly implemented quickly and technically of sufficient quality. Since there is more than a direct link between conservation and infrastructure improvements, these activities do deserve a high priority within ACAP/KMTNC.

With the expansion of the working area and the increased number and complexity of activities, there are important measures to be taken to safeguard the quantity as well as the quality of the sub-projects, otherwise the actual implementation modality will prove to be a constraint for further expansion of the activities.

First of all it is necessary to establish an 'Infrastructure Improvement Section' in Pokhara. This section should be responsible for technical sound and sustainable implementation of infrastructure improvement activities. With regard to this section, the following recommendations are made:

- * There should be one responsible officer in Pokhara, temporary assisted by a SNV-DA and permanently assisted by an overseer who will be assigned to field-offices with a temporary manpower shortage.
- * The section will also be responsible for proper monitoring and evaluation in which also overhead costs are made transparent.
- * The section should have access to the necessary equipment.
- * The section should have an own budget which is estimated at around 1 lakh NRs. a year for purchase of materials and organising trainings.
- * An experienced overseer should be stationed at each sector. In certain offices with a high activity profile (Lo-Manthang and Lwang), more staff should be available. The overseers should be guided by experienced superiors, work together more frequently and have career perspectives within ACAP and/or sister organisations.
- * There should be clarity in authority and the responsibility with regards to the different actors toward each other; overseer, Officer-In-Charge, Infrastructure Officer and management.
- * There should be flexibility in the use of procedures and policies, especially when HMG rules are to be followed.
- * Existing contacts with other organisations should be maintained.
- * Overhead costs should be (partly) included the project costs and should be split to different levels.

Annex 1 Overview Infrastructure Improvement Activities

file:program1.wk1

| | | finished | Total | Acap | |
|---------------------------------------|---------------------|-----------|-------------------|------------------|------------|
| Ghandruk Fiscal Year 1985/1986 | | | | | |
| 1 | School construction | Ghandruk | 60,000.00 | 10,200.00 | |
| 2 | School construction | Chhomrong | 40,000.00 | 20,000.00 | |
| 3 | School toilet | Kimche | 18,000.00 | 9,000.00 | |
| Total | | | 118,000.00 | 39,200.00 | 33% |

| | | | | | |
|---------------------------------------|------------------|-----------|------------------|------------------|------------|
| Ghandruk Fiscal Year 1986/1987 | | | | | |
| 1 | School furniture | Phumrukhn | 6,500.00 | 3,770.00 | |
| 2 | Drinking water | Gairagaon | 34,500.00 | 23,460.00 | |
| 3 | Drinking water | Klisinko | 26,560.00 | 12,483.20 | |
| 4 | Drinking water | Melanche | 15,173.00 | 8,193.42 | |
| Total | | | 82,733.00 | 47,906.62 | 58% |

| | | | | | |
|---------------------------------------|-------------------|-----------|-------------------|------------------|--------------|
| Ghandruk Fiscal Year 1987/1988 | | | | | |
| 1 | Drinking water | Phuliwang | 95,000.00 | 57,950.00 | |
| 2 | Development works | Ghandruk | 50,000.00 | 25,000.00 | 50 % assumed |
| Total | | | 145,000.00 | 82,950.00 | 57% |

| | | | | | |
|---------------------------------------|---------------------|---------------|-------------------|-------------------|--------------|
| Ghandruk Fiscal Year 1990/1991 | | | | | |
| 1 | School construction | Ulleri | 250,000.00 | 35,000.00 | |
| 2 | School construction | Gurjung | 8,000.00 | 4,000.00 | |
| 3 | School construction | Phulibang | 24,000.00 | 10,800.00 | |
| 4 | School furniture | Kimrong Khola | 8,000.00 | 4,000.00 | 50 % assumed |
| 5 | School toilet | Birethanti | 17,627.00 | 8,813.50 | |
| 6 | Sanitation | Hot spring | 19,000.00 | 19,000.00 | |
| 7 | Drinking water | Kami Tole | 21,792.00 | 11,985.60 | |
| 8 | Drinking water | Damai Tole | 8,000.00 | 6,400.00 | |
| 9 | Drinking water | Tikhyan | 102,898.00 | 52,477.98 | |
| 10 | Bridge | Seouli-Bhati | 8,700.00 | 4,350.00 | |
| Total | | | 468,017.00 | 156,827.08 | 34% |

| | | | | | |
|---------------------------------------|---------------------|-----------------|-------------------|-------------------|------------|
| Ghandruk Fiscal Year 1991/1992 | | | | | |
| 1 | School construction | Sabet Mauja | 37,000.00 | 18,500.00 | |
| 2 | School construction | Melanche | 154,000.00 | 10,010.00 | |
| 3 | School Toilet | Ghandruk | 76,000.00 | 38,000.00 | |
| 4 | School Toilet | Dhampus | 66,000.00 | 33,000.00 | |
| 5 | Drinking water | Kya-pri | 49,300.00 | 29,580.00 | |
| 6 | Drinking water | Sabet Kami Tole | 49,500.00 | 26,730.00 | |
| 7 | Bridge | Samrong | 199,989.00 | 55,996.92 | |
| 8 | Trail Repair | Ghorepani | 109,200.00 | 29,484.00 | |
| Total | | | 740,989.00 | 241,300.92 | 33% |

Ghandruk Fiscal Year 1992/1993

page:2

| | | | | | | |
|--------------|-------------------|--------------|----------|---------------------|-------------------|------------|
| 1 | Drinking water | Ghandruk | 29/04/93 | 15,355.00 | 6,449.00 | |
| 2 | Drinking water | Kami tole | 15/01/93 | 49,513.00 | 24,757.00 | |
| 3 | School toilet | Landruk | 18/04/93 | 41,612.00 | 18,725.00 | |
| 4 | School toilet | Bidhya Jyoti | 13/06/93 | 296,960.00 | 145,213.00 | |
| 5 | School repair | Tirkhedunga | 02/06/93 | 88,807.00 | 44,883.00 | |
| 6 | School furniture | Ghandruk | 13/07/93 | 10,740.00 | | |
| 7 | School furniture | Dansingh | 13/07/93 | 10,740.00 | 6,444.00 | |
| 8 | Suspension bridge | Ghiuri khola | 16/06/93 | 248,873.00 | 49,775.00 | |
| 9 | Bridge | Ghuri khola | 25/06/93 | 93,682.00 | 32,133.00 | |
| 10 | Bridge repair | Ghandruk | 13/07/93 | 35,000.00 | 3,000.00 | |
| 11 | Trail repair | Ghandruk #6 | 15/11/92 | 10,000.00 | 6,000.00 | |
| 12 | Trail repair | Ghandruk #3 | 15/11/92 | 4,000.00 | 3,000.00 | |
| 13 | Trail repair | Ghandruk #7 | 15/03/93 | 8,000.00 | 5,000.00 | |
| 14 | Trail repair | Thanchok #3 | 15/05/93 | 50,000.00 | 10,000.00 | |
| 15 | Police post | Birethanti | 13/07/93 | 35,000.00 | 8,000.00 | |
| 16 | Basketball court | Paudarer | 11/02/93 | 192,829.00 | 72,311.00 | |
| Total | | | | 1,191,111.00 | 435,690.00 | 37% |

Ghandruk Fiscal Year 1993/1994

| | | | | | | |
|------------------|-------------------|-------------------------|----------|---------------------|-------------------|-------------|
| 1 | Drinking water | Swantta | | 500,000.00 | 200,000.00 | Assumed |
| 2 | Drinking water | Dansingh #3 | 16/3/94 | 36,317.29 | 16,847.85 | |
| 3 | Drinking water | Dansingh | 19/03/94 | 118,321.10 | 67,763.05 | |
| 4 | Drinking water | Sarku | | 50,000.00 | 25,000.00 | Assumed |
| 5 | Trail repair | Sikha | | 45,000.00 | 5,000.00 | |
| 6 | Trail repair | Tolka | | 30,000.00 | 15,000.00 | 50% assumed |
| 7 | Trail repair | Ghandruk #6 | | 20,000.00 | 8,000.00 | |
| 8 | Trail repair | Landruk | | 14,143.00 | 7,439.60 | |
| 9 | Check post | Khuldighar | 14/11/93 | ? | ? | |
| 10 | Health post | Ghandruk | | 256,808.52 | 114,570.52 | |
| 11 | Landslide control | Sikha | | 40,000.00 | 30,000.00 | Assumed |
| Total | | | | 1,110,589.91 | 489,621.02 | 44% |
| Requested budget | | salary, projects, total | | 317,750.00 | 400,000.00 | 717,750.00 |

Ghandruk Fiscal Year 1994/1995 Proposed

| | | | | | | |
|--------------|--------------------------|--|--|---------------------|-------------------|--------------|
| 1 | Comm. Id. Projects | | | 300,000.00 | 150,000.00 | 50 % assumed |
| 2 | Drinking Water | | | 100,000.00 | 50,000.00 | 50 % assumed |
| 3 | Health & Sanitation | | | 60,000.00 | 30,000.00 | 50 % assumed |
| 4 | School | | | 100,000.00 | 50,000.00 | 50 % assumed |
| 5 | Bridge | | | 100,000.00 | 50,000.00 | 50 % assumed |
| 6 | Day Care construction | | | 400,000.00 | 200,000.00 | 50 % assumed |
| 7 | Eco-tourisme development | | | 166,666.67 | 150,000.00 | 90 % assumed |
| 8 | Monastery construction | | | 100,000.00 | 50,000.00 | 50 % assumed |
| 9 | Field Office Maintenance | | | 15,000.00 | 15,000.00 | |
| Overhead | | | | | 178,757.00 | |
| Total | | | | 1,341,666.67 | 923,757.00 | |

Lwang Fiscal Year 1992/1993

page:3

| | | | | | | |
|--------------|-----------------------|----------------|----------|---------------------|-------------------|------------|
| 1 | School repair | Lwangghalei #5 | 05/06/93 | 144,110.00 | 82,970.00 | |
| 2 | School repair | Rivan #6 | 25/06/93 | 285,000.00 | 110,120.00 | |
| 3 | School repair | Sardikhola #1 | 05/06/93 | 76,000.00 | 40,000.00 | |
| 4 | School repair | Lwangghalei #1 | 20/06/93 | 47,000.00 | 25,000.00 | |
| 5 | School toilet | Lwangghalei #4 | 05/07/93 | 14,000.00 | 6,000.00 | |
| 6 | School toilet | Lwangghalei #7 | 10/07/93 | 28,500.00 | 16,000.00 | |
| 7 | School toilet | Rivan #3 | 13/07/93 | 25,000.00 | 11,000.00 | |
| 8 | Drainage construction | Lwangghalei #1 | 25/06/93 | 47,000.00 | 17,000.00 | |
| 9 | Culvert construction | Lwangghalei #1 | 27/06/93 | 10,000.00 | 6,000.00 | |
| 10 | Bridge repair | Dhampus #5 | 22/06/93 | 23,000.00 | 15,500.00 | |
| 11 | Bridge repair | Dhampus | 01/01/94 | ? | ? | |
| 12 | Volleyball court | Lwangghalei #5 | 05/06/93 | 22,000.00 | 3,000.00 | |
| 13 | School furniture | Lwangghalei #9 | 05/05/93 | 2,000.00 | 1,000.00 | |
| 14 | Drinking water new | Rivan #4 | 01/02/93 | 37,000.00 | 25,000.00 | |
| 15 | Drinking water reh. | Lwangghalei #7 | 11/06/93 | 35,000.00 | 20,000.00 | |
| 16 | Rivertraining | Mardi/Indhi | 13/07/93 | 62,000.00 | 2,000.00 | |
| 17 | Landslide control | Rivan #6 | 01/01/94 | 4,000.00 | 2,400.00 | Assumed |
| 18 | Trail repair | Lwangghalei #2 | 05/06/93 | 24,000.00 | 5,000.00 | |
| 19 | Trail repair | Lwangghalei #3 | 05/06/93 | 57,000.00 | 28,500.00 | |
| 20 | Trail repair | Lwangghalei #6 | 13/04/93 | 48,000.00 | 12,000.00 | |
| 21 | Trail repair | Lwangghalei | 11/06/93 | 28,000.00 | 72,000.00 | |
| 22 | Trail repair | Rivan #9 | 14/05/93 | 15,000.00 | 4,800.00 | |
| 23 | Trail repair | Lwangghalei #8 | 11/06/93 | 40,000.00 | 9,600.00 | |
| 24 | Trail repair | Lwangghalei #7 | 05/06/93 | 12,000.00 | 4,800.00 | |
| 25 | Trail repair | Rivan #4 | 05/06/93 | 28,000.00 | 7,200.00 | |
| 26 | Trail repair | Rivan #1,2,3 | 11/06/93 | 20,000.00 | 7,200.00 | |
| 27 | ACAP project house | Dhampus #6 | 01/07/93 | ? | ? | |
| Total | | | | 1,133,610.00 | 534,090.00 | 47% |

Lwang Fiscal Year 1993/1994

| | | | | | | |
|----|-----------------------|----------------|----------|------------|------------|---------|
| 1 | School toilet | Dhampus #3 | | 27,000.00 | 12,000.00 | |
| 2 | School toilet | Lwangghalei | | 20,960.08 | 12,603.30 | |
| 3 | School toilet | Lwangghalei #4 | | 14,000.00 | 6,020.00 | |
| 4 | School toilet | Lwangghalei #7 | | 28,500.00 | 16,017.00 | |
| 5 | School toilet | Rivan #3 | | 25,000.00 | 10,000.00 | |
| 6 | VDC Office toilet | Rivan #4 | | 25,402.40 | 13,971.32 | |
| 7 | Rivertraining | Lwangghalei #8 | 19/07/93 | 17,000.00 | 10,506.00 | |
| 8 | Rivertraining | Mardi/Indhi | | 25,000.00 | 20,000.00 | Assumed |
| 9 | Landslide control | Rivan #6 | 01/12/93 | 5,150.00 | 2,420.50 | |
| 10 | Drinking water new | Lwangghalei #3 | 22/07/93 | 5,000.00 | 2,500.00 | |
| 11 | Drinking water new | Dhampus #7 | 13/05/94 | 71,080.13 | 40,965.45 | |
| 12 | Drinking water reh | Dhampus #6 | | 13,995.45 | 12,372.48 | |
| 13 | Drinking water reh | Dhampus #3 | | 13,932.13 | 9,548.48 | |
| 14 | Drinking water reh | Rivan #5 | | 37,000.00 | 25,012.00 | |
| 15 | Drinking water reh | Lwangghalei #7 | | 35,000.00 | 20,002.00 | |
| 16 | School repair | Dhampus #6 | | 71,125.27 | 40,914.85 | |
| 17 | School repair | Dhampus #2 | | 31,481.94 | 20,229.01 | |
| 18 | School repair | Rivan #9 | | 20,960.08 | 12,602.49 | |
| 19 | School reconstruction | Lwangghalei #5 | | 14,410.00 | 8,300.16 | |
| 20 | School reconstruction | Rivan #6 | | 295,000.00 | 110,035.00 | |
| 21 | School reconstruction | Sardikhola #1 | | 76,000.00 | 0.00 | |

Lwang Fiscal Year 1993/1994

page: 4

| | | | | | | |
|------------------|-----------------------|------------------|----------|---------------------|-------------------|-------------|
| 22 | School reconstruction | Lwangghalel #1 | | 47,000.00 | 25,000.40 | |
| 23 | School furniture | Lwangghalel #9 | | 2,500.00 | 1,000.00 | |
| 24 | Bridge new | Lwangghalel #7 | 13/05/94 | 216,221.32 | 162,108.44 | |
| 25 | Bridge reh | Dhampus #5 | | 23,000.00 | 18,492.00 | |
| 26 | Trail | 17 projects | | 132,000.00 | 66,000.00 | 50% assumed |
| 27 | Reservoir tank | Dhampus #7 | | 37,985.63 | 15,105.11 | |
| 28 | Irrigation | Machhapuchhre #6 | | 92,299.39 | 81,687.21 | |
| 29 | Irrigation | Lwang #2,3 | | 83,559.14 | 37,272.12 | |
| Total | | | | 1,507,562.96 | 812,685.32 | 54% |
| Requested budget | | projects, total | | | 920,000.00 | 320,000.00 |

Lwang Fiscal Year 1994/1995 Proposed

| | | | | | | |
|--------------|--------------------------|--|--|---------------------|---------------------|-------------|
| 1 | School programme | | | 480,000.00 | 240,000.00 | 50% assumed |
| 2 | Access programme | | | 930,000.00 | 465,000.00 | 50% assumed |
| 3 | Irrigation | | | 550,000.00 | 275,000.00 | 50% assumed |
| 4 | River training | | | 324,000.00 | 162,000.00 | 50% assumed |
| 5 | Comm. identif. Proj. | | | 600,000.00 | 300,000.00 | 50% assumed |
| 6 | Drinking water | | | 480,000.00 | 240,000.00 | 50% assumed |
| 7 | Sanitation | | | 200,000.00 | 100,000.00 | 50% assumed |
| 8 | Project house | | | 28,000.00 | 28,000.00 | |
| 9 | River training | | | 50,000.00 | 25,000.00 | 50% assumed |
| 10 | Field Office Maintenance | | | 50,000.00 | 50,000.00 | |
| Overhead | | | | | 261,454.00 | |
| Total | | | | 3,692,000.00 | 2,146,454.00 | |

Sikles Fiscal Year 1990/1991

| | | | | | | |
|--------------|---------------------|-------------|--|------------------|------------------|-------------|
| 1 | Temple maintenance | Parche #7 | | 20,000.00 | 10,000.00 | 50% assumed |
| 2 | Toilet construction | Parche #1-9 | | 40,000.00 | 20,000.00 | 50% assumed |
| Total | | | | 60,000.00 | 30,000.00 | |

Sikles Fiscal Year 1991/1992

| | | | | | | |
|--------------|--------------------|-----------|--|-------------------|-------------------|-------------|
| 1 | Bridge repair | Parche #1 | | 20,000.00 | 10,000.00 | 50% assumed |
| 2 | Temple maintenance | Parche #2 | | 10,000.00 | 5,000.00 | 50% assumed |
| 3 | Healthpost support | Parche #5 | | 40,000.00 | 20,000.00 | 50% assumed |
| 4 | Healthpost support | Parche #3 | | 20,000.00 | 10,000.00 | 50% assumed |
| 5 | School furniture | Parche #7 | | 50,000.00 | 25,000.00 | 50% assumed |
| 6 | Drinking water | Parche #9 | | 64,000.00 | 32,000.00 | 50% assumed |
| 7 | RHQ building | Parche #5 | | 124,000.00 | 62,000.00 | 50% assumed |
| Total | | | | 328,000.00 | 164,000.00 | |

Sikles Fiscal Year 1992/1993

| | | | | | | |
|--------------|---------------------|-----------------|----------|---------------------|-------------------|-------------|
| 1 | Bridge construction | Sildajure #9 | 01/04/94 | 205,000.00 | 90,604.20 | |
| 2 | Drinking water | Thumakodanda #1 | 04/06/94 | 594,365.72 | 59,436.57 | 90% assumed |
| 3 | Drinking water | Sildajura #1 | 04/07/94 | 8,775.14 | 3,129.20 | |
| 4 | School repair | Parche #5 | 14/04/93 | 394,291.37 | 132,037.00 | |
| 5 | School repair | Thumakodanda #5 | | 63,880.00 | 18,280.00 | |
| 6 | School furniture | Sildajure #3 | 13/07/93 | 38,660.00 | 20,000.00 | |
| 7 | School furniture | Parche #5 | | 32,030.37 | 32,030.37 | |
| 8 | School furniture | Sildajure #1 | 27/07/93 | 16,250.00 | 9,000.00 | |
| 9 | Health post support | Mijuredanda #4 | | 48,368.00 | 24,184.00 | |
| 10 | Health post support | Vachok #4 | | 54,420.00 | 43,000.00 | |
| Total | | | | 1,456,040.60 | 431,701.34 | 30% |

Sikles Fiscal Year 1993/1994

page:5

| | | | | | |
|------------------|---------------------|-------------------|---------------------------|---------------------|-------------------------|
| 1 | Scool toilet | Parche #5 | 51,739.61 | 28,187.93 | |
| 2 | Scool toilet | Parche #1 | 45,010.98 | 22,427.01 | |
| 3 | Trail repair | Thumakodanda #3-9 | 59,661.00 | 21,000.00 | |
| 4 | School repair | Parche #4 | 303,881.00 | 129,447.39 | |
| 5 | School repair | Sildajura #9 | 386,896.74 | 152,613.39 | |
| 6 | School furniture | Thumakodanda #7 | 15,950.00 | 9,925.00 | |
| 7 | School furniture | Parche #5 | 14/10/93 | ? | ? |
| 8 | RHQ building | Parche #5 | 1,917,194.89 | 1,696,708.42 | |
| 9 | RHQ building | Parche #5 | 20/09/93 | 51,050.04 | 42,000.00 |
| 10 | R.C.C. poles for MH | Parche #5 | 14/10/93 | 62,416.95 | 31,208.48 50% assumed |
| Total | | | 2,893,801.21 | 2,133,517.62 | 74% |
| Requested budget | | | salaries, projects, total | 200,645.00 | 935,000.00 1,135,645.00 |

Sikles Fiscal Year 1994/1995 Proposed

| | | | | | |
|--------------|--------------------------|--|---------------------|-------------------|-------------|
| 1 | School programme | | 160,000.00 | 80,000.00 | 50% assumed |
| 2 | Access programme | | 500,000.00 | 250,000.00 | 50% assumed |
| 3 | Comm. Identif. Proj. | | 100,000.00 | 50,000.00 | 50% assumed |
| 4 | Drinking water | | 120,000.00 | 60,000.00 | 50% assumed |
| 5 | Sanitation | | 100,000.00 | 50,000.00 | 50% assumed |
| 6 | Irrigation | | 600,000.00 | 300,000.00 | 50% assumed |
| 7 | Field Office maintenance | | 30,000.00 | 30,000.00 | |
| Overhead | | | | 176,001.00 | |
| Total | | | 1,610,000.00 | 996,001.00 | |

Jomsom Fiscal Year 1993/1994

| | | | | | |
|------------------|----------------|-------------|-------------------|-------------------|------------|
| 1 | Bridge | Kunjo | 49,245.00 | 49,245.00 | |
| 2 | River training | Kobang #5,8 | 137,700.00 | 110,000.00 | |
| Total | | | 186,945.00 | 159,245.00 | 85% |
| Requested budget | | | projects, total | 475,000.00 | 475,000.00 |

Jomsom Fiscal Year 1994/1995 Proposed

| | | | | | |
|--------------|--------------------------|--|---------------------|---------------------|-------------|
| 1 | School programme | | 200,000.00 | 100,000.00 | 50% assumed |
| 2 | Access programme | | 300,000.00 | 150,000.00 | 50% assumed |
| 3 | Irrigation | | 300,000.00 | 150,000.00 | 50% assumed |
| 4 | River training | | 400,000.00 | 200,000.00 | 50% assumed |
| 5 | Comm. Identif. Proj. | | 400,000.00 | 200,000.00 | 50% assumed |
| 6 | Sanitation | | 300,000.00 | 150,000.00 | 50% assumed |
| 7 | Drainage | | 300,000.00 | 150,000.00 | 50% assumed |
| 8 | Gonpa rehabilitation | | 200,000.00 | 100,000.00 | 50% assumed |
| 9 | Field Office Maintenance | | 5,000.00 | 5,000.00 | |
| 7 | Overhead | | | 688,000.00 | |
| Total | | | 2,405,000.00 | 1,893,000.00 | |

Lo-Manthang Fiscal year 1992/1993

| | | | | | |
|--------------|--------------------|---------|----------|---------------------|------------------------|
| 1 | Gonpa repair | Tsarang | 13/07/93 | 466,067.91 | 278,867.91 |
| 2 | Field wall | Ghemi | 01/07/93 | 545,959.30 | 128,099.40 |
| 3 | Bridge (wood) | Chosyar | 12/07/93 | 125,610.72 | 82,210.72 |
| 4 | Bridge (wood) | Chosyar | 10/07/93 | 96,489.96 | 57,989.96 |
| 5 | Healthpost support | Chusang | | 446,805.00 | 223,402.50 50% assumed |
| Total | | | | 1,680,932.89 | 770,570.49 46% |

Lo-Manthang Fiscal Year 1993/1994

page:6

| | | | | | |
|------------------|----------------|----------------------|---------------------|---------------------|--------------|
| 1 | Reservoir pond | Surkhang | 17,656.05 | 16,387.68 | |
| 2 | Irrigation | Chosyar (Sammer) | 248,578.54 | 197,178.47 | |
| 3 | Bridge (wood) | Chunnup #9 | 376,703.86 | 343,857.67 | |
| 4 | Bridge (wood) | Tsarang | 161,981.69 | 146,595.65 | |
| 5 | Bridge (wood) | Chhunup #7 (Kimling) | 244,979.55 | 218,182.22 | |
| 6 | Bridge (wood) | Chhunup #5,7 (Arka) | 354,968.75 | 322,122.57 | |
| 7 | River training | Chosyar | 558,924.01 | 488,352.65 | |
| 8 | Gumpa repair | Surkhang (Dhe) | 463,078.40 | 396,526.22 | |
| 9 | Gumpa repair | Surkhang (Yara) | 349,819.51 | 283,211.56 | |
| 10 | Gumpa repair | Chhunup (Namgyal) | 83,883.78 | 36,161.12 | |
| 11 | Field wall | Surkhang (Ghara) | 569,305.44 | 284,652.72 | 50% assumed |
| 12 | Micro-hydro | Tsarang | 151,968.60 | 113,033.10 | |
| Total | | | 3,581,848.18 | 2,846,261.63 | 79% |
| Requested budget | | projects, total | | 1,750,000.00 | 1,750,000.00 |

Lo-Manthang Fiscal Year 1994/1995 Proposed

| | | | | | |
|--------------|--------------------------|--|---------------------|---------------------|-------------|
| 1 | Toilet programme | | 160,000.00 | 80,000.00 | 50% assumed |
| 2 | Field wall construction | | 1,800,000.00 | 900,000.00 | 50% assumed |
| 3 | Health post construction | | 600,000.00 | 300,000.00 | 50% assumed |
| 4 | Field Office Maintenance | | 50,000.00 | 50,000.00 | |
| 5 | Gonpa Restauration | | 3,050,000.00 | 1,525,000.00 | 50% assumed |
| Overhead | | | | 801,000.00 | |
| Total | | | 5,660,000.00 | 3,656,000.00 | |

Manang Fiscal Year 1993/1994

| | | | | | |
|------------------|----------------|-----------------|-------------------|-------------------|------------|
| 1 | Museum hall | Braka | 38,586.55 | 38,586.55 | |
| 2 | Porter shelter | Tongie | 106,224.31 | 74,909.63 | |
| Total | | | 144,810.86 | 113,496.18 | 78% |
| Requested budget | | projects, total | | 230,000.00 | 230,000.00 |

Manang Fiscal Year 1994/1995 Proposed

| | | | | | |
|--------------|--------------------------|--|---------------------|---------------------|-------------|
| 1 | Irrigation | | 400,000.00 | 200,000.00 | 50% assumed |
| 2 | Campsite improvement | | 100,000.00 | 100,000.00 | |
| 3 | Information centre | | 53,333.33 | 48,000.00 | 90% assumed |
| 4 | Health Post construction | | 100,000.00 | 50,000.00 | 50% assumed |
| 5 | Health & Sanirtation | | 350,000.00 | 175,000.00 | 50% assumed |
| 6 | Gumpa renovation | | 150,000.00 | 75,000.00 | 50% assumed |
| 7 | Field Office Maintenance | | 30,000.00 | 30,000.00 | |
| Overhead | | | | 406,750.00 | |
| Total | | | 1,183,333.33 | 1,084,750.00 | |

Bhujung Fiscal Year 1993/1994

| | | | | | |
|------------------|--|---------------------------|------------|------------|------------|
| Requested budget | | overhead, projects, total | 146,798.00 | 150,000.00 | 296,798.00 |
|------------------|--|---------------------------|------------|------------|------------|

Bhujung Fiscal Year 1994/1995 Proposed

page:7

| | | | | |
|--------------|--------------------------|---------------------|---------------------|-------------|
| 1 | Comm. Identif. Proj. | 600,000.00 | 300,000.00 | 50% assumed |
| 2 | Drinking water | 800,000.00 | 400,000.00 | 50% assumed |
| 3 | Information centre | 50,000.00 | 50,000.00 | |
| 4 | Gonpa Restauration | 150,000.00 | 75,000.00 | 50% assumed |
| 5 | Field Office Maintenance | 10,000.00 | 10,000.00 | |
| | Overhead | | 426,700.00 | |
| Total | | 1,610,000.00 | 1,261,700.00 | |

Ghalakharka Fiscal Year 1993/1994

| | | | | | | |
|--------------|-------------------------|-----------------|----------|-------------------|-------------------|------------|
| 1 | School construction | Ghalakharka #4 | 23/10/93 | 270,818.99 | 57,810.00 | |
| 2 | Toilet construction | Sardikhola #1 | 11/10/93 | 21,185.35 | 4,289.00 | |
| 3 | Toilet construction | Puranchaur #2 | 19/10/93 | 21,185.35 | 4,289.00 | |
| 4 | Toilet construction | Puranchaur #6 | 25/11/93 | 21,185.35 | 4,289.00 | |
| 5 | Toilet construction | Ghachok #1 | 05/09/93 | 21,185.35 | 4,289.00 | |
| 6 | Toilet construction | Machhapuchhre # | 28/02/94 | 22,795.00 | 5,220.50 | |
| 7 | Trail repair | Sardikhola #7 | 28/02/94 | 100,000.00 | 40,000.00 | |
| 8 | Campsite dev. (kitchen) | Sardikhola #4 | 31/03/94 | 106,358.49 | 80,000.00 | |
| 9 | Campsite dev. (toilet) | Sardikhola #4 | 31/03/94 | 81,084.92 | 50,000.00 | |
| 10 | Drinking water | Sardikhola #4 | | 200,000.00 | 100,000.00 | Assumed |
| 11 | Bridge repair | Sardikhola #2,9 | | 94,000.00 | 75,000.00 | |
| Total | | | | 959,798.80 | 425,186.50 | 44% |

Ghalekharka Fiscal Year 1994/1995 Proposed

| | | | | |
|--------------|--------------------------|---------------------|---------------------|--------------|
| 1 | Bridge | 80,000.00 | 40,000.00 | 50 % assumed |
| 2 | Trail | 310,000.00 | 155,000.00 | 50 % assumed |
| 3 | Community lodges | 400,000.00 | 400,000.00 | 50 % assumed |
| 4 | Drinking water | 770,000.00 | 385,000.00 | 50 % assumed |
| 5 | School | 120,000.00 | 60,000.00 | 50 % assumed |
| 6 | Museum | 260,000.00 | 260,000.00 | |
| 7 | Campsite improvement | 300,000.00 | 300,000.00 | |
| 8 | Toilet programme | 380,000.00 | 190,000.00 | 50 % assumed |
| 9 | Heritage conservation | 20,000.00 | 10,000.00 | 50 % assumed |
| 10 | Field Office Maintenance | 4,000.00 | 4,000.00 | |
| | Overhead | | 155,000.00 | Estimated |
| Total | | 2,644,000.00 | 1,959,000.00 | |

Annex 2 Summary Infrastructure Improvement Activities

file:iafyprg.wk1

| Sector | 85/86 | | | | 86/87 | | | |
|--------------|-------------------|------|------------------|------|------------------|-------------|------------------|------------|
| | Total | Incr | ACAP | Incr | Total | Incr | ACAP | Incr |
| Ghandruk | 118,000.00 | | 39,200.00 | | 82,733.00 | -30% | 47,906.62 | 22% |
| Total | 118,000.00 | | 39,200.00 | | 82,733.00 | -30% | 47,906.62 | 22% |

| Sector | 87/88 | | | | 90/91 | | | |
|--------------|-------------------|------------|------------------|------------|-------------------|-------------|-------------------|-------------|
| | Total | Incr | ACAP | Incr | Total | Incr | ACAP | Incr |
| Ghandruk | 145,000.00 | 75% | 82,950.00 | 73% | 468,017.00 | 223% | 156,827.00 | 89% |
| Sikles | | | | | 60,000.00 | | 30,000.00 | |
| Total | 145,000.00 | 75% | 82,950.00 | 73% | 528,017.00 | 264% | 186,827.00 | 125% |

| Sector | 91/92 | | | | 92/93 | | | |
|--------------|---------------------|-------------|-------------------|-------------|---------------------|-------------|---------------------|-------------|
| | Total | Incr | ACAP | Incr | Total | Incr | ACAP | Incr |
| Ghandruk | 740,989.00 | 58% | 241,300.92 | 54% | 1,191,111.00 | 61% | 441,060.00 | 83% |
| Lwang | | | | | 1,133,610.00 | | 534,090.00 | |
| Sikles | 328,000.00 | 447% | 164,000.00 | 447% | 1,456,040.60 | 344% | 431,701.34 | 163% |
| Lo-Manthang | | | | | 1,680,932.89 | | 770,570.49 | |
| Total | 1,068,989.00 | 102% | 405,300.92 | 117% | 5,461,694.49 | 411% | 2,177,421.83 | 437% |

| Sector | 93/94 | | | | 94/95 (proposed) | | | |
|--------------|----------------------|------------|---------------------|-------------|----------------------|------------|----------------------|------------|
| | Total | Incr | ACAP | Incr | Total | Incr | ACAP | Incr |
| Ghandruk | 1,080,589.91 | -9% | 509,621.02 | 16% | 1,341,667.00 | 24% | 745,000.00 | 46% |
| Lwang | 1,507,562.96 | 33% | 812,685.32 | 52% | 3,692,000.00 | 145% | 1,885,000.00 | 132% |
| Sikles | 2,893,801.21 | 99% | 2,133,517.62 | 394% | 1,610,000.00 | -44% | 820,000.00 | -62% |
| Jomsom | 186,945.00 | | 159,245.00 | | 2,405,000.00 | 1186% | 1,205,000.00 | 657% |
| Lo-Manthang | 3,581,848.18 | 113% | 2,846,261.63 | 269% | 5,660,000.00 | 58% | 2,855,000.00 | 0% |
| Manang | 144,810.86 | | 113,496.18 | | 1,183,333.00 | 717% | 678,000.00 | 497% |
| Bhujung | | | | | 1,610,000.00 | | 835,000.00 | |
| Ghalekharka | 959,798.80 | | 425,186.50 | | 2,644,000.00 | 175% | 1,804,000.00 | 324% |
| Total | 10,355,356.92 | 90% | 7,000,013.27 | 221% | 20,146,000.00 | 95% | 10,827,000.00 | 55% |

Overheadcost for 1994/1995

| Sector | Estimated | Perc | Perc of total |
|--------------|---------------------|------------|---------------|
| Ghandruk | 178,757.00 | 24% | 13% |
| Lwang | 261,454.00 | 14% | 7% |
| Sikles | 176,001.00 | 21% | 11% |
| Jomsom | 688,000.00 | 57% | 29% |
| Lo-Manthang | 801,000.00 | 28% | 14% |
| Manang | 406,750.00 | 60% | 34% |
| Bhujung | 426,700.00 | 51% | 27% |
| Ghalekharka | 155,000.00 | 9% | 6% |
| Total | 3,093,662.00 | 29% | 15% |

NB:

Total equals the total project costs
ACAP equals ACAP's contribution
Incr. stands for increase with regard
to the previous FY.

Overhead cost are calculated as a percentage
of total costs (column 'perc of total') and
ACAP's contribution (column 'perc').

Annex 3; Proposed Budget 1994/1995 (in NRs. 1000)

file: pb94-95

| | Activity | GHK | GHN | JMS | BHJ | MNG | LOM | LWG | SKL | Total |
|------|---------------------------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|------------|--------------|
| 1 | School programme | 60 | | 100 | | | | | | 530 |
| 1a | Construction | | 50 | | | | | 150 | 80 | 280 |
| 1b | Furniture | | | | | | | 90 | | 90 |
| 2 | Health & Sanitation | | | | | 175 | | | 50 | 2610 |
| 2a | Drinking water | 385 | 50 | | 400 | | | 240 | 60 | 1135 |
| 2b | Latrines | 190 | 30 | 150 | | | 80 | 100 | | 550 |
| 2c/e | Health post / Day care | | 200 | | | 50 | 300 | | | 550 |
| 2d | Drainage | | | 150 | | | | | | 150 |
| 3 | Accessability | | | 150 | | | | | 250 | 1110 |
| 3a | Trail | 155 | | | | | | 65 | | 220 |
| 3b | Bridges | 40 | 50 | | | | | 400 | | 490 |
| 4 | Tourism programme | | 150 | | | | | | | 1336 |
| 4a | Campsite & other | 300 | | | | 100 | | | | 400 |
| 4b/e | Project house & musea | 260 | | | 50 | 48 | | 28 | | 386 |
| 4g | Community lodges | 400 | | | | | | | | 400 |
| 5 | Heritage conservation | 10 | | | | | | | | 1835 |
| 5a | Gonpa | | | 100 | 75 | 75 | 1525 | | | 1775 |
| 5b | Monastries | | 50 | | | | | | | 50 |
| 6 | Soil & Water cons. | | | | | | | | | 2212 |
| 6a | Irrigation | | | 150 | | 200 | | 275 | 300 | 925 |
| 6b | Landslide | | | | | | | 162 | | 162 |
| 6c | River Training | | | 200 | | | | 25 | | 225 |
| 6d | Field wall | | | | | | 900 | | | 900 |
| 9 | Field Office Maintenance | 4 | 15 | 5 | 10 | 30 | 50 | 50 | 30 | 194 |
| | Community Identified | | 150 | 200 | 300 | | | 300 | 50 | 1000 |
| | Overhead (estimated) | 155 | 179 | 688 | 427 | 407 | 801 | 261 | 176 | 3094 |
| | Total | 1959 | 924 | 1893 | 1262 | 1085 | 3656 | 2146 | 996 | 13921 |

Annex 4: Activities, number and amount (in NRs. 1000)

1985/86 - 1993/94

file: projects

| | Activity | Nos. | Amount | Nos. | Amount | Perc. |
|----------|---------------------------------|------------|-------------|------------|-------------|--------------|
| 1 | School programme | | | 36 | 1230 | 12.8% |
| 1a | Construction | 24 | 1113 | | | 11.6% |
| 1b | Furniture | 12 | 117 | | | 1.2% |
| 2 | Health & Sanitation | | | 59 | 1823 | 19.0% |
| 2a | Drinking water | 25 | 846 | | | 8.8% |
| 2b | Latrines | 26 | 505 | | | 5.3% |
| 2c | Health post | 6 | 435 | | | 4.5% |
| 2d | Drainage | 2 | 36 | | | 0.4% |
| 3 | Accessibility | | | 57 | 2035 | 21.2% |
| 3a | Trail | 37 | 367 | | | 3.8% |
| 3b | Bridges | 19 | 1662 | | | 17.3% |
| 3c | Culvert | 1 | 6 | | | 0.1% |
| 4 | Tourism programme | | | 7 | 252 | 2.6% |
| 4a | Campsite | 2 | 130 | | | 1.4% |
| 4b | Police post | 1 | 8 | | | 0.1% |
| 4c | Check post | 1 | ? | | | |
| 4d | Project house | 1 | ? | | | |
| 4e | Museum hall | 1 | 39 | | | 0.4% |
| 4f | Porter shelter | 1 | 75 | | | 0.8% |
| 5 | Heritage conservation | | | 7 | 1012 | 10.5% |
| 5a | Gonpa | 4 | 995 | | | 10.4% |
| 5b | Temple | 3 | 17 | | | 0.2% |
| 6 | Soil & Water cons. | | | 13 | 1289 | 13.4% |
| 6a | Irrigation | 4 | 333 | | | 3.5% |
| 6b | Landslide | 2 | 12 | | | 0.1% |
| 6c | River Training | 5 | 531 | | | 5.5% |
| 6d | Field wall | 2 | 413 | | | 4.3% |
| 7 | Miscellaneous | 1 | 25 | 1 | 25 | 0.3% |
| 8 | Field Office Maintenance | 4 | 1801 | 4 | 1801 | 18.7% |
| 9 | Microhydro | | | 2 | 144 | 1.5% |
| 9a | R.C.C. Poles | 1 | 31 | | | 0.3% |
| 9b | Civil work impr. | 1 | 113 | | | 1.2% |
| | Total | 186 | 9610 | 186 | 9610 | |

Annex 5: Job description of engineer in Pokhara

Objective of the assignment:

One of the major aspects of the infrastructural improvements under ACAP is the improvement of physical infrastructure. Its rationale is that conservation without the support of the local people is not possible. Therefore they need assistance in developing their community and managing the scarce natural resources in a sustainable way. Activities which are undertaken are the construction and/or renovation of irrigation canals, drinking water systems, school buildings, trails, bridges and toilets. Rivertraining works and the restoration of gumpa's (bhuddist temples) and other cultural artefacts are also part of the work of ACAP. ACAP has appointed several field-based overseers to guide the villagers in these works.

The objective of the engineers assignment therefore is to coordinate these activities and to provide technical back-up and guidance to the overseers, as and when necessary.

To whom will the engineer be responsible?

The Engineer will be directly responsible to the Project Director.

The responsibilities of the engineer considering the position and level of the post in relation to employers, colleagues/counterparts and subordinates.

The main responsibilities include:

- Contributing, jointly with other Technical Officers and Officers-In-Charge, to policy making, planning and coordination of the activities.
- Enhancing the technical performance of the implementing staff.
- Supervising and supporting implementors (beneficiary farmers) in cooperation with overseers and technical associates.
- Organising on-the-job training for the technical staff to further enhance their professional skills.
- Sharing technical and professional information and experiences with ACAP staff.
- Liaising, when requested for, on behalf of ACAP with other organisations, line agencies, suppliers of materials, contractors and so on.
- Monitoring progress in project implementation.

The Engineer will be delegated specific authority as follows:

- Organise, in consultation with his/her supervisor, the work in Infrastructural Improvements in consultation with the staff.
- Approve designs and cost-estimates of the activities (only above a certain amount) to be implemented.
- Implement the activities with due attention to quality control and timely completion and reporting.
- Depute, with due approval from his/her supervisor, the project site visits to overseers.
- Recommend on policy matters related to project implementation.

Next to the mentioned persons above, are there any other persons/authorities the engineer has to deal with.

The engineer will have to deal occasionally with the donor(s) of ACAP, HMG/N authorities and representatives from other organisations during their visits to the project sites and in external contacts.

FUNCTIONS AND TASKS OF THE ENGINEER

Description of the functions and tasks of the engineer

The engineer will bear the responsibility for the technical aspects of the Infrastructural Improvement activities under ACAP. The responsibility of the administrative and financial aspects are with the Officers-In-Charge who are able to delegate this responsibility as and when required. The responsibilities will include;

- Providing technical assistance based on requests from field offices and its implementing staff.
- Providing supervision and support to projects under construction on a more regular basis.
- Planning and management of the day-to-day activities for Infrastructure Improvement activities.
- Formulating recommendations for policies, guidelines, prioritization, and implementation procedures with regard to technical assistance.
- Training of implementing staff and assisting in training of villagers when necessary.
- Assisting in logistic support like acquiring materials and transportation to project sites.
- Guiding and supporting research activities in the field of erosion control and watershed management.
- Monitoring progress and impact of the Infrastructural Improvement Activities.

The job will be based in the city office of Pokhara and will require regular visits to the field-offices and project sites.

State, in order of importance, the tasks of which the function will compromise.

- Activities related to direct technical assistance - (25 %)
- Activities related to supervision, monitoring and support - (25 %)
- Training and advising implementing staff - (15 %)
- Providing advice to the different officers as and when necessary, and reporting. - (15 %)
- Planning and management of day-to-day activities - (10 %)
- Other activities - (10 %)

NB: Figures are a rough estimation.

Describe the function regarding the load, responsibility and involvement in policy and management.

The engineer will not be responsible for policy formulation as such, but he/she may be asked to provide his/her inputs when deemed necessary by the ACAP management. His/her input on policy matters as well as on matters related to improvement of the projects will be given due consideration.

The engineer will be responsible for the day to day management of the infrastructural improvement activities.

Reporting

Reporting will be according to the requirements of ACAP. Every sector will have to submit a progress report every three months. These progress reports will have to be compiled and conclusions and recommendations should be added. This report will be forwarded to the Project Coordinator and Project Management

What is the budget available for the activities of the engineer

The budget will be made available by ACAP for its field offices to carry out infrastructural improvements. The engineer will have to make a budget for the requirements of the office in Pokhara.

REQUIREMENTS

Educational qualifications

The engineer should have preferably a B.Sc. in Civil Engineering or equivalent. However many years of experience can make up for a lack of educational background. The person should have a very practical attitude with sufficient theoretical knowledge.

Additional qualifications

At least a few years of work experience in the field of civil, rural or irrigation engineering in small scale projects. Additional experience in planning, design and implementation of projects through community involvement and participation will be an asset. Since there is no technical support from within ACAP, the person should be able to work independently.

Additional skills

Social skills concerned working with and through rural communities in a participatory way will be very useful, as well as working experience with computers (WP for reporting and Lotus 1-2-3 for calculations and compilation). English will be used for reporting.

Annex 6: Proposed Budget for Infrastructure Improvement Section FY 94/95

The figures are starting from FY 94/95 and then the following years. Since in the first year some materials have to be purchased, the figures seems high.

Books (among others)

| | |
|-----------|--|
| Khanna | Handbook of civil engineering RCC Thesaurus |
| Helvetas | Survey, Design & Construction of Trail Suspension Bridges for Remote Areas, Volume A through D. |
| Dutta | Cost Estimating. |
| Nad | Irrigation water resource and water power. |
| Michael | Irrigation, theory and practice. |
| Khusalani | Irrigation, practice and Design, vol 1 and 2. |

Total amount: NRs. 10.000,- FY 94/95, Nrs. 3.000 following years.

Surveying equipment

Tape 3, 30 and 50 m.
Compass
Altimeter
Abney level
Camera
Soil auger with soil sample bags and labels

Total amount: NRs. 30.000 FY 94/95, NRs. 7.000 following years.

**Basic automatic level set with angular circle
20 s. Theodolite set**

Total amount: NRs. 320.000 FY 94/95, NRs. 32.000 following years.

Drawing equipment

Drawing pen and lettering set
Drawing board (better; drawing table), Clip board
Scale set

Total amount: NRs. 25.000 FY 94/95, NRs. 5.000 following years.

Office equipment

Book shelf
Scientific calculator

Total amount: NRs. 20.000 FY 94/95, NRs. 2.000 following years.

Computer set

Total amount: NRs. 100.000 FY 94/95, NRs 20.000 following years

Stationary

Total amount: NRs. 5.000 FY 94/95, NRs 3.000 following years

Informative materials

For whole ACAP area:

1 : 50.000 scale topographic maps

1 : 50.000 scale Land Resource Mapping Project Maps:

- Land systems
- Land utilisation
- Land capability

Aerial photographs (1 : 50.000 or 1: 20.000)

1 : 125.000 scale geological maps

Meteorological records

Hydrological records

Maps to be procured via the bio-diversity project

Total amount: NRs. 10.000 FY 94/95, NRs. 5.000 following years.

Training

Two trainings for all technical staff will be scheduled each year. Besides these trainings, some budget will be reserved for trainings to farmers and in-site-trainings.

The budget includes the possibility to photocopy materials on request for technical staff.

Total amount: NRs. 20.000 FY 94/95, NRs. 20.000 following years.

Table 1: Budget possibilities (for FY 1996/97, inflation of 10 %)

| Item | 94/95 | 95/96 | 96/97 |
|--|---------|--------|---------|
| Books | 10.000 | 3.000 | 3.300 |
| Surveying equipment | 30.000 | 7.000 | 7.700 |
| Theodolite and Auto-level | 320.000 | 32.000 | 35.200 |
| Drawing equipment | 25.000 | 5.000 | 5.500 |
| Office equipment | 20.000 | 2.000 | 2.200 |
| Stationary | 5.000 | 3.000 | 3.300 |
| Training | 20.000 | 22.000 | 22.000 |
| Informative materials | 10.000 | 5.000 | 5.500 |
| Computer | 100.000 | 20.000 | 22.000 |
| Total (without theod. auto-l. and comp.) | 120.000 | 45.000 | 49.500 |
| Total (without comp.) | 440.000 | 77.000 | 84.700 |
| Total (including all) | 540.000 | 97.000 | 106.700 |

Annex 7: Filing and Book List Infrastructure Improvement Section

11-10 Ghandruk

- 11-10-00: Ghandruk, Year programme and progress reports
- 11-10-01: Landslide: Sikha
- 11-10-02: Swantta Drinking Water

11-11 Lwang

- 11-11-01: Lwang, Year programme and progress reports
- 11-11-02: Mardi / Indi Khola River Training.
- 11-11-03: Lwang Irrigation Project (also for 11-11-04/06) (3-0-4)
- 11-11-04: Mardi Khola Bridge I
- 11-11-05: Mardi Khola Bridge II (Ghumaure)
- 11-11-06: Thado Khola Bridge (Kwibang)
- 11-11-07: Dhampus Drinking Water
- 11-11-08: Small projects
- 11-11-09: Irrigation; Dhiplang

11-12 Sikles

- 11-12-01: Sikles, Year programme and progress reports
- 11-12-02: Micro Hydro
- 11-12-03: Souda suspension bridge
- 11-12-04: Landslide control; Parche

11-13 Jomsom

- 11-13-01: Jomsom, Year programme and progress reports
- 11-13-02: River Training; Lankhu khola

11-14 Lo-Manthang

- 11-14-01: Lo-Manthang, Year programme and progress reports
- 11-14-02: Irrigation; Nhenul
- 11-14-03: Thubchhen Gumba and Tse-chin she-Tup-ling Lamasery

11-15 Manang

- 11-15-01: Manang, Year programme and progress reports

11-16 Bhujung

- (11-16-01 :Bhujung, Year programme and progress reports)

11-17 Ghalekharka

- 11-17-01: Ghalekharka, Year programme and progress reports
- 11-17-02: Drinking water: Ghalekharka
- 11-17-03: Bridge: Sardikhola

11-21 Compiled information

- 11-21-01: Miscellaneous
- 11-21-02: Budget

11-22 Policy and procedures

- 11-22-01: Forms
- 11-22-02: Policy Papers General
- 11-22-03: Correspondence - OUT
- 11-22-04: Correspondence - IN
- 11-22-05: Memo - OUT
- 11-22-06: Memo - IN

11-23 Procurement of materials

- 11-23-01: Literature

11-23-02: Quotations and Information

11-24 **Training**

11-24-01: Erosion

11-24-02: Workshop 1,

11-25 **Technical information and documents**

11-25-01 Price lists / Norms

11-25-02: Standard Designs

11-25-03: Nomogrammes

11-25-04: District Rates

11-25-05: Bridge building

(11-25-06 :Drinking water)

11-25-07: Irrigation

11-25-07-01: Soil cement & soil classification

11-25-07-02: Retaining Walls

11-25-07-03: Canal & canal structures

11-25-07-04: The Plant Factor

11-25-07-05: Operation & Maintenance

11-25-07-06: Policy

11-25-08: Indian Standard

(11-25-09 :Others)

11-25-10: Survey and Cost-estimating

11-25-11: Materials

11-26 **Personal files**

11-26-01: Staffing in General

11-26-02: Chiranjibi Tiwari

Bigendra Bhari

Books:

Irrigation

1- ILO/SPWP/UNDP: Environmental Measures for Hill Irrigation Schemes in Nepal (including field handbook).

2- HMG/UNDP: Design Manuals for Irrigation Projects in Nepal:

M7: Headworks, River Training and Sedimentation

D2: Field Design Manual (volume 1 & 2)

Bridges

1- Helvetas: Survey Design and Construction of Trail Suspension Bridges for Remote Areas:

Volume A; Design (revised version)

Volume C; part 1: Standard Design Drawings

Volume D; Execution of Construction Works

Erosion

1- Training element and technical guide for SPWP workers

1; Anti-Erosion Ditches

2; Stone Masonry

3; Gabions

4; Gully Correction

5; Small Earth Dams

6; Tree Nurseries

7; Planting Techniques

Drinking Water

1- Helvetas/CWSS: Design guidelines for rural water supply systems.

2- Helvetas/CWSS: Standardization for rural water supply systems.

Annex 8: (I)NGO & HMG in ACAP

Introduction

This annex will present some of the active (International) Non-Governmental Organisations, as well as some information on His Majesty's Government body's.

(I)NGO

1. UNICEF

Where Pokhara Field Office, Naya Bazaar

Who Contactperson: Mr. R.B. Joshi

What They provide roofing (and other) materials for schools. They can assist in other projects as well.

2. B.B.L.L. (Helvetas) (Bridge Building at the Local Level)

Where Kathmandu head-office, Pulchowk

Who Contactperson: Mr. Robert Groeli (Project Manager), Mr. Netra Khanal (Overseer).

What They build bridges through DDC's. They can assist in obtaining cables and technical knowledge. They provide training for farmers (on the site) and overseers (design training).

3. C.W.S.S. (Helvetas) (Community Water Supply and Sanitation)

Where Pokhara Field Office

Who Contactperson: Mrs. Mieke Leermakers (Project Manager)

What They build drinking water systems and give training on design and maintenance.

4. SNV/KAP (Netherlands Development Organisation / Small Ambassée Projects)

Where Kathmandu Head Office, Kumaripati, Phone: (01) 524597

Who Contactperson: Mr. E. Kamphuis (Resident Representative), Mr. M. B. Chhetri (Junior Programme Officer).

What They provide grants upto 2.5 lakh for community development activities. The farmers have to initiate and request the project.

5. K.A.A.A. (KAduri Agriculture Assistance)

Where Pokhara, Deep

What They assist in all infrastructural projects and can assist technically and in providing materials and tools (pulling machine for tension in cables).

6. C.A.R.E. (Cooperation for American Relief Everywhere)

Where Pokhara, Jomsom

What They do all infrastructural works in Begnas Tal Rupa Tal watershed area and Mustang.

7. I.L.O (International Labour Office)

Where Pokhara, Dam side

Who Contactperson: Mr. Lex Kassenberg (Project Manager)

What They build irrigation projects in Dhaulagiri zone and can assist for training and providing tools (mechanical jack for joining of HDPE pipe)

8. G.T.Z. (German Technische Zusammenarbeit)

Where Kathmandu Head Office

Who Contactperson: Mr. Dieter Werner (Resident Representative), Mr. Michael Eberer (DW, DIO Kaski), Mrs. Annemarie Westendorp (DW, WRID), Mr. Martin Falke (DW, DIO Dhangadi).

What They can provide technical assistance in the form of Development Workers and have the theoretical possibility for grants in different fields

HMG/N

1. A.D.B.N. (Agricultural Development Bank Nepal)

Where Pokhara, Naudanda, Manang, Jomsom, Besishahar and smaller SFDP offices

What They provide loans and technical assistance for irrigation works and sometimes drinking water (via SFDP). They provide loans for Micro-Hydro projects. They also have one theodolite.

2. Suspension Bridge Division

Where Pokhara

Who Contactperson: Mr. Bhupendra (District Engineer)

3. W.R.I.D (Western Regional Irrigation Directorate)

Where Pokhara, Dam side

Who Contactperson: Mr. Timilsena (Director)

What They can provide gabion wire for river-training works (e.g. Mardi/Indhi khola, Lwang) and build irrigation canals.

4. D.I.O (Directorate Irrigation Office)

Who Contactperson: Mr. Michael Eberer (Development Worker)

What They assist in obtaining gabion wire from WRID (see number 3)

5. Drinking Water Division

Where Pokhara

Who Contactperson: Mr. Krishna Rana (District Engineer), Mr. Dwaika Shresta (Engineer for Lumle, Ghandruk and Lwangghalel VDC's) Mr. Tost Raj (Engineer for other VDC's).