Executive Summary

In a developing country, like Nepal, where the government's priority is poverty alleviation, protected areas (PAs) are under-financed from the central budget. The external sources from bilateral, multilateral and international non-governmental organisations are not sustained sources of funding as such funds aim at specific achievements within a specific period. Private and commercial sectors have still not had much interest in funding protected areas as no such policies or regulations exist in most of the developing countries, especially in South Asia. Furthermore they will not finance PAs unless they see returns from such ventures. On the other hand, PAs are threatened daily by human activities as the population and their demands increase, while widespread poverty continues to be prevalent. This demands sustained financial resource on an annually increasing basis for PA management.

Under such circumstances, PAs have to be sustained financially. There are two universal approaches: 1) minimize the cost to achieve the desired outputs and 2) maximize the income for the PA management. This does not mean that the government should not separate its central budget for the PAs or deny the support from the national and international non-governmental agencies. The government's budget will remain allocated for the core costs required for PA management while the support from national and international non-governmental institutions remain instrumental in funding research, training, piloting short duration projects and onetime costs such as capital assets.

The Annapurna Conservation Area Project (ACAP) of the King Mahendra Trust for Nature Conservation (KMTNC) in Nepal was established as an initiative and innovative approach for financial sustainability. The basic principal is to collect entry fees from tourists and utilise them for the management of the conservation area. In addition, the revenue generated from the use of resources from its use-zone is also utilised for the management of the area. In order to reduce the heavy cost of PA management by using army personnel, the project also initiated community involvement.

The experience of ACAP showed that the entry fees collected from the visitors to the conservation area financed the majority of the area's management budget. However, there is a need for timely review of the entry fee. Also, promotion of tourism that benefits local communities strengthens the linkage between the
The experience, however, demands that the government should authorise the park authority to raise the park revenue and allocate it back to park management. This requires changes in legislation. Similarly, the community involvement and their traditional practices need legal recognition. The community should have a certain degree of authority in deciding on the management of the resources. Once the community realises that the protection of park resources is beneficial to their livelihood, they will invest their resources back into the park management, thereby cutting the overhead cost of park authorities and securing sustainability.

**Literature Review**

Management of protected areas (PA) involves a large amount of administrative costs, the economic justification of which is generally not seen. Rather than protected area management, the national priority of most developing countries is poverty alleviation and budgets for PA management are, therefore, under-funded. It is estimated that PAs in developing countries receive an average of less than 30% of the funds necessary for basic conservation (Spergel, 2001). According to a WWF-World Bank survey of 10 countries, only 1% of PAs are wholly secured, the rest are "paper parks" (Biodiversity Development Project, 2003). Donors have traditionally been more interested in short-term specific projects, rather than long-term horizons (James, et. al. 1999). In addition, many PAs in the former Soviet Union (SU) are under severe economic constraints after the breakdown of SU and decline of the central budget. This has affected the Black Sea Environmental Management Programme as well (Radu Minnea, 1998). So the crucial need for PA management at the moment is to secure sufficient and sustained funding, self-sustaining funding if possible.

Experiences around the world with PA management have shown that parks that involve a wider group of stakeholders are being managed effectively and are moving towards financial sustainability. One of the key stakeholders that significantly contributes towards effective park management is the "local community". Involvement of the local community in fish species conservation in Bangladesh (Haque, et. al, 2003) and medicinal plants conservation in Sri Lanka (IUCN, 2003) has shown conservation benefits with the populations increasing of the species in question. This has been demonstrated around the world when economic incentives induce pro-conservation behaviour among the people (Hussain, 2001).

Use of aesthetic value of the resources through ecotourism has also induced local people to conserve the resources around them. This has been successfully implemented in many of the PAs around the world. In the Galapagos Conservation Programme, not only the locals, but also the tour operators have supported conservation activities by establishing environmental conservation education and training initiatives. (O’Brien, 2001). Moreover, tourism generates revenues for PAs through entry fees.

PAs are warehouses of natural, cultural, traditional and human resources. While using some of these resources, they generate royalties. These royalties have played significant roles in meeting the financial needs of some PAs. The financial sustainability of Iwokrama Programme is achieved through timber and non-timber products, ecotourism, mineral extraction and royalties earned from forest products. (Remple, 1996).

So experience to date shows that, in addition to financial support from central government budgets and bilateral and multilateral national and international donors, there exists tremendous potential to generate financial resources from within the PA for its management.

The Annapurna Conservation Area Project (ACAP) of the King Mahendra Trust for Nature Conservation (KMTNC) in Nepal was an initiative established as an innovative approach to financial sustainability. The basic principal is to collect entry fees from tourists and utilise them for the management of the
conservation area. In addition, other revenues generated from the use of resources from its use-zone is also utilised for the management of the area. In order to reduce the heavy cost of PA management by deputing army personnel, the project involved the community instead.

**The Annapurna Conservation Area Project (ACAP)**

The Annapurna Conservation Area is the first and the largest among the PAs in Nepal. It falls under IUCN Category VI for PA management. The ACA covers 7,629 sq km in north-central Nepal. The climate varies from subtropical to tundra within a short aerial distance of less than 35 km. It harbours a recorded 1,226 species of flowering plants, 38 species of Orchids, 9 species of Rhododendron, 101 species of Mammals, 474 species of Birds, 39 species of Reptiles and 22 species of Amphibians.

The ACA is also home to over 100,000 local people who are basically agrarian. In addition to agriculture, the local people are involved in off-farm income generation activities, such as the tourism business and in-country or regional trade and business; they also go abroad to generate remittances. However, they still depend considerably on the local natural resources for sustaining their livelihoods. Population increase and poverty continue to be prevalent in the area. The initial period of tourism development in the ACA in the 1970s and early 1980s had a number of negative consequences, and although much improved, this still needs close attention. One of the reasons behind the establishment of ACAP was to manage tourism as it so rapidly progressing, therefore its impact requires immediate attention.

ACAP was also established to conserve the area’s rich biodiversity while helping to meet the basic human needs in the area. Tourism management remained a central focus, which could play a dual role for both conservation and development. The objective of the ACAP, thus, remained threefold:

1. to conserve the natural resources;
2. to help socio-economic development; and
3. to manage tourism.

ACAP has implemented a wide range of activities as integrated conservation and development programmes (ICDP) including:

a) Natural resources conservation programme (natural forest management, nursery raising, tree plantation, wildlife conservation, soil and water conservation etc.);
b) Alternative energy programme (promotion of fuelwood-reducing devices, solar technologies, kerosene and LPG gas, microhydro, electricity etc.);
c) Tourism management programme (tourists information centre, information materials, trainings to local people, waste management, etc.);
d) Conservation education programme (awareness programmes, plays and dramas, conservation education in schools, adult literacy programmes, etc.);
e) Community development programme (trails and bridge repairmen, school buildings, health posts buildings, drinking water, etc.);
f) Agriculture and livestock development programmes (cash crops - including vegetables, fruits - farming, organic farming, livestock breed improvement, livestock feed improvement, livestock health improvement, etc.);
g) Women in conservation (women’s education, income generation for women, reproductive health for women, overall involvement of women in conservation and development);
h) Cultural heritage conservation (material and immaterial cultural assets, beliefs, practices, etc.).

Basic principals of the ACAP are:
1. Community participation;
2. Sustainability; and
3. Catalytic roles of the ACAP.
ACAP works with a 15 member-committee called the Conservation Area Management Committee (CAMC) at the Village Development Committee (VDC) level. The VDC is the lowest autonomous political unit in Nepal. The members of the CAMC are selected by the community members. The CAMC is the grassroots committee that will plan, implement, manage and monitor the ICDP at the VDC level. They are also responsible for mobilising the community members.

The involvement of communities in the management of conservation areas (CA) has many dimensions. The first dimension was to reduce the heavy cost of involving deputed army personnel for safeguarding a protected area. The second dimension was to utilise the communities' traditional knowledge and skills for the effective management of the resources. Inadequate skills and knowledge in conservation of resources results in disturbances of the ecosystem. The third dimension was getting their resources involved in CA management. Their resources include time, money, expertise, etc. which directly subsidise the resources required for the CA management.

The second principal of the ACAP is sustainability. Most of the donor funded projects collapse once the support from the donor terminates. The government central budget often becomes inadequate to run basic management activities of the CA. Therefore, ACAP initiated the idea of reinvesting all tourist entry fees into the ICDP projects in the area. In addition, the CAMC has been authorised to collect and utilise revenue. The CAMC uses collected funds in the ICDP as matching funds to the ACAP’s support which comes from entry permit fees or sometimes from a donor, for a short-term and specific project. The CAMC can collect user fees for timber, royalties of some of the commercially harvested NTFP, common resource user fees from community land-users.

The local communities are mobilised as much as possible at the implementation level. The ACAP primarily catalyses the community and fulfils their needs for technology and other resources, including funds, which are in demand. ACAP’s role is to build awareness, train, and mobilise the communities.

The Annapurna Conservation Area Project also undertook the management of the ACA with a multiple land-use concept. These multiple land-use zones consist of:

1. Wilderness zone;
2. Seasonal use or Protected forest zone;
3. Intensive use zone;
4. Special management zone; and
5. Anthropological and biotic zone.

The wilderness zone
This zone includes those highland areas where the resources are unused to date or abandoned for various reasons. The area is usually above 15,000 ft in altitude. No development activities have been undertaken by the management policy. The area is completely protected.

Seasonal use or protected forest zone
This is the area where resources exist but are not stressed by human use because of their distance - they are located in the high altitude, away from the settlement zones. However, the resources from alpine grassland, pine forest and mixed temperate forest are seasonally utilised by migratory livestock and for traditional herbs and limited timbers. The management of the zone is to limit the use within the traditional system with no promotion of commercial use without their proper assessment.

Intensive use zone
This zone is the human settlement zone where the resources are under heavy pressure due to human activities. The zone includes all accessible areas from the settlement where residents can collect fuel, fodder, timber, etc. in a day and return home in the evening. It also includes all areas to which the livestock can go to graze and return to the barn in the evening. This area has been given the topmost priority for conservation and development of alternatives to the resources.
Special management zone
The Special Management Zone includes those areas with a high potential of commercial development but with pristine biotic environment and under heavy progressive non-traditional human pressure created within recent history, especially due to tourism. The area receives highest priority for the full spectrum of conservation and tourism management to revert negative impacts of all human activities.

Anthropological and biotic zone
This is the zone where the modern technology has not significantly interfered with the traditional way of life, culture, belief system, resource management practices, etc. but rather been absorbed. The management option was to strengthen the traditional way of life at the same time developing it towards prosperity.

The ACAP is thus managed under a multiple land-use concept over a wider landscape with community participation. Most of the income is generated from within the conservation area.

The Financial Sustainability of the ACAP

In the initial phase, ACAP did not have any internal financial resources to undertake the planned ICDP. Nominal donor contributions funded the start of the project. Gradually, the funding from donors has declined while the internal income is increasing, making up the bulk of the funding for the management of ACA. Figure 1 shows the financial income of the ACAP over the last 17 years, since it was established. The internal income included in the figure, however, is mainly the tourist entry fee, which still does not include the resource use fees at grassroots committee level.

All ACA entry fees are ploughed back to the management of the ACA. This has been made possible by authorising the responsible institute, the King Mahendra Trust for Nature Conservation (KMTNC), by the government. The Conservation Area Management Regulation – 1996 (CAMR – 1996) has also authorised the grassroots level committees formed under the regulation to collect user fees and royalties from the natural resources users. They can also use the funds in conservation and development of the ACA.

![Fig 1: Financial Sources of ACAP](image-url)
Secondly, it has been assumed that by involving local people in CA management, a great deal of the government’s burden for allocating the central budget for PA management has been waived. Figure 1 shows that the government has provided no funds for ACAP management from its central budget, until 1991/1992. Although it provided some fundings in 1992/93, the amount is almost negligible now. On top of this, there has been no deputation of the army to protect the ACA’s natural resources. The local people have also subsidised this cost. Usually the cost of the army is more than 5 times the cost of the combined administrative and development budget of PAs in Nepal.

The support in Figure 1 from the government comes from the high value cultural tourism in Upper Mustang where tourists pay US$70.00 per day for at least 10 days of trekking. Similarly, occasionally the government provides a bare minimum of funds collected from mountaineering expedition groups through the Nepal Mountaineering Association (NMA).

There is a tremendous potential for hydropower development within the ACA, because it is in the mountainous region. Environmentally friendly hydropower can generate revenue to the ACA both at the local and CA management level. At the moment, ACA has microhydro plants at community levels, which also generate revenue to the communities; this revenue is utilised for overall management of the resources at the community levels.

There are opportunities for revenue generation from the use of commercially viable natural resources without compromising the aim of CA. Such opportunities exist from collection of non-timber forest products under scientific management. The experience of a vicuna project from Peru has proved that involvement of local communities in commercial utilisation of its wool has increased the revenue with simultaneous increase in its population in the wild (Consejo Nacional de Camelidos, 1997).

Pokhara, the second largest city in Nepal, utilises clean water, derived from the water resources in ACA. Currently, the district drinking water office of the government supports some sanitary programmes at the watershed of the source. But the amount of support does not recognize the importance and necessity of conserving the watershed. There is potential that the plough-back of the revenue from drinking water can be increased to support the conservation efforts inside the ACA.

Promotion of Income Generation Opportunities for the local communities in and around the PAs has also minimised their pressure on the PAs. This indicates that the portion of funding that would go towards direct protection measures should be diverted to creating alternative activities that minimise the communities’ pressure on PA resources. This is shown from a number of conservation programmes from around the world. This focus on income-generating activities could considerably reduce the cost of conservation while fulfilling the priority agenda for poverty alleviation in most developing countries.

To minimise the cost of protected area management, the focus should be on the landscape level by incorporating different land-use zones, both from human-use point of view and biodiversity point of view. ACAP’s experience with management of different land-use zones with specific focuses and their integration with each other is crucial for overall maintenance of the biodiversity of the region and addressing the human needs living in and around the ACA.

Purchasing commercial shares in the market by the communities could be an alternative way to diversify funds generated for the PAs.

The most important financial resource for PA management remains with the Climate Change Fund. The PAs play a vital role in carbon sinks. In this regard, they are eligible to receive support from the Climate Change Fund to maintain the dynamics of a carbon sink. However, PAs need scientific justification to claim this fund. It could be much more challenging to protect biodiversity from effects of climate change compared to human activities.
Reference

Biodiversity Development Project. 2003. *Biodiversity Brief 15 – Protected Areas*. IUCN


