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IUCN NEPAL

NEWSLETTER

MAKING MONEY FROM WASTES

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AN ASSESSMENT OF SELECTED ECONOMIC INSTRUMENTS FOR ENVIRONMENTAL MANAGEMENT

AMBIKA P. ADHIKARI

Among planners and policy makers there is a growing interest in the potential application of economic instruments for environmental management. Economic instruments, also known as Market-Based Instruments (MBI), are considered to be more cost-effective and expedient for environmental management when used in proper combination with the conventional regulatory policies and programs. This article provides a brief assessment of three popular MBIs in environmental management. These MBIs—pollution charges, user charges and deposit refund system—are summarily and thematically assessed for their cost and functional effectiveness as well as on the criteria of equity and applicability.

In Nepal, MBIs have been utilized infrequently (and then only very recently) for certain aspects of environmental management. Some examples include user charge for solid waste management by private or NGO service providers. Similarly, deposit refund schemes have been successfully utilized in many urban areas for several years for streamlining the collection of empty bottles and containers for soft drinks and beer. Nominal user charges have also been utilized by the government agencies in the Kathmandu valley for the transportation and treatment of domestic sewerage.

The following paragraphs provide a brief assessment of the above three important economic instruments:

POLLUTION CHARGES

Pollution charges are fees levied by a regulatory agency on industries for the generation of pollutants, e.g. on effluent, emissions or solid waste. These charges are based on the volume and nature of the pollutants.

Pollution charges have been found to be environmentally effective in many countries. They provide financial incentives to firms to reduce effluent and emission of waste. Environmental effectiveness of pollution charges depends upon the level of pollution charge rates. For example, in some cases, very low rates of pollution charges were found to be ineffective in achieving environmental management as industries would continue to discharge pollutants to the environment.[1]

Enforcement of pollution charges requires regulatory agencies to devise a system of charges and an administrative mechanism to verify and implement them. Testing and verifying pollution level requires trained personnel and the availability of adequate equipment and laboratory facilities. The initial costs of implementation may be high, but once the system is in place, enforcement mechanisms become routine and the additional administrative costs are limited.

Enforcement of pollution charges may be hampered by two main reasons. Initially, industries may oppose the institution of pollution charges, especially during

[1] In Yugoslavia, the pollution charges were much lower than industries, cost of pollution abatement. Hence, industries, continued to discharge pollutants to water, making the charges ineffective. See Bernstein (1993).

initial industrial development phase (such as in Nepal) and also in difficult economic periods. Furthermore, setting up an "optimum" level of pollution charge is also a complex task, requiring rigorous studies and a period of trial and error.

Pollution charges follow the well-established norms of the "polluter pays" principle. They generally satisfy the criteria of both vertical and horizontal equity among firms, because charges are levied according to the amount of pollutants generated. Small firms can be protected against paying unaffordable pollution charges by applying a system of "increasing-block tariff". "Increasing-block tariff" – a sliding scale, incorporates a lower initial rate up to a "block" of pollution and a higher rate per unit thereafter.

In most circumstances, pollution charges are not likely to adversely affect competitiveness of industries. Once the rules are known, they will not prevent new firms from entering the market, or discourage existing firms from expanding their business. Furthermore, in the context of increased regionalization, counterpart industries in other countries are likely to face harmonized environmental policies. The impact of pollution charges on the competitiveness of industries will depend on how a country, such as Nepal, chooses to proceed with regional or bilateral arrangements. By encouraging industries to adopt innovative production and environmental management practices, pollution charges may actually help them to remain more competitive.

International experience suggests that pollution charge is a cost-effective instrument of environmental policy. The primary reason for this is that industries will undertake pollution abatement until their marginal costs are equal to the rate of charges. Because industries have different marginal costs per unit of pollution abatement, the charges distribute the total pollution abatement function among industries in a cost-efficient manner. Therefore, like other MBIs, pollution charges can achieve the same level of pollution reduction at a cheaper overall cost than by regulatory approaches alone.

2 Some writers and agencies define user charge as a synonym for pollution charge implying that polluting firms, by discharging to the environment, are "using" the sink function of the environment.

3 For example, institution of user charges resulted in a reduction of solid waste generation by up to 50% in some municipalities of Japan (see MEIP (1994), The World Bank) A "pay-per-bag" charge system in selected states in the US caused a decrease of up to 40% in domestic solid waste, (see Bernstein, 1993, p. 55).

USER CHARGES

User charges are direct payments or fees levied by public agencies to industries (or consumers) for the costs of environmental management services, e.g. collection, transportation, disposal and treatment[2]. User charges will become applicable when pollutant and waste management facilities are available to provide services locally.

User charges have been found effective in many countries, especially for solid waste management.[3] The effectiveness of user charges in achieving the environmental objectives for other pollutant management will depend upon the demand, supply and prices for the services. It is also contingent upon the relative cost of in-house waste management by firms as

An example of User Charge (collection of domestic wastes)
Photo: Ambika Adhikari

influenced by the availability of technology, economy of scale and geographical density of industrial establishments in the region. Furthermore, effectiveness is influenced by how strongly regulatory agencies enforce the requirement of environmental management by industries.

Upto a large extent, user charge is self-enforceable in achieving environmental objectives. User charge is also one of the most efficient instruments to administer, where the role of regulatory agencies is primarily limited to overseeing the implementation of user charges for services that are usually provided by private enterprises. Private or public providers of services can charge for environmental management at the site of treatment or disposal, such as in the form of tipping fees at landfills. Industries can also be routinely billed in the same manner as urban households are periodically billed for water use and sewer services.

Each firm pays for the services required according to its own waste generation volume. Consequently, the cost of environmental management services is allocated equitably among industries, in proportion to their generation of waste. Heavier polluters pay proportionately more for the services, while cleaner firms pay less. However, to reduce potential burden on smaller industries, a progressive rate of user charge (increasing-block tariff) can be instituted, if public agencies provide the services. A similar system of charge is often practiced by public utilities in the provision of water supply and electricity services.

User charge is not likely to negatively impact the competitiveness of industries. To save on user charges, firms would seek more efficient and less polluting technologies of production and in-house waste management, helping industries to maintain competitiveness.

Drawing from the experience of the OECD countries in industrial waste management, developing countries, too, are likely to see bulk of such services provided by private firms. When private firms provide environmental management services, they will administer the user charges. In such cases, the regulatory agency's role may be limited to approving the charge rates. Even when public agencies provide services for environmental management, administering user charges is relatively efficient. The charges can be administered by regulatory agencies in the same manner as municipalities implement water and sewerage charges.

Because administration of user charge is primarily undertaken by the private sector, costs to the government are low. Especially, with the use of innovative techniques, such as prepaid waste containers, regulatory agencies or other service providers can economically implement these charges. Additionally, user charge also motivates industries to reduce the generation of waste, as it is cost-effective for them. Thus, user charge advances a least-cost approach to manage pollutants. The actual level of cost-effectiveness of user charge will depend upon the price elasticity of demand for waste management services.[4]

Reuse of plastic, an example of Deposit Refund System
Photo: Ekaram

[4] For comparison, an US Environmental Protection Agency (EPA) study in California found that for the domestic waste, the price elasticity of demand was rather low at 0.44, i.e. a 10% increase in service fee induced about 5% decrease in garbage generation. See OECD (1981), p.69.

DEPOSIT REFUND SYSTEM

Deposit refund system involves a surcharge (deposit) when industry or consumers purchase products (or containers) that, if improperly disposed, may be detrimental to the environment. The surcharge is refunded when the item is returned by consumers to approved locations for proper management. This instrument is generally applicable on relatively durable and reusable items. Deposit refund

system diverts wastes from traditional disposal paths into alternatives, such as reuse, recycling and environmentally safe disposal.

In many countries, deposit refund system has been found to be highly effective in achieving environmental targets. In some European countries, upto 95% of containers are voluntarily returned to the locations where deposit has been collected.[5] If an appropriate level of deposit is levied, the financial motivation to obtain the refund propels industries and individuals to return waste materials and containers to the desired locations. The collected waste can go through proper recycling, disposal and treatment programs.

[5] Study by J. Moore et al. (1989). See discussions by J. Bernstein (1993), p. 55.

The deposit refund system is largely self-enforceable because industries will voluntarily comply with the program due to financial incentives. This system automatically rewards good environmental behavior and no formal monitoring is required. The deposit refund system is also consistent with the equity criteria because rules are known in advance, and there is no unforeseen cost to any party. Furthermore, the amount of deposit for each consumer is proportional to the quantity of materials used or consumed by them.

The deposit refund system does not hinder competitiveness of industries, as it does not impose additional cost burden on industries. Further, the deposit refund system will encourage efficient use of resources through reuse and recycling of waste, potentially increasing overall competitiveness in the sector. This system requires minimal institutional capacity, namely: facility for collection and an accounting system to administer deposit and refund transactions. The existing institutional capacity in countries such as Nepal can be modified for implementing the system.

Deposit refund is a cost-effective instrument because it requires minimal administrative and enforcement expenses by regulatory agencies. The cost is limited to that of record keeping by the central clearing house and the transportation for returning the used products, containers or waste to authorized location.

Reusable metals are also an income source for many scavengers. Photo: Ekaram

CONCLUSIONS

This article briefly assesses three popular economic instruments for environmental management. These three instruments (Pollution Charges, User Charges and Deposit Refund Systems) have been extensively used in OECD countries and also in many developing nations. In Nepal also these instruments are being increasingly recognized as potentially effective mechanisms of pollution abatement, especially when used in conjuction with regulatory instruments. This brief assessment argues that all these three instruments are potentially effective both for cost and function for environmental management and have possible application in Nepal. Further analysis, implementation experience and trial and error can enhance their applicability and effectiveness in the country.

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IUCN NEPAL ACTIVITIES

ENVIRONMENTAL EDUCATION

ENVIRONMENTAL SCIENCE CURRICULUM

Environmental Science Curriculum, elective course of study for grades IX and X, was approved by the National Curriculum Development Council in its meeting in January 1999. High schools throughout the country have the option of offering this course to their students. The course is intended for those students who have further interest in environmental education and are thinking of receiving their higher education in environmental science.

HEALTH, POPULATION AND EE TEXTBOOK

Preparation of grade IX textbook on Health, Population and Environmental Education is progressing in full swing. Three writers were selected to write the text. A day-long orientation programme was organised for these writers in the Curriculum Development Centre of the Ministry of Education. Several prominent subject specialists deliberated on the topics of their specilisation. The draft textbook will be developed by the end of March 1999.

POPULATION AND EE RESOURCE PACKAGE

With a view to assist grades VI, VII and VIII teachers in teaching the course on Population and Environmental Education, preparation of a resource package is in its planning stage. In collaboration with the Curriculum Development Centre staff, IUCN Nepal environmental education team prepared a draft outline for the package. Potential writers of the package have been identified and actual writing is expected to start in the near future.

LINKING POPULATION AND ENVIRONMENT

In collaboration with the Family Planning Association of Nepal (FPAN) a reproductive health clinic and environmental education centre has been established in Chowk Chisapani Village Development Committee of Tanahu district. The centre is manned by two health workers and an assistant. With the assistance of an IUCN member, Environmental Camps for Conservation Awareness, a conservation awareness camp was organised for the students of three schools in the area. The participating students formed nature clubs in their respective schools following the camp. The health clinic and nature clubs are expected to play an important role in improving the deteriorating state of the environment of the area.

PILOT TESTING OF TEACHER TRAINING SOURCE BOOK

A follow-up visit was made by a team of staff from the Faculty of Education of Tribhuvan University and IUCN Nepal to the five teacher training colleges. The goal was to review progress made of the pilot test of the draft Environmental Education Source Book for Bachelor of Education Programme. The visit was helpful in clarifying questions and concerns of the teachers and students. An evaluative workshop is planned for late March. During the workshop all the teachers using the source book in their teachings will give their comments and suggestions towards improvement of the source book.

ENVIRONMENTAL PLANNING & SUSTAINABLE DEVELOPMENT

CONSERVATION AND DEVELOPMENT PLAN OF LEKHNATH MUNICIPALITY

The Conservation and Development Plan of Lekhnath Municipality has been prepared and the document is currently being processed to get it endorsed from the Ministry of Housing and Physical Planning. The plan envisages developing Lekhnath Municipality as a Garden City and developing the municipal area as a potential village tourism site. The plan proposes several zones, which include commercial/ residential, agricultural, village tourism, industrial, institutional, recreational, solid waste management (landfill), wetlands, forest and bus park area.

Based on the policies and strategies of the Master Plan, detailed planning is currently being carried out in Lekhnath municipality by the task force members which comprise a project team leader, urban planner, infrastructure engineer, forester, environmental engineer, agriculture specialist,

Planning process in Lekhnath Municipality
Photo: Anish Bania

wetland specialist, tourism expert and cartographer.

Projects for infrastructure development, village tourism development, agricultural development, urban forestry and wetland conservation will be identified. Project profiles of prioritized projects for the next five years will also be prepared. This phase is expected to be completed by end of June 1999.

CONSERVATION PLAN IN THE SIWALIK AREA OF ILAM

A Memorandum of Understanding was signed between IUCN Nepal and District Development Committee of Ilam district to initiate work on the plan of the Siwalik area in Ilam district. The Siwalik range occupies 13% of the total land area of the country. The current conservation plan is being prepared for 6 VDCs (Bajho, Chisapani (partially), Chula Chuli, Danabari, Mahamahi and Sakpara) in Ilam district, which covers an area of 37 km^2.

The plan document will consist of baseline information of the area's flora, fauna, hydrology and socio-economic status, and will identify the major problems and issues in conservation and propose policies and programmes for conservation and development of the Siwalik area. The plan is expected to be completed by the end of June, 1999.

INTEGRATING ENVIRONMENTAL AND GENDER CONCERNS

A workshop on integrating environmental and gender concerns in local level planning was held from 9 to 10 March 1999 for the Lalitpur District Development Committee. The objective of the workshop was to sensitize local level planners regarding the importance of integrating environmental and gender concerns into development plans. Papers were presented on planning, biodiversity conservation, environmental economics, environmental law and environmental impact assessment and were followed by discussions on the subject.

ENVIRONMENTAL ECONOMICS

INCENTIVE MEASURES FOR FOREST BIODIVERSITY CONSERVATION

The EE program has undertaken a study on *Incentive Measures for Forest Biodiversity Conservation* with the help of consultant Dr. R.D. Pant. The forest policies of HMG/Nepal are analyzed to make suggestions for new incentive measures that will assist in the conservation of Nepal's biodiversity in forests. Current existing perverse incentives (i.e. policy measures that have a counter-effect on conservation) are identified and advice is given for their correction. This is a complex task since the perverse measures were often taken for economic or social development purposes. Since the local communities are a major counterpart in forest conservation, the study focuses on the linkage between appropriate incentive measures and the inhabitants of protected areas (including buffer zones) and community forestry areas.

COLLABORATION WITH CLEMSON UNIVERSITY

The College of Agriculture, Forestry and Life Science, Clemson University, South Carolina, has prepared a research proposal on '*Incentive Measure Structures for Forest Biodiversity Conservation in Nepal: Economics, Institutions and Policy Options*'. The three-year project is proposed to be carried out with APROSC and IUCN Nepal as local counterparts. The overall goal is to improve the understanding of

socio-economic incentive structures and institutional structures needed for conservation and sustainable use of forest biological diversity resources in the context of a developing country. Literature studies will be undertaken and several case studies are planned to be carried out in protected areas and a frontier farming site.

The EE Program has frequently communicated with Clemson University to provide feedback on the proposal which has now reached its final form. IUCN HQ has been approached by Clemson University for obtaining funding for this relevant study.

1999 EE PROGRAMME

Several activities are planned to be undertaken during the 1999 EE Program, which will focus on the Economics of Biodiversity (as during the 1998 program). Studies will be undertaken on the valuation of biodiversity and on incentive measures for biodiversity conservation (as a follow-up on the 1998 study). A national working session is planned to be organized on the Economics of Biodiversity, attended by representatives from various national organizations. The capacity building activities with the Central Department of Economics, TU, will be continued for the integration of EE into the current Masters of Economics curriculum, probably including the organization of a training program. New project proposals are under development regarding Natural Resource Management and Climate Change issues. An IUCN EE program Internet homepage will be developed in collaboration with the IUCN HQ.

ENVIRONMENTAL IMPACT ASSESSMENT

EIA OF MELAMCHI DIVERSION SCHEME

A proposal for the Environmental Impact Assessment of Melamchi Diversion Scheme (MDS) has been prepared and submitted to the Norwegian Aid Agency for Development and Cooperation (NORAD) in February 1999. It has been decided that the project will be funded by NORAD. The EIA component of the project will be carried out by IUCN Nepal in partnership with NORPLAN AS. National and international experts will work together as a team under that umbrella of IUCN Nepal for the EIA study. It is expected that the study will be completed in six months.

CAPACITY DEVELOPMENT IN EA

The Government of the Netherlands approved a proposal for Capacity Development in Environmental Assessment in South Asia Region in January 1999. At present IUCN Nepal is preparing detailed initiatives as a part of the inception of the project. The project aims to strengthen South Asia Regional Environmental Assessment Association (SAREAA) and National Environmental Assessment Associations (NEIA AS), publish bi-annual News Bulletin, promote introduction of Strategic Environmental Assessment (SEA) in the region and organise training/ thematic sessions on EIA in the countries of the region.

WETLANDS & HERITAGE

COMMUNITY MEETINGS

In November and December 1998, IUCN Nepal conducted two community meetings at Gaindahawa to make local people, school teachers and VDC members aware of the Gaindahawa wetland and its potential resources. In the meeting, people agreed to repair the damaged section of the embankment of the Tal and to construct an access road to Gaindahawa from Pohawa, provided that IUCN Nepal continues this programme. A Memorandum of Understanding (MOU) between IUCN Nepal and Bishnupura VDC has been signed.

ECO-TOURISM TRAINING

A two-day training on eco-tourism was organized by IUCN Nepal in collaboration with Bishnupura VDC during December 1998. Local politicians and the people of Gaindahawa lake area participated in the training that aimed to promote wise use of wetland and its resources. Some participants were taken to Sauraha for an eco-tourism study tour. An interaction program among the study tour members and villagers was organized. An important result was the recognition of the necessity to restore the lake to enhance local benefits through its conservation and utilization. Participants also developed an environmental code of conduct for participatory conservation of the Gaindahawa lake.

INTERPRETATION AND EDUCATION SYSTEM FOR KTWR

IUCN Nepal, in collaboration with the Department of National Parks and Wildlife Conservation, developed a draft plan for the Interpretation and Education System of Koshi Tappu Wildlife Reserve (KTWR).

BIODIVERSITY & NATURAL RESOURCE MANAGEMENT

ECOOGICAL MAP OF NEPAL

Nepal's Mountain ecosystem is so diverse and complex that sheer generalization is impossible and risky in the process of development planning. Ecological amenities inflect drastically with environmental gradients even within the short vertical distances. IUCN Nepal, therefore, has set its sail to prepare "Ecological Maps" with iso-potential zones determined by vegetation types. The eight previous maps of Dobremez and the Nepalese counterparts (1971-1985) were the base elements of the present ecological map.

This initiative has avoided mismatching of edges of eight maps and harmonized nomenclature discrepancies in defining ecological units and vegetation types through GIS application. Now, previous 136 ecological zones of 8 maps are well concised into 61 zones. And, each zone has database linkage for retrieving species composition. The map is anticipated to be an assertive tool to assess ecological set to plan and adopt forestry, agriculture and conservation programmes.

Further, this map has a great future potential to generate agro-ecological zones map which IUCN Nepal has already spearheaded to a certain degree. The tool at large assists the HMG in executing the Agriculture Perspective Plan of Nepal, and helps NGOs, INGOs, aid projects and concerned institutions in training and education for the extension of community forestry, agriculture, soil conservation and watershed management programmes.

COMMUNITY CONSERVATION OF RHODODENDRON

There had been an indefatigable hubbub since 1962 to conserve the pristine habitat of "Laligurans", *Rhododendron arboreum*, although its momentum look up vividly only in 1997 when IUCN Nepal, MOPE and Nepal Hill Area Development Foundation (NHADF) jointly organized a two-day workshop at Basantapur, Terhathum. This workshop helped IUCN Nepal in recapturing *Community Conservation of Rhododendron* as a pro-community-based initiative to conserve *R. arboreum* along the slopes of Milke-Jaljale ridges in east Nepal.

In October 1998 IUCN Nepal and NEFEJ organized a follow-up workshop at Myaglung, Terhathum, to discuss the issues, and to generate consensus and solidarity among the participants for conserving rhododendron. The workshop solicited help from IUCN Nepal and NEFEJ for developing consensus from two adjoining districts, Taplejung and Sankhuwasabha.

Outcome of the Myaglung workshop was a powerful basis for translating the conventional mode of conservation to people-centered conservation practice. In this context, IUCN Nepal and MOPE jointly organized the second workshop at Basantapur on March 3 to 4, 1999. Hon'ble minister Rameshnath Pandey, MOPE, attended and addressed the opening session of the workshop. Over 100 persons from DDC, Local Development Office, Chief District Office, District Forest Office, VDC, women groups, forest user groups, schools, religious leaders and NGOs of three districts participated in this event. In the plenary session the groups discussed and developed consensus on resolving pertinent issues like land tenure system, livestock farming and grazing pressure, energy requirement, options for income, demarcation and addition of VDCs in conservation block and management structure in the proposed conservtion area. A three-manned task force was commissioned to review and resolve these issues. Each participant envisioned conservation dream, identified compatible programs to achieve dream, prioritized programs, and commissioned a 7-membered *Laligurans Management Committee* to implement prioritized programs. This committee is anticipated to undertake site identification for establishing office, catalyzing and regularizing sanitation program at Basantapur, infusing conservation education and natural resource management focusing on rhododendron conservation in three schools, one in each district. This way a long-standing dream of the Nepalese to conserve Nepal's national flower *Laligurans* has entered to a feasible stage as the first people's park in Nepal.

Rhododendron trees are the source of firewood at Panch-Pokhari, Tinjure.
Photo: Shailendra Pokharel

Urban Communities are Still Dependent on the Micro-Institutions

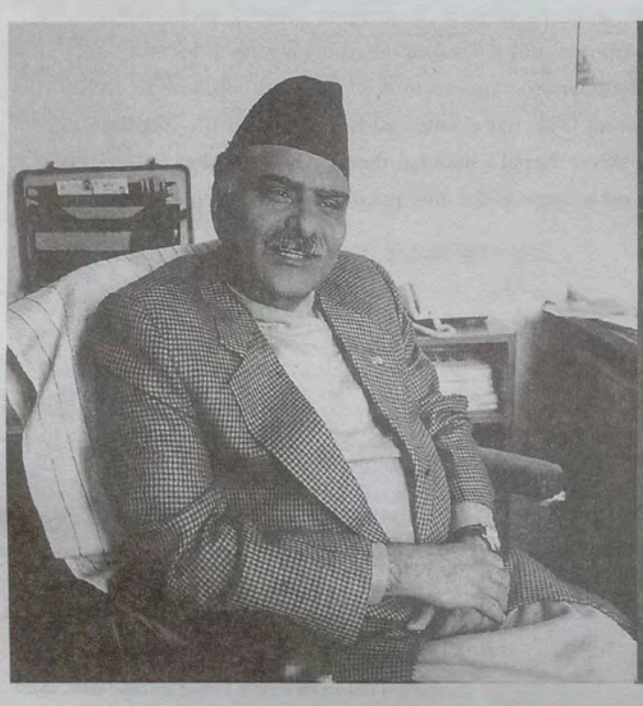
Dr. Jagadish Chandra Pokharel was trained as an architect in Greece. In 1978 he began to teach at the Institute of Engineering of Tribhuvan University (TU). He then went to the University of Hawaii from where he completed graduate studies in Regional Planning, then continued his educational pursuit at MIT where he received his doctorate. His dissertation dealt with Nepal's water resources policies and relevant negotiations with India.

Besides teaching at TU Dr. Pokharel has worked for UNDP, various NGOs and consulting firms. Since 1998 he has been a member of the National Planning Commission (NPC), looking after environmental issues, among other sectors.

♦ What is your opinion on the environmental and conservation situation of the country?

In my view, when making a distinction between urban and rural sectors, pollution emerges as a major problem of the urban areas. The 58 urban centres have solid waste as a major problem. Managing solid waste is a challenge for us. Urbanisation and growth of major settlements is evident.

In urban areas, consumption pattern has changed drastically. Higher per head consumption of resources will generate more solid wastes. Besides municipal waste, transportation-related activities contribute to pollution of environment. The lifestyles of people have changed but their perception and approach towards environment remains conventional. Extensive use of plastics pouch for packaging of various goods is creating adverse impact on the biodiversity, sustainability, and, of course, on the productivity of the area. However, consumers find it convenient and normal to use plastic products.



"We can not expect people's participation for social works in urban areas as we do in rural areas."

Urban communities are still dependent on the micro-institutions (traditional institutions, e.g. guthi, social gatherings, etc.) but it is gradually breaking down. Migration from the rural to the urban areas in search of employment and convenience is developing anonymity among urban people. They become more self-centered and monetised. We cannot expect people's participation for social works in urban areas as we do in the rural context. Market-led approach should be introduced in this context. Moral pressure cannot greatly influence individual behavior, there is a need for strong enforcement of rules and regulations.

Regarding the rural areas, we are better prepared than yesterday. Conservation and management of resources is more systematic. Peoples' participation in various programmes like environmental awareness, community forestry and even infrastructure development is very high. If we sustain this pace and start to think about the second generation problems, things could improve.

People in the rural areas are better aware about environment friendly practices than yesterday. Mainly after the restoration of democracy, INGOs/NGOs have been more active and

impact of their programmes in the rural areas is visible. Micro-institutions still exist and are functioning well in rural areas. We can still utilize them for conservation and other purposes.

Agriculture is the main sector for the economic development of rural areas. This is also the focus of national development policy. We are entering the phase of extensive and intensive agriculture production. Naturally, large tracts of land could be developed. New technologies, new crops will be introduced which may or may not be appropriate for selected areas. Machines will be used to a large extent. Use of organic fertilisers and pesticides will increase. These development activities cumulatively will have impacts on the natural environment. We should be alert and address these issues in an integrated way at the macro-policy level. More project - or programme - based management is not adequate.

♦ As a member of the National Planning Commission, could you please shed light on what role the NPC is playing and can play to overcome the challenges in the fields of conservation and environment?

As a member of NPC, I would say NPC should come out more aggresively. So far the role of NPC is limited only to the policy level. It can ask the executive agencies, various line ministries and other agencies to implement the plan and policy. NPC plays a coordinating role. NPC resolves any disputes among the executing agencies that might have incurred due to certain policy intervention. For example, recently the Ministry of Industry and the Ministry of Population and Environment interpreted certain clauses of the Environmental Act differently. As a result, conflict arose between these ministries. NPC brought them together and helped them come up with mutually satisfactory interpretation.

National Planning Commission provides guidance and internalises new ideas and models into policy. New concepts and approaches are developed and integrated with macro-policy. In other words, NPC functions as a policy innovator at the national level.

At the local level, NPC directly works with the District Development Committees (DDCs). The DDCs can send their suggestions directly to the NPC. But the manpower to suit the local situation is very limited and hiring costly consultants just to do micro-environmental work is not cost-effective. IUCN has helped to develop local level plans and guidelines for specific areas. In a similar way, we are developing environmental protection plan for every Village Development Committee of the country. We need to develop manpower to execute the plans at the local levels. Special packages for resource conservation and environmental protection for both remote and left out areas are being prepared. To carry out these activities cost-effectively we need to establish close linkeges with academic institutions and incorporate these needs into curricula. There have already been some moves in this direction.

♦ What are the main actions or plans that have been incorporated in the ninth five-year plan of the HMGN for environmental management of the country?

This has been taking place at various levels. At the international level, we are very sensitive regarding the fulfillment of international commitment. We are prioritizing these commitments. In global terms, we will soon become members of the World Trade Organisation (WTO). To qualify for membership we have to modify our practices. To date we have not been able to strongly enforce even CITES and Ramsar conventions' commitments. We are tapping resources in environmental management in international areas like capacity 21, sustainable use and so on to move faster towards meeting these commitments and preparation for becoming a member of international community.

At the national level, we are addressing urban and rural problems as separate but interlinked problems. Specifically, transition or hotspots have been watched and special programmes for the mangement of these zones are designed. These transition zones include the urban and urbanising settlements. The emerging townships are potential spots for environmental degradation.

Regarding solid waste management, local entities are being mobilized. Their capacity is enhanced to take greater responsibilities. We are replicating the "Parks and People" concept for the conservation of biodiversity and environmental conservation with maximum people's participation. Air pollution in urban areas can be reduced if transportat system is managed properly. For this purpose, however, polluting vehicles should be phased out. Awareness programme on "Vehicle Load" or "Carrying Capacity" are introduced. We need to focus on small activities, which have immediate impacts and which can be replicated.

In addition to the above plan, the 9th plan has also emphasized implementation of full-fledged Environmental Impact Assessment (EIA), establishment of environmental information data bank and introduction of environmental education at all levels of training and education.

♦ As you are aware, IUCN Nepal has been a close ally of NPC since its inception. How do you think this partnership can be maintained and enhanced?

It is interesting I was thinking of raising this issue. I look at IUCN Nepal's contribution at two levels. Since the local entities are becoming autonomous, IUCN Nepal has an important role in preparing local guidelines and plans, apart fromthe fact that it can work to generate awareness. IUCN Nepal is

contributing in the preparation of national policies. In the preparation of the ninth five-year plan it had provided substantial input. IUCN Nepal has an important role to play in updating them. It can help induce new ideas. We all know that IUCN Nepal has contributed a lot in the recently enacted Environmental Protection Act. To continue the relationship with NPC, IUCN can also help come up with procedural details on the implementation of the existing policies. For now, IUCN's role is important in preparing local level environmental guidelines. We should move towards implementation level, and in that context, IUCN Nepal could play a lead role in designing tools that are needed for implementation and training the manpower.

IUCN is very well placed to address the regional issues. Since it is an international organisation and has a strong network in the region, the newly emerging environmental concerns could be better addressed with IUCN's help. We need to be aware of the global implication of our actions and be sensitive to the international communities' perception about our actions. IUCN Nepal can also play a crucial role in sensitizing the policy makers on these broader concerns.

♦ What is your perception of IUCN's conservation efforts in Nepal? How can they be improved?

The role that IUCN Nepal is playing in conservation is certainly commendable. It has increased our confidence. IUCN's policy inputs or suggestions on certain issues is based on its lessons in Nepal and elsewhere. This has certainly enhanced our decision making capacity.

In my opinion, IUCN needs to engage itself in the preparation of local level plans and guidelines like the ones it did for Phewa, Begnas and other VDCs of the rural areas. IUCN will find it even more interesting and challenging to work at this level. The new Decentralization Act opens up this opportunity.

♦ Do you have any message for the readers of IUCN Nepal Newsletter?

I would suggest the readers of this newsletter to fully utilize the capacities of IUCN Nepal and wish that the intellectuals and students of the universities and colleges collect and read the IUCN publications as far as possible. I think schools and colleges should use IUCN Nepal publications as resource materials. IUCN also needs to encourage schools and universities to visit its office and work at the field sites for demonstration purposes.

Experts from IUCN should, to the extent possible, go to various schools in rural areas when they are in field to get informed about the kind of environmental education needed in this country. They should also explore the kind of help local institutes need from IUCN. Since Kathmandu or other urban areas have enough reading materials, rural areas are the ones that should receive greater attention. This I say, because I believe that schools and students are the major agents of change for better environment tomorrow.

Interview conducted by Upendra Shrestha

EVENTS WATCH

Regional Policy Network for Sustainable Development

On January 21st IUCN Nepal organized a half-day meeting on the *Establishment of a Regional Policy Network in South Asia on Sustainable Development.* Participants of the meeting were representatives from IUCN Nepal's members and other related (I)NGOs, government and university departments. The meeting was chaired by Dr. Shankar Sharma, Member, National Planning Commission.

The purpose of the meeting was to discuss the proposal prepared by IUCN Nepal at the South Asian level, to establish a policy network that will provide information and advice to IUCN country offices, member and partner organizations on relevant issues regarding sustainable development. The aim of the network is to contribute to the overall mission of IUCN, to enhance sustainable development and conservation.

Welcoming the participants Dr. Ambika P. Adhikari, Country Representative, IUCN Nepal, briefed the importance of and need for such a network. He also highlighted the objectives of the programme, which is the development of a coordinated policy to

enhance conservation and environmental goals. Three panelists had been invited and were requested to present their opinion on the proposal. Mr. Mahesh Agrawal (President, Nepal Chamber of Commerce) Dr. Mahesh Banskota (Deputy Director, ICIMOD) and Dr. Bhuvan Bajracharya, (Professor, CEDA) gave their comments on the proposed network. The meeting was divided into two parts. In the first half, invited panelists presented their paper and in the second one, the other participants gave their comments taking part in a lively round-table discussion.

Altogether 25 individuals representing 21 relevant organisations participated. The overall understanding on the proposed network was that it was broad. Participants felt that there is a poor linkage with IUCN and its goals, objectives and activities. It was recommended that the proposed activities should not overlap and each initiative should support the already existing ones rather than compete with them. Dr. Shankar Sharma concluded the meeting by advising IUCN and all participants to review and revise the proposal so as to better benefit Nepal's perspective on policies that influence the environment.

Book Launched

A book entitled "*Towards Sustainable Tourism in the Everest Region*", co-authored by Paul Rogers and John Aitchison, was launched at the British Council, Kathmandu on 19 January 1999. It is a joint publication of IUCN Nepal and International Centre for Protected Landscape (ICPL), UK. The book was jointly launched by Dr. Ambika P. Adhikari, Country Representative of IUCN Nepal and Mr. Hugh Moffatt, Acting Director of the British Council.

Members Meeting

On February 25, 1999 a meeting of IUCN Nepal Members was organised in the IUCN Nepal Meeting Hall. The meeting was attended by eight of the nine members. It was the first meeting after three new NGOs received IUCN membership. Country Representative, Dr. Ambika Adhikari, extended warm welcome to the new members. The newcomers Green Camp Nepal, Women in Environment (WE) and Human Welfare and Environment Protection Centre (HWEPC) briefed for the other members on the objectives and activities of their respective organisations.

The main goal of the meeting was to discuss the IUCN membership policy Issue Paper. The paper generated active participation of the members. The need for forming a National Committee of IUCN Members was also emphasized.

SDC—IUCN Meeting

A meeting was held at IUCN Nepal on 22 November 1998 between the senior staff of SDC and IUCN Nepal to discuss the issue of continued SDC support to IUCN Nepal. From SDC Bern, Mr. Uli Lutz, Programme Manager for Environment and Forestry, and from SDC, Kathmandu, Dr. Felix von Sury, then Resident Coordinator, Mr. Anton Hagan, Resident Coordinator and Ms. Uma Acharya, Programme Officer attended the meeting. From IUCN Nepal Dr. Ambika P. Adhikari and five Programme Coordinators attended.

Mr. Lutz informed that SDC would be interested in project funding along with core funding and also said that SDC is interested in maintaining a long-term relationship with IUCN Nepal. He expressed his satisfaction in the programme areas undertaken by IUCN Nepal with SDC support.

The meeting came up with a resolution that SDC will consider project and core funding for the three-year period from 2000 AD to 2002 AD. IUCN Nepal submitted a project concept paper within the framework of IUCN Nepal's five-year programmes to SDC Kathmandu in February1999. In June 1999 a planning workshop will be held in Kathmandu with participation of SDC Bern, SDC Kathmandu and IUCN Nepal. The main objective of this workshop will be to finalise the three-year SDC-IUCN projects based on IUCN Nepal's five-year programme.

Dr. Ambika P. Adhikari expressed his pleasure at the opportunity to discuss SDC-IUCN partnership for Nepal's natural resource management. He appreciated the continuous, long-term, reliable and consistent support provided by SDC to IUCN Nepal. The Programme Coordinators of the three projects receiving SDC fund said that extension is required to provide continuity to the activities initiated long-time back and to ensure completion of the activities.

MEMBERS ACTIVITIES

ECCA

TIGER CONSERVATION EDUCATION

The Environmental Camps for Conservation Awareness (ECCA) started a Tiger Conservation Programme in the surrounding areas of the Royal Suklaphanta Wildlife Reserve. The main objectives of the programme are – to give an in-depth knowledge on the value and importance of the major animals and its role in biological diversity; to provide ideas towards community participation in wildlife management; and to strengthen the capacity of the local youth and teachers in conservation education. The main activities undertaken are counselors, training camp, ECCA camp and formation of nature clubs at the school level.

KMTNC

CAMERA TRAPPING

An intensive camera-trapping programme was launched in Royal Bardiya National Park (RBNP) between October 1997 and June 1998. The main objective of the programme was to estimate the present status of the tiger population in RBNP. This programme is a joint effort of the Department of National Parks and Wildlife Conservation, WWF Nepal Programme and KMTNC.

PARK SCOUT TRAINING

KMTNC conducted a training programme for the Park Scouts on "Community Participation Techniques" from 5 to 18 August 1998. Twenty-three individuals representing 11 different protected areas participated in the training. The main themes covered by the training were effective communication skills, motivational and extension techniques used in collaboration works with community, park patrolling, legal issues and procedures, first aid and simple resource mapping.

MANASLU ECO-TOURISM PROJECT

With an objective to inform the policy-makers and local stakeholders on the planned activities of Manaslu Eco-Tourism Project (MEP), a one-day interaction meeting was hosted by KMTNC in Kathmandu on 24 July 1998. Local political leaders, government officials and other concerned individuals were present at the meeting.

NEFEJ

URBAN ENVIRONMENTAL WATCH GROUP

With an aim to popularise the concept of participatory strategic urban planning for sustainable urban development, the Nepal Forum of Environmental Journalists (NEFEJ) has formed an Urban Environmental Watch Group. This initiative has been taken mainly to regularise the various activities undertaken by NEFEJ regarding the protection of urban environment . The watch group will work to sensitise politicians, journalists and general public on urban environment and development issues.

The watch group has already undertaken a survey of urban environment problems in Kathmandu Valley.

NHS

NEW STEERING COMMITTEE

The Fourteenth Annual General Meeting of NHS was held on 20 December 1998 at Lalitpur Durbar Square. The election for the steering committee also took place on that day. Former President Mr. Shreedhar Samsher JBR was re-elected the president of the committee.

NHS APPEAL

Nepal Heritage Society made public an appeal against pamphleteering and wall painting in the historical areas and heritage sites during election campaigns in the course of the national election. NHS has also sent the appeal to all the major political parties and Election Commission of the country.

PUBLICATIONS

IUCN Nepal. 1998. *Linking Economic Development and Environmental Policy in Nepal.* Kathmandu, Nepal: IUCN Nepal. xii + 71 pp. (cost: US$ 10, includes mailing charge)

Tacit government policies on agriculture, forestry, water, energy and industry have encouraged Nepalese people to use the country's natural resources with open access. The consequent over-utilisation of natural resources has brought negative impacts on productivity by raising production and maintenance costs. This has aggravated the problem of biodiversity conservation. This study attempts to address selected government policies and their implications for environment and to suggest measures for integrating economic and environmental policy in Nepal.

This document is a brief and general situation analysis of the status of environmental economics in Nepal, which discusses economic valuation of the natural resources and environmental services with the help of physical linkages and behavioral approach.

HMGN, Ministry of Population and Environment. 1998. *Environmental Strategies and Policies for Industry, Forestry and Water Resource Sector,* Vol I: Sector Strategies and Vol II: Profiles of Priority Projects. Kathmandu, Nepal: IUCN Nepal. Vol I xxii+54 pp. and Vol II iii+322 pp. (cost: Vol I. US$ 10 and Vol II. US$ 20, includes mailing charge)

Nepal Environmental Policy and Action Plan (NEPAP I), published in 1993, identified the major environmental problems and issues, formulated national environmental policies and recommended respective action plans. These documents are based on the broad policy strategies of NEPAP I. These two volumes address specific sectoral issues and recommend sector-specific strategies and priority areas for action. These are prepared as reference planning tools for the ministries and other developmental actors to guide them in integrating environmental concerns in their plans, programmes and actions.

Pande, B.D. and U. Karki. *Primary School Student Achievement in Environmental Education.* Kathmandu, Nepal: IUCN Nepal. x+111 pp. (cost: US$ 10, includes mailing charge)

This study is part of the pilot test of environmental education resource books. The qualitative and quantitative approaches used in data collection and analysis were the main methods used in this study. This study is a pioneer in the field of environmental education in Nepal. It describes briefly the processes involved in developing environmental education resource books and their pilot testing. It is also useful reference material in designing curricula for school level and teacher training programmes.

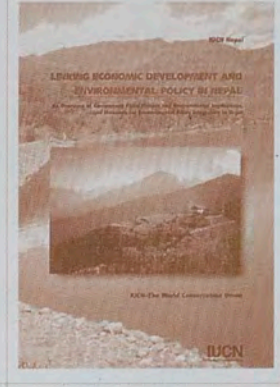
NPC/IUCN National Conservation Strategy Implementation Project. *Report on the End of the Project Workshop of the National Conservation Strategy Impelementation Project.* Kathmandu, Nepal: IUCN Nepal. xi+110 pp. (cost: US$ 10, includes mailing charge)

National Conservation Strategy Implementation Project (NCSIP) launched a number of initiatives from 1989 to 1996 to support the goals and objectives of the National Conservation Strategy. The NCS for Nepal constitutes a comprehensive conservation agenda for the country. NPC and IUCN organised a national workshop on 10 - 11 April 1997 to review the progress made, lessons learned and to chart the future course of action. This document contains the workshop proceedings as well as synopses of the major programme areas. It also consolidates NCSIP's achievements and lessons learned from 1989 to the end of 1996.

IUCN Nepal and NEFEJ. 1999. *Profile of Nepal IUCN Members and Country Office.* Kathmandu, Nepal: IUCN Nepal. 25pp.

This profile can be received free of cost from IUCN Nepal office.

The prices quoted in this review are only for outside Nepal. Publications can be received from IUCN Nepal.



VISITORS

IUCN Nepal organized a field visit to Chitwan and Pokhara for Dr. Uli Lutz and Dr. Karl Herweg from SDC, Bern, during 19 and 25 November 1998 to acquaint them with the field activities of IUCN Nepal as well as to provide opportunities for interaction with the local people. During the visit, Dr. Lutz and Dr. Herweg visited the Souvenir Shop and Visitor Center at Chitwan, where they had community interaction with the Souvenir Shop Users Group members. They also visited local farmers using bio-gas. Proliferation of bio-gas plants in the buffer zone was the result of IUCN initiative to minimize pressure on Royal Chitwan National Park, especially from animal grazing and firewood collecting. In Pokhara, they visited Lekhnath Municipality and interacted with workshop participants who were designing a conservation plan for the Begnas Lake Area.

Dr. Parvaiz Naim, IUCN Pakistan, and Dr. Mohamood Khwaja, SDPI Pakistan, visited IUCN Nepal office during 16 to 20 February 1999. The main purpose of their visit was to provide technical assistance to IUCN Nepal.

Ms. Priya Shyam Sundar from the World Bank visited IUCN Nepal on 9 February 1999 to discuss potential collaboration between IUCN Nepal Environmental Economics Programme with the World Bank initiative Environmental Economics Network.

Prof. Eduard Sekler from Harvard University visited IUCN Nepal on 8 December 1998.

Farewell and Welcome to SDC Officials

IUCN Nepal extends farewell to Dr. Felix von Sury who recently left Nepal to assume new responsibility at SDC Bern. As SDC Kathmandu Resident Coordinator and the person in-charge of natural resource management, Dr. von Sury maintained cordial relations with us throughout his stay in Nepal. We thank him for his valuable support to National Conservation Strategy Implementation Project and to IUCN Country Office.

Congratulations to Mr. Anton Hagen on his assumption of the responsible position of Resident Coordinator of SDC Kathmandu! We are confident that the cordial relations existing between SDC and IUCN Nepal will continue and grow during Mr. Hagen's tenure.

VISITS/TRAVEL

From January 29 to February 2, Dr. Ambika P. Adhikari, Country Representative, was in Delhi to attend the meeting on *IUCN's Regional Policy Network for South Asia* and to participate in the workshop *IPR and Biodiversity Conservation* organised jointly by IUCN, RIS and Kalpabriksha. The Regional Policy Network is now finalizing a proposal for this initiative. The IPR workshop released a position paper at the end of the workshop that will be of interest to all South Asian countries.

The Second International Symposium on Plant Research (ISPR) 1998 was held from December 8 to 10, 1998 in Kunming, China. The symposium aimed to provide a forum for presentation and discussions on the latest advancements in the field of conservation and sustainable use of biodiversity in the mountain areas of eastern and South-Eastern Asia. Participants from Nepal, Thailand, Vietnam, Taiwan, USA and the UK had opportunities to interact with leading Chinese botanists, conservationists, foresters, policy-makers and the students. Dr. Tirtha B Shrestha Programme Coordinator, Biodiversity and Natural Resource Management Unit of IUCN Nepal, participated in the symposium. Dr. Shrestha also presented a paper entitled *Participatory Conservation of Biodiversity in the Himalaya with special Reference to Nepal.* The paper was prepared jointly with Prof. Pei Shengji of ICIMOD.

Mr. Krishna P. Bhattarai, Finance and Administration Head, attended a meeting on "IUCN Financial Management Re-engineering", held at IUCN HQ, Switzerland, during the last week of November 1998.

Mr. Rabin Shrestha, Research Assistant, BNRM of IUCN Nepal, participated in the Policy Level Training on Application of GIS in Natural Resources Management and Rural/Urban Planning jointly organised by NeGIS, IOE, UNEP-AP and ICIMOD from 14 February to 5 March 1999.

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