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India and ASEAN:
Non-Traditional Security Threats

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Securing the Environment

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Introduction

It is clear that environmental resources are the most fundamental of all resources and that, in the medium to long run, financial and economic resources would be seriously compromised if environmental resources were degraded. The natural environment is the basic life support system for human beings, its degradation and destruction takes a heavy toll on human life and wellbeing, making everything else relatively irrelevant.

Natural resources have sparked many conflicts over the years, both within and between nations. Even today many conflicts are based on access and control of natural resources. In some parts of the world it is predicted that there will be water wars and land wars, and even wars over cultivable land and fuel and fodder. Therefore, the security of societies and nations, in the more traditional areas of concern as well, is significantly threatened because environmental security has been neglected.

Therefore it is abundantly obvious that environmental security is critical, not only for the wellbeing of a people and their financial and economic security, but for the law and order situation within nations, and the integrity of their borders with other nations, all of which would be threatened because of conflicts over natural resources.

However, the fundamental challenge before any nation is to raise the status of concern for the natural environment to a level

where environmental security is recognised to be as critical as financial security, internal security or even the security of our borders, and yet not allow environmental matters to become "securitized",[1] by restricting information, access and decision making to a few bureaucratic, intelligence and "security" agencies.

Recent debates, especially after "9/11", have tended to question the efficacy of secrecy in even conventional security matters. Some analysts[2] have even argued that secrecy militates against effective security. In India, though terrorism, internal conflicts and external threats are not new, there is a distinct move towards greater transparency and participation in governance. Perhaps the most visible and dramatic example of this is the recent enactment of the Right to Information Law 2005. While many countries across the world are rolling back on civil rights and transparency, citing the bogey of terrorism, India, in keeping with its stature as the world's largest democracy, has demonstrated its maturity as a democracy by boldly moving forward.

The Right to Information Act 2005

The RTI Act 2005 covers all central, state and local government bodies and, in addition to the executive, it also applies to the judiciary and the legislature. It covers all bodies owned, controlled or substantially financed, either directly or indirectly by the government, and non-governmental organisations and other private bodies substantially funded, directly or indirectly, by the government. It also covers the private sector as it provides the citizen access to all information that the government can itself access from private organisations through any other law currently in force.

[1] A la Oommen, T.K., "Environment and Security: An Overview" in Comprehensive Security: Environmental Dimensions, Delhi Policy Group, Delhi 2005.

[2] See, for example, Roberts, Alasdair, "Transparency in the Security Sector" in Florini, Ann and Shekhar Singh, eds., Transparency, OUP, New York (forthcoming).

The definition of 'information' also includes the right to inspect work, documents and records held by the government, and allows for the extraction of certified samples for verification. The act exempts information, the disclosure of which would prejudicially affect the sovereignty and integrity of India, the security, strategic, scientific or economic interests of the State, relations with foreign States or lead to incitement of an offence; or information which has been expressly forbidden to be published by any court of law or tribunal or the disclosure of which may constitute contempt of court. It also exempts information, the disclosure of which would cause a breach of privilege of Parliament or the State Legislature.

Information, including commercial confidences, trade secrets or intellectual property, the disclosure of which would harm the competitive position of a third party, or information available to a person in his fiduciary relationship, is also exempt. However, there is a public interest override that specifies that such information can be made public if the competent authority is satisfied that larger public interest warrants the disclosure of such information. Also exempt is information received in confidence from foreign governments, or information, the disclosure of which would impede the process of investigation or apprehension or prosecution of offenders, or would endanger the life or physical safety of any person or identify the source of information or assistance given in confidence for law enforcement or security purposes.

Though cabinet papers, including records of deliberations of the Council of Ministers, Secretaries and other officers are exempt, the decisions of Council of Ministers, the reasons thereof, and the material on the basis of which the decisions were made becomes accessible after the decision has been taken, and the matter is complete, or over, unless they are exempt under any other section of this act.

Also exempt is information that might violate copyright, except that of the state, or personal information the disclosure of

which has no relationship to any public activity or interest, or which would cause unwarranted invasion of the privacy of the individual. However, here also it can be disclosed if larger public interests so warrants.

In another clause, it is stated that notwithstanding the exemptions specified in the law or provisions of the Official Secrets Act, 1923, "a public authority may allow access to information, if public interests in disclosure outweighs the harm to the protected interests." In addition, most of the exempt information becomes accessible after twenty years.

The act also has provisions to ensure that all categories of people, especially the rural and urban poor, can access information. Towards this end, the act specifies that fees would be reasonable, and must be waived for persons below the poverty line.

Public authorities are obliged to publish a great deal of information *suo moto*, including relevant facts while formulating policies and making policy decisions. They are also bound to explain quasi-judicial decisions to affected persons and to raise awareness and educate the public about the law.

Right to Information and the Environment

The last hundred and fifty years has seen unprecedented threats to the natural environment. It has also seen growing protests against the destruction of the environment. However, as soon as environmental concerns started being publicly voiced, it became obvious that access to environmental information was critical if these concerns were to be addressed. For one, environmental degradation was taking place at a scale that was impossible to comprehend without aggregated information of the sort usually available with governments and scientific institutions. Second, many of the pollutants that threatened human health or the environment were not identifiable without the sort of scientific instrumentation that was usually not available to common citizens. Third, adverse environmental impacts were often a result of activities that were geographically (and some-

times temporally) far removed from the impact. Therefore, the sources of pollutants flowing down a river were not always obvious to those affected downstream and institutional assistance was required. Similarly, many pollutants (like heavy metals) had long-term impacts that only became obvious many years after they were ingested and information about the source and nature were not easily discernible by the public.

There is also the paradox that, often, people do not even know that they are being polluted and poisoned and, consequently, do not feel the need to seek out information until it is too late. Therefore, it became obvious that the government had a responsibility to keep the public informed (*suo moto*) on environmental matters so that they could be alert to threats.

Historically, most governments have failed to fulfil this responsibility and the consequent human and environmental disasters have sowed the seeds of proactive environmentalism. Also, in the absence of adequate government accountability even after such disasters, it has become all the more important for civil society groups to proactively seek out pertinent environmental information. Environmental movements have, consequently, been historically significant in ensuring that a large number of countries today have laws enabling access to information. Transparency has also become the war cry of environmental groups around the world and consequently, environmental movements are voracious users of transparency laws.

In India, among the first examples of a legal demand for the right to information can be found in an intervention filed in the Supreme Court of India in 1984, by an NGO called Kalpavriksh, relating to the storage of hazardous chemicals without proper safety regulations. The NGO demanded that the court lay down the right to information as a fundamental right. The Bombay Environment Action Group raised this demand again in the Bombay High Court, in 1986, regarding building by-laws.

Some Critical Categories of Environmental Information

Environmental Impact Assessments

In many countries (and for most donor and funding agencies) there is a requirement to get prior environmental clearance for projects and activities that could have an adverse impact on the environment. These include industrial, power and mining projects, dams, roads, housing colonies, ports, harbours and jetties, and chemical and nuclear storage facilities. The designated regulatory authorities give environmental clearances usually on the basis of an environment impact assessment (EIA).

Past experience indicates that it is critical to conduct EIAs in a transparent manner, proactively sharing data, and details about the process and methods, with concerned people and civil society experts. This is partly because members of the public, especially local residents of affected areas can often provide valuable local information and put scientific data and trends into perspective. However, it is also important because most often there are powerful commercial and other vested interests supporting the proposed projects and activities. To ensure that social and environmental concerns are not compromised, the processes of decision-making must be transparent and accessible to stakeholders.

Many countries (and agencies) have made it mandatory to have public hearings, with prior distribution of relevant data, as a part of the EIA process. This has proved to be a very important methodology especially in the poorer parts of the world where literacy rates are low and modern methods of communication have not proliferated. Nevertheless, many concerns about the EIA process persist. Some of them are listed below[3].

I. Appropriateness of Environmental Impact Assessments

There is a general paucity of data, especially credible independent data, on environmental aspects relevant to the assessment

[3]Summarised from Large Dams in India, edited by Shekhar Singh and Pranab Banerji, IIPA, New Delhi, 2000.

of projects. Though there are Botanical and Zoological Surveys in India, and a Ministry of Environment and Forests along with state departments of environment and forests, detailed information on terrestrial and aquatic ecosystems for almost all of the potential impact areas of projects are not available in advance of the project being proposed. Therefore, much of the data required are collected after the project has been proposed and the environmental impact assessment initiated.

This results in a number of problems. As the environmental studies are usually initiated very late in the day, there is a tendency to hurry them along so that the environmental clearance and the consequent completion of the project are not delayed. Considering that data have often to be collected from scratch, this results in the use of unscientific methodologies and a resultant inadequate assessment. An example of this is the Tehri dam where the fauna and flora studies were not even initiated by the time the dam was cleared, and were finally taken up only after the passing of the deadline prescribed for completion in the clearance letter. The fact that they were taken up at all was probably due to public pressure, in the form of public interest litigation in the Supreme Court of India.

As a result, the study on fauna was completed within six months of initiation, though scientifically at least two annual cycles must be studied before any assessment of the fauna can be made. The botanical studies were done with similar haste and carelessness. Similar experiences are recorded from most of the other projects where such studies have been undertaken at all. Unfortunately, there is no system by which basic environmental parameters are studied much before the project is posed for clearance or as soon as potential sites have been identified.

These studies are done at the cost of the project proponents and are a part of the project cost in the calculations regarding the economic viability of the project. This results in a tendency to try and do them as cheaply as possible, thereby cutting corners and compromising on quality.

The project proponents are interested in getting their project cleared as soon as possible and with the least costs. Consequently, there is pressure on project consultants to produce a report that either shows no adverse environmental impacts or suggests very cheap (and, as seen earlier, usually ineffective) methods of mitigating these impacts. The problem is exacerbated by the fact that the MoEF and its EAC have little ability to independently verify these reports and the data they contain. They can, at best, check up superficially on a few aspects or refer the matter back to the same consultants to review the data provided. This also results in delays in the assessment process that, in turn, makes the MoEF susceptible to criticism and to pressure for early clearances.

Unfortunately, there is no system by which the financing of environmental studies can be done by an independent institution like the Planning Commission and debited on a fixed percentage basis to project cost, thereby freeing the project consultants from pressures by the project authorities.

II. Lack of Retrospective Assessments

Apart from the fact that for all the projects designed and initiated before 1978, none of the environmental impacts were assessed, there has also not been any retrospective assessment since they were constructed. Though it might no longer be possible to fully assess many of the adverse impacts, especially those on terrestrial and aquatic biodiversity, many of the other impacts could be assessed even today.

The need to conduct retrospective assessments has often been highlighted by various agencies and experts. The Working Group for the eighth plan on Major and Medium Irrigation Projects says, in their report "...studies are necessary in respect of the environmental impacts created by the projects. There is a considerable divergence of opinion in the country regarding both the beneficial and adverse impacts created by the major and medium projects. However, it is based mainly on the experience

of projects in other countries. There is hardly any realistic data on the performance of Indian Projects."

III. Political and Administrative Pressures

The process of environmental impact assessment has been subjected to political and administrative pressures almost from the start. Pressure is brought upon the professional project consultants to prepare EISs in a manner such that the project is cleared. Pressure is brought upon the EAC to recommend the clearance or rejection of projects. Also, the MoEF or the Government of India rejects recommendations of the EAC, without assigning any reasons.

A well-known case is that of the Tehri Project, in Uttar Pradesh. The EAC that considered the project was unanimous in recommending that the project should not be accorded environmental clearance (1990). However, despite that, the government decided to give environmental clearance without assigning any reasons for rejecting the advice of their own expert committee. In his submission before the Expert Committee set up by the Power Ministry of the Government of India to assess the rehabilitation and environmental aspects of the Tehri dam (1996-97), the then Secretary of the MoEF said that:

"...records indicate that the decision for conditional clearance of the Tehri project was taken not by the MoEF, which did not favour clearance, but at a higher level."

The minutes of the said Expert Committee go on to record that:

"The Secretary was also asked to comment on how the MoEF could have determined that the Tehri Project was environmentally viable, and consequently given environmental clearance, when the various studies which were to assess the environmental impact of the project had not been completed. The Secretary agreed that the MoEF could not determine the environmental viability of the project prior to the studies being completed and reiterated that environmental clearance had not

been given at the behest of the MoEF but at the behest of a higher level."

Similarly, in the case of the Narmada (Indira) Sagar and Sardar Sarovar projects, the MoEF categorically stated, in writing, that the projects were not fit for according environmental clearance. Yet, at the highest level, the decision was taken to grant them conditional clearance with a *pari passu* clause.

In other cases, projects were initiated much before clearances were received. This served to pressurise the Government of India to clear the project as so much expenditure of public funds had already been incurred.

IV. The ability to Enforce and Monitor Conditions

Projects that are cleared are basically of three types.

First, there are those, which are unconditionally cleared, which means that the project proposal, in terms of the anticipated environmental impacts and the proposed preventive and mitigating measures, is found acceptable.

The second (a large majority) are those where certain conditions are specified while clearance is being granted and, in that sense, the clearance is conditional.

The third are those where the required environmental assessments have not been carried out but clearance is given with the understanding that the required environmental studies would be completed within a specified period and that the preventative and mitigating measures would be carried out *pari passu* with the construction work.

For each of these types, it is essential to monitor that their environmental impacts are within the anticipated limits, that the preventive and mitigating measures proposed by them or stipulated by the MoEF are being carried out properly and in time, and that they are having the anticipated effects. For the third type (with *pari passu* clearances), it is also necessary to ensure that the studies are carried out within the stipulated period and that the viability of the project is assessed as soon as

possible and certainly before it has reached a stage where it cannot be abandoned. Where the project is found viable, it then has to he ensured that appropriate action plans are formulated and implemented in time to prevent and mitigate all that is preventable and mitigable.

The MoEF must also have the willingness and capability, as is implied by the law, to withdraw environmental clearance from, and thereby stop construction of, projects where the prescribed environmental conditions are not being complied with. It must also have the willingness and the ability to scrap projects, even after their initiation, if they prove to be environmentally non-viable.

The ability of the MoEF to monitor compliance to the stipulated conditions is limited. It is expected to monitor this through its regional offices, which, in turn, rely mainly on the returns submitted by the project authorities themselves. And even this system of monitoring has come up only in the last five years or so.

Far more serious is the inability of the MoEF to enforce compliance. The few cases where the MoEF has revoked clearance are related to other violations or technical difficulties; but on environmental grounds, no project in the country had been stopped and the appropriate agencies punished.

Given this state of affairs, the people have various legitimate concerns that can be addressed at least partially by seeking information and explanations from the regulatory authorities. These concerns relate to:

A. Environmental Clearances

- Whether the environmental costs and the benefits of the project have heen properly assessed?
- Whether the planning, action and investments required to minimise the environmental costs have been taken care of?
- Whether other, less destructive, alternatives have been considered?

- Whether various knowledgeable and/or concerned persons, including the people likely to be adversely affected, have been consulted appropriately and with adequate preparation and information?
- Whether the proposed project (or activity) is environmentally viable and whether its benefits justify the environmental costs that will be incurred?
- Whether the level of human displacement involved is justified, or whether it can be prevented or minimised?
- Whether adequate planning has been done and provisions made to appropriately rehabilitate the project affected persons?
- What, if any, are the conditions under which environmental clearance has been given?
- Are the stipulated environmental conditions being fulfilled by the project?
- What is the retrospective status of the project in terms of its environmental impact and its benefits: was the environmental clearance justified in retrospect?
- Are the benefits of the project being equitably distributed, especially keeping in mind those who suffered the adverse environmental consequences?

Apart from providing the information, explanation and assurance sought by the people, some further measures that can be taken include those listed below.

Before a project or activity is appraised for its environmental impact, a social audit of the proposal should take place. Such a social audit should culminate in a public hearing, involving all those, from among the affected population and other concerned persons, who want to participate. The concerned government authorities must make the required arrangements to inform people about the social audit and hearing, and to organise them in a manner such that it is convenient for the largest number of people to participate.

The social audits should be in two phases. In the first phase the project must be described and explained to the people. Booklets must also be distributed in local languages and, for the benefit of those who are not yet literate, there must also be a clear and comprehensive presentation in the local language.

The second phase should involve a public meeting, to be held after a week but no later than a month after the distribution of information, and in this meeting the views and objections, if any, of the people must be recorded. Even where some objections are either answered or considered unfounded, they must still be recorded for posterity.

Where, despite public objections, environmental clearance is accorded to a project or activity, the public must be informed of the rationale and conditions of the clearance, through a public meeting and through the distribution of appropriate booklets in local languages, within three months of the clearance being accorded.

Here, also, information must be provided at least two weeks in advance of the meeting giving, in writing, the requisite details in local languages. However, at the meeting the basis and content of the proposed clearance must also be explained, especially for the benefit of those who are not yet literate. Copies of the proposed clearance letter and of other documents, like the proposed rehabilitation package etc., must also be distributed and made accessible at various designated levels, which are specified later.

The details of the environmental impact statement and appraisal, and of the clearances and their rationale, must also be made available at the MOEF, in Delhi and in their regional offices, in English. All these should also be available for inspection and photocopying, at cost, in these locations and in the department of environment and/or pollution control board offices at the concerned state headquarters. They should also be available for inspection and photocopying at the concerned dis-

trict headquarters, with all the designated information officers, and similarly at the concerned sub-divisional headquarters, in local languages.

The regional offices of the MOEF should be required to monitor compliance with conditions of clearance. Their annual compliance reports must also be made available to people at the sub-divisional, district, state, regional and national levels. Where a concerned person wants details of compliance, like levels of emission or effluents, or expenditure figures, or area forested, etc., these should be made available for inspection and photocopying at the various designated levels.

The monitoring of the compliance to conditions of clearance and other environmental standards should compulsorily involve a social audit along the lines indicated above.

Various bodies of the government, including the MOEF, the Comptroller and Auditor General and the Public Accounts Committee of the Parliament, are charged with the responsibility of assessing the various costs and benefits of projects and activities. Their reports, in so far as they are relevant to a specific project or activity, should also be made available for inspection and photocopying at the various designated levels.

B. Forestry Clearance

The major issues that might concern the public are:

- What is the basis on which forestry clearances are given or rejected?
- Why are there delays in disposals, especially for those cases where very small areas of forestland are involved?
- What are the basis on which any specific case has been accepted or rejected and the conditionalities thereof?
- Whether the information provided in support of a proposal for diversion was comprehensive and accurate, especially in terms of the social and biological value of the forests involved, and the availability of other sites, which were either outside the forest or less valuable?

- Whether the conditions specified as part of the clearance, especially about the time-schedule for felling of trees, for land management and for compensatory afforestation, were appropriate?
- Whether these conditions are being fulfilled?

In addition to the provision of information, the following steps need to be taken:

Detailed guidelines specifying the criteria used to evaluate requests for diversion of forestlands must be published in English, Hindi and other major languages.

Where a proposal for diversion has been received, social audits and public hearings must be organised in the manner prescribed for environmental clearances. However, when the area involved is less than 5 hectares, a simplified procedure can be adopted.

The information regarding the proposed forest area, including details of its ecological profile, its social value, and the use that it is proposed to be put to, should be publicised. A copy of the state government's certificate, that non-forest land is not available for the purpose, must also be disclosed at the public meeting and made accessible at the various designated levels.

Where a proposal has not been disposed of within three months, a statement giving the time taken at various levels in processing the proposal should be made public within four months of tbe submission of the proposal and then every three months thereafter, till the proposal is finally disposed of.

Where a case has been approved or rejected, the basis for the decision must be made available at the earlier specified levels.

Monitoring reports prepared annually by MOEF assessing the level of compliance must also be made available at the various levels within two months of the end of the reporting period.

The monitoring of compliance must also involve a social audit of appropriate complexity.

Transparency and Pollution Control

It is important to monitor the ambient levels of water, air and noise pollution. It is equally important to make these readings public, especially in areas where levels are above the maximum permissible standards. Along with the levels of pollution, it is also important to publicise the possible adverse impacts of the pollutants and details of protective measures that people can adopt. Not only would this allow people to protect themselves but would also raise public awareness about pollution and motivate them to demand its control.

It is even more critical to publicly disclose details about pollutants emanating from specific sources, like industries, mines, power plants, or other production and service units. In most countries there are laws that regulate point pollution, from specific sources, and making emission statistics public would not only help in identifying the violating units but would also build up public pressure, and even market pressure, against them. The *suo moto* publication of pollution statistics, on a daily basis, could be a good way of ensuring regulation through disclosure where a potential polluter desists because there is a constant threat of public disclosure.

Public concerns regarding pollution could include:

A. Pollution from Specific Sources:

- What industries and other enterprises have been given a no-objection and/or a compliance certificate, and with what conditions?
- What is the frequency and result of the monitoring of these industries and enterprises, and who are on the defaulters list?
- What action is being taken against the defaulters?
- What action, if any, is being taken by the government to prevent pollution?
- Who is likely to be affected by the pollution being caused by each industry or enterprises (specifying location and catego-

ries of vulnerable human populations – e.g. old people, children etc., and of animals and environment)? The nature of the pollutant, its effect and its possible severity should also be specified.

- What are the precautions and/or preventive or mitigating measures the public can/should take?

Apart from providing the required information, the concerned authorities should make public through the print and electronic media, through published booklets and, in rural areas, through public announcements:

- Names, locations and the nature of possible pollution from each industry or enterprises, along with details of the no-objection and compliance certificates along with the conditions. (In each city and town or village that could be affected-comprehensive list- once every year plus details of any new units every month).
- The frequency and results of monitoring, action that government is taking and action that the people can take. (To all those likely to be affected – once a year, except where the standards are violated. In such cases, once a week till such time that the violations are stopped).

In addition, the pollution control boards must periodically make public all the various standards prescribed, their rationale, and indicators that can be demonstrated easily to the lay person (through smell, taste, sight etc.), when the standards are being violated.

B. Enquiries and Information

In addition to this information that the government must obligatorily make public, there has to be an institutional mechanism that can answer queries and provide information on request. For the purpose, the state government should designate an environmental information officer in every sub-division. Where officers of the pollution control board or the department of environment are not available, forest or other officers may be given

the responsibility of entertaining enquiries from the public. These esquires can be passed on to the board or department and the responses fed back.

All information relevant to the prevention and control of pollution, or relating to ambient or source-specific pollution levels, and to the nature of pollution, its impacts, government action and possible action by the people should be accessible to everyone. The only exception could be information that is protected by law and whose publication would violate the patent rights of a company or individual, provided that the withholding of such information, in the opinion of the designated authority, does not endanger public safety or environmental integrity.

C. Information to Public Authorities

Civil authorities, the police and, in the case of cities and towns, the municipal authorities should be provided, by the holder or user of such substances or processes, complete information regarding the nature and severity of possible pollution, its indicators, effects on humans and on the environment, and preventive, integrative and curative measures.

The pollution control boards must also inform such bodies every time either ambient or source-specific levels of pollution have exceeded the prescribed standards. Where such pollutants are of immediate danger to human health or the environment, this information must be provided on a daily basis till such time as the prescribed levels have been restored. When the danger is only if the pollution levels remain high for a prolonged period, of at least one month, then weekly alerts must be given.

Hospitals and other medical institutions, including registered medical practitioners, must be provided complete information about possible adverse impacts of the pollutants on human health, the nature of these pollutants and the mitigating and curative methods available. Where such pollutants are source specific to an industry or enterprise, the provision of such information should be the legal responsibility of the holder or user

of the substance or process. Where it is non-point, the pollution control board should ensure this.

D. Chemical and Nuclear Hazards

Where hazardous substances are being used, stored or transported, it is obligatory on the part of the concerned agency/ pollution control board, to inform all those who might be affected, of the nature and location of the hazardous substances being used, stored or transported, their possible impact on human health and/or on the environment, the details of possible leaks or exposure and the indicators thereof, the preventive steps being taken by the government and the preventive, mitigating or curative steps that can be taken by the people. Such information should also be provided to the civil authorities and other concerned government agencies, and to hospitals and other medical facilities and registered doctors.

Where an industry or enterprise is using hazardous processes, even if it does not involve hazardous substances, similar conditions should apply.

Transparency and Biodiversity Conservation

In much of the world the conservation of wild biodiversity is primarily attempted through the setting up of national parks and wildlife protected-areas where human use is totally prohibited or seriously restricted. Also, the hunting, trapping, injuring or even domesticating of endangered species is regulated or banned under law.

Though these measures are mostly effective, they take a heavy toll on local communities that have historically been dependent on these areas or species. Therefore, it is important that there be prior information and consultation about areas to be closed up or areas and species for which restrictions are to be imposed. The proposal to close up areas or protect species must make clear the scientific basis for doing so and spell out the measures that need to be taken to conserve the site or species.

Many of these protected areas face huge pressures from populations looking for cultivable land, from real estate developers and tourist operators, from hoteliers and even from logging and mining interests. The remoteness of most of these areas and the paucity of staff and resources often makes the task of policing these areas very difficult. To counteract the various commercial pressures and to ensure that the areas are properly managed, it is important to share information with the public, especially the local communities, about the management objectives and the status of each protected area. The disclosure of aerial photographs and remote sensing imagery, showing the extent of deforestation, has in many countries significantly raised public support for conservation measures.

Similarly, many endangered animal species have high commercial value. Elephants are poached for their tusks, rhinos for their horn, leopards and lions for their pelts and tigers for their bones. Many birds are illegally sold as pets and many other species of endangered plants and animals command high prices as food, decoration pieces, as pets or for medicinal use. Protecting these species is only possible with the active participation of local communities and civil society groups, and their involvement requires transparency and the active sharing of information.

The major areas of public concern could be:

- Prior information and consultation about areas to be closed up or areas and species for which restrictions are to be imposed.
- Whether the understanding of the historical and current ecological processes associated with a site or species is adequate?
- Whether the basis on, and methods by which, areas or species are proposed to be conserved are appropriate?
- Whether adequate provisions have been made to meet those basic needs of the community that might get disrupted because of conservation oriented restrictions?

- Whether the conservation of areas necessarily requires the relocation of people and, if so, what arrangements have been made for this?
- What access and activities are being allowed in closed areas, to whom, and on what basis?
- What are the threats being faced by wildlife, in specific sites and for specific species, and what is the government doing to minimise these threats?
- Who have been permitted to hunt or collect species, why, where, and how many?
- What violations of the law have been detected, by whom, and what action has been taken by the government?
- What is the status of the animals and their habitat, and what are the trends in their populations and conservation status?
- Why are applications for compensation due to injury or damage by wild animals delayed or disallowed?
- What is the basis on which rates and levels of compensation are determined?
- What was the expenditure on specific areas or schemes and what was the outcome?

In addition to providing information, some of the other steps required to meet these concerns are:

Before an area is constituted into a national park, sanctuary, or reserved/protected forest, three months prior notice must be given to the affected populations and their views and objections, if any, heard and considered. The notice must be both in writing, through the distribution of booklets in local languages, and through a public meeting. At least a month's time must be given for the people to consider the implications and then a second public meeting should be convened to listen to their views, which must be considered and efforts made to accommodate them as far as possible.

Similarly, proposals to grant protection to a species must also be considered only after the public has been informed, through the mass media, and their views and objections heard and considered.

The proposal to close up areas or protect species must make clear the scientific basis for doing so and spell out the measures proposed to be taken to conserve the site or species. All these must also be made public and public opinion considered.

Where a decision is finally taken to protect a site or species, there must be, in advance of this protection coming into effect, a public announcement of the dislocation such protection is anticipated to cause in the life of those communities who depend on such sites and/or species for meeting their basic needs. The measures that the government intends to take to mitigate such dislocation should also be announced. Both the Wild Life (Protection) Act and the Indian Forest Act provide for the intention of the government to constitute a national park, sanctuary, or reserved forest to be made public, and for the affected people to prefer their rights. This information, along with the recommended investigation by the collector, can be used to determine the level and type of dislocation for at least site-specific proposals.

While explaining and discussing with the people the proposal for closing areas or restricting access and use, the implications of this on the local communities and others who might depend on the area, must be made explicit. Where one implication is the proposed relocation of people living within the area, the rehabilitation programme must also be explained in specific detail so that the people can consider it while formulating their responses.

Once an area has been given special protection status, there must be a yearly publication of details regarding access and use allowed, giving names of the parties, the nature of permission and the rationale. This information must also be accessible throughout the year to any interested person.

The government must produce an annual status report for each of the protected areas and each protected species, outlining the threats, current status, conservation trends, and action taken during the year to protect the site and species. Whereas

this information can be published in an aggregate form at a national level, it must be disaggregated at the state, division and site level.

A statement listing the violation of laws relating to biodiversity and wildlife conservation, and giving details including the identity of the suspect, the nature of violation and the action taken, must be published each year at national and state level. In addition, this information, in an updated form, must be available at each site, forest division and at the state forest headquarters.

Details regarding compensation cases must be made public each year by the concerned DFO/park or sanctuary director. Also, such information must be accessible through the year, in updated form, at the divisional/PA headquarters.

Details of the budget for each division/PA must be published at the beginning of each year, in local languages, giving a scheme wise break-up and the details of each scheme. At the end of the year there must be a public meeting where the expenditure incurred during the year is made public. This information should then be accessible for two years for anyone to see or photocopy. The information should include details of casual employment.

Future Directions

As pressure on land and other natural resources grows, so does the opportunity cost of conserving wilderness areas. In this era of liberalisation and globalisation, governments are joining hands with national and multi-national commercial interests, often in violation of the spirit if not the letter of national policies and laws, to open up natural areas and resources for commercial exploitation. The one thing that constrains unlimited access to these resources is public opinion, expressed through the media, through court cases and even through mass public demonstrations. But for such public opinion to be effective, the people need continuing access to information, and for this very reason there is growing pressure to curtail access. Transparency

movements around the world would have to ensure that access to environmental information is not compromised.

Environmental and medical sciences are rapidly becoming more sophisticated and complex. This is an era of specialisation when more and more people understand less and less. Yet, if informed and democratic decision-making has to take place, information regarding the environment has to be demystified and made accessible to the people. This is the next challenge facing transparency movements across the world.

Environmental impacts cannot be confined to the political boundaries of nation states. Pollutants from one country often travel to others, activities within a country can affect the environment of another and the depletion of the ozone layer or changes in climate due to the release of greenhouse gases affects us all. Therefore, in environmental matters, access to information must be global. Yet, there is currently a tendency to focus on national laws. It is the challenge of the future to develop a global protocol that binds all nations to openly share information about the environment with every citizen of the earth.