

UCLA

Electronic Green Journal

Title

The Sustainable Use and Conservation of Natural Resources: A Case Study of Pakistan

Permalink

<https://escholarship.org/uc/item/93v3b14z>

Journal

Electronic Green Journal, 1(16)

Authors

Mahmood, Sohail
Mirza, Umar Karim

Publication Date

2002

DOI

10.5070/G311610460

Copyright Information

Copyright 2002 by the author(s). All rights reserved unless otherwise indicated. Contact the author(s) for any necessary permissions. Learn more at <https://escholarship.org/terms>

Peer reviewed

The Sustainable Use and Conservation of Natural Resources: A Case Study of Pakistan

Sohail Mahmood

Quaid-i-Azam University, Pakistan

Umar Karim Mirza

Pakistan Institute of Engineering and Applied Sciences, Pakistan

.....

Pakistan is suffering from a major challenge stemming from the twin problems of increasing poverty and environmental degradation. There is ample evidence to suggest that Pakistan is failing in its battle to protect its environment. Pakistan is facing a crisis because of a rapidly eroding stock of natural resources. Pakistani forests are dwindling, now constituting less than 5% of the nation's area (Pakistan country report, 1994). With one of the highest rates of deforestation in the world, Pakistan's forests are in urgent need of protection and conservation (*Forests*, n.d.). All available evidence indicates that the overall situation of Pakistan's environmental challenges is very serious. The problems of environmental degradation are getting worse, not better. The most serious issue in natural resources management is Pakistan's rampant population growth. Pakistan's current population is about 140.5 million, almost 2.3% of the world population, making it the seventh most populated country in the world (Government of Pakistan, 2001). The stark reality is that unless the rate of its population growth is brought under control, Pakistan will not be able to provide for the basic needs of its teeming millions. Moreover, the scarcity of food and water might cause a crisis of public security making the country difficult to govern. Pakistan faces a formidable challenge in tackling the twin problems of poverty and degraded environment. There is some recognition in the United Nations and other international agencies that much more needs to be done for countries like Pakistan. There is no doubt that poverty has increased in the country. According to a report in *The News* published from Islamabad (Malik, 2000, p. 1), 40 million people live in poverty in Pakistan, out of which 27 million live in extreme poverty.

The forests of the country are being increasingly threatened because of various factors. Similarly, the management of biodiversity, protected areas, and wildlife in Pakistan suffers from a number of problems such as:

- a. Severe shortage of trained professionals to administer the declared protected areas, most of which exist on paper only.
- b. Most government regulations are punitive in nature, and have failed to relate locals to the management of natural resources. Local communities have no ownership, and therefore have little incentive to

ensure the sustainable use of natural resources or carry out regulations. The locals do not trust the government agencies, which has stalled past conservation efforts.

- c. A lack of general awareness of the technical aspects of managing biodiversity, protected areas, and wildlife holds back capacity building.

In the face of daunting problems there have been only a few notable environmental initiatives. The efforts of a few organizations like Agha Khan Rural Support Program (AKRSP), the World Conservation Union (IUCN), World Wide Fund for Nature (WWF), and the Government of Pakistan (GOP) have achieved some success in the field. The GOP has taken several steps to arrest further environmental degradation through a National Conservation Strategy (NCS) adopted in 1992, followed by an Action Plan for 1993-1998. Later, provincial strategies were also prepared. The IUCN played a leading role in the formulation of not only the NCS but also the Sarhad Provincial Conservation Strategy (SPCS). In addition, the Northern Areas Conservation Strategy is also being prepared with its assistance. A central feature of IUCN operational style is the considerable emphasis on undertaking the participatory and consultative approach to decision-making. Though tedious, these approaches have been incorporated in all IUCN programming. The participatory mechanisms are also institutionalized by the AKRSP in the Northern Areas. This effort has also attracted worldwide attention for its high success rates. There are other success stories also. The point is, that in an overall dismal scenario there is still hope. There is definitely a glimmer of light in an otherwise clouded sky.

Reform Strategy

The Government of Pakistan (GOP) attaches the utmost significance to conservation and sustainable development. It already has formulated a National Conservation Strategy (NCS) and one provincial conservancy strategy as well. For the first time, environmental impact assessment studies are being introduced for all large-scale industrial and development projects. Programs are being launched for the capacity building of the Environment Protection Agency to effectively implement the policy. The GOP is promoting actions to conserve the environment. The GOP will assure that sustainable development takes place from now on. The NCS will be implemented as a high priority. An action plan for implementing the NCS in some areas has been prepared by the Ministry of the Environment and Local Government. Given the limited resources, the GOP realizes that it itself could not carry out the task. Recently the GOP has been emphasizing the integration of environmental concerns in the development planning in Pakistan. Another evolvment is the gradual growth of environmental awareness in the country. Also, the participatory approach towards sustainable development is gaining ground.

The World Conservation Union (IUCN) is a path breaker in this trend in the country. Other than the IUCN, the Agha Khan Rural Support Program (AKRSP) in their Northern Areas program has also institutionalized the participatory mechanisms. In particular, the efforts of AKRSP in the Northern Areas have attracted worldwide attention for its innovations and high success rates. Plus, a few other organizations like the World Wide Fund for Nature (WWF) have achieved some level of success in the conservation field.

The IUCN has also noted that increasing demands on forest resources and financial restraints on forest departments has made it apparent that governments on their own cannot protect and manage public forestlands. Simultaneously, demands for democratization and decentralization have accentuated citizens' demands for engagement as forest managers. Previously, several forest-protected areas were created without sufficient relation to the needs of the local communities, or their first-hand knowledge of their own forest ecosystems. Therefore IUCN is working in several areas to re-establish the balance between conservation necessities and local community needs. Perhaps the best example of such collective action is that of AKRSP in the Northern Areas of Pakistan. Primarily, the success of the AKRSP stems from the respect that it commands in the area, having made sustained efforts in introducing participatory management philosophy and innovative techniques in the field. The manner in which the AKRSP is able to harness the energy of countless village organizations for the purposes of sustainable development of natural resources is indeed impressive. It has been noted that the AKRSP's flexibility and grass-roots emphasis greatly contributed to its achievement. The participation by NGOs must become an integral part of rural development. A starting point for development should be building institutions through ownership. Thus, by involving beneficiaries at every phase of their development, a sound future relationship is established. Given AKRSP's success, other organizations and the GOP itself must study the methodology and techniques introduced by it. Stringent efforts should be made to replicate the model all over the country, if possible. In addition, the AKRSP model should be further improved for attaining best results in the field. Previously the AKRSP experiment laid the foundation of a thriving collaboration between the NGOs, donors, and GOP in development efforts in the Northern Areas. Later the National Rural Support Program (NRSP) followed this model.

The GOP claims to attach significance to conservation and sustainable development of natural resources in the country. An action plan for implementing the National Conservation Strategy (NCS) has been prepared in four priority areas. Earlier, the NCS had recommended several program areas for priority implementation. Nine of these program areas relied on community organizations for their implementation. The NCS envisaged the GOP providing

a policy guideline, and contributing monetary resources and an enabling environment. Local governments and NGOs played an important role in community organization. The GOP's National Conservation Strategy claims that the most significant role for local government was to develop a "working relationship" with community organizations. It suggests that district development plans should consult these organizations so that their concerns are included in the plans. The strategy document (Government of Pakistan, n.d., p. 343) envisages the establishment of a two-tier structure at the district-level.

(1) The District Program Office will perform management and program planning functions, and provide village organizations with initial monetary assistance. Primary responsibilities include:

- a. Coordination with federal and provincial departments, local governments, and NGOs
- b. Monitoring and evaluation
- c. Project formulation
- d. Research training and development
- e. Coordination and supervision of implementation of projects in the field

(2) Technical Support Units (TSU). The most important function of the TSU is to assist in the formation of effective local government organizations as the main vehicle of development activity. Responsibilities, given in the NCS document, shall include:

- a. Performing budget estimates and land use surveys
- b. Conducting surveys of physical infrastructures
- c. Information collection on the use and status of natural resources

The NCS also suggested that the local governments, as per requirements, fund community organizations. The district Roundtables will monitor the allocation of funds given in the NCS document. The implementation of NCS will remain problematic because of shortage of skills needed in five critical categories. The GOP realizes that it alone cannot carry out the huge task. Therefore, for the purpose of implementing the NCS, the GOP seeks collaboration with international conservation agencies like IUCN and WWF; donor agencies like UNDP (United Nations Development Programme) and UNIDO (United Nations Industrial Development Organization); and domestic NGOs like Sungi Development Foundation, Sustainable Development Policy Institute, and so forth. Obviously, the primary responsibility for the preparation of the action plan is with the GOP. It plans to take measures to curb the wasteful exploitation and consumption of natural resources. Much work needs to be done and done quickly. If the GOP wishes to promote the

sustainable development of the country's natural resources then, among other things, its new decentralization plan needs to be effectively implemented.

Effective decentralization is synonymous with effectiveness, openness, transparency, accountability, and predictability. Therefore, immediate measures should be taken to institutionalize these values at the local government level. Given the comparative success of the consensus-building and participatory approach introduced in the field by IUCN, and the overall success rate of active community participation in attaining environment policy goals, the introduction of a formalized mechanism is absolutely critical for further development. The whole idea is to institutionalize the partnership approach at the local level. This is also a part of the "bottom-up" strategy. Comparative research indicates that natural resources are best conserved when a participatory approach is adopted (*Caring for the earth*, 1991), which includes:

- a. The government and local communities join hands in developing the policy.
- b. The local community is allowed to participate in the decision-making.
- c. The local community has certain acknowledged rights to the natural resources under consideration.

Issues in Devolution and the Institutionalizing of Participatory Approaches for Sustainable Development

The concept of decentralization refers to the devolution of both responsibilities and resources to relatively independent and autonomous sub-national authorities that are accountable not to any central national leadership of the country but to the citizens of the region and/or community. Devolution works elsewhere and can also in Pakistan. Local governments are concerned essentially with providing services for the local communities like municipal services, primary education, and health care. These services are obviously very essential and local governments are providing the citizens with open access to get the services they desire. Local problems are best handled locally. There is a need to apply the subsidiary principle in government. The principle simply says that decision-making should happen at the lowest level possible. In other words, decisions should not go to an higher level (provincial government, or even worse the federal government) than absolutely necessary. Decentralization is the only viable strategy to solve governance problems in Pakistan because it is at the local level that people contact government departments in meeting their daily needs. Accordingly, there is a need for an effective third tier of government backed by sufficient resources to meet public needs. Effective local participation in the design and implementation of a regional conservation strategy requires a willingness to

listen and learn from the locals. This requires an attitude change in our bureaucracy. For too long a period in our history the highest bureaucratic officialdom has acted as *mai baap* of the people, where they were more of a ruling and guardian class rather than anything else. This needs to change. It is hoped that the new "revolution from the top" lead by General Musharraf shall turn things around. Realistically, change shall be slow and gradual. Thus, the Roundtable is envisioned to be very much a part of the revolutionary change agenda pursued by the Musharraf regime. To its credit, the military regime has acknowledged the significance of the local government system and has shown ardent desire to devolve political power and decentralize administrative and financial authority to local governments in the country.

Development programs that allow the people to participate in the decision-making process are more likely to succeed. Plus, the public ownership of a program is also more likely to ensure its sustainability. In sum, proper participatory management of natural resources has worked in other places. It can be done in Pakistan also. *The World Development Report 1994* notes that "consumer voice" mobilized through groups can become significant force in reform and reorganization (International Bank for Reconstruction and Development, 1994). These groups can impart feedback and monitoring to curtail abuses and hold government officers accountable to the public.

Lessons Learned in Natural Resource Management Practices

Another lesson for better natural resource management is the Joint Forest Management program in Bengal, India. The program brought together an unusual coalition of village communities and Forest Department officers. Bureaucrats believed that the traditional protection measures were not working and began negotiating with the villagers. The villagers formed their own Forest Protection Committees to help them negotiate. The foresters' union decided that cooperation with local people is the only realistic way of solving the issue. The association promoted a dialogue between the frontline workers and the villagers through workshops and lobbied the forest ministry for a more "collaborative style" of forest management. Finally, all three major stakeholder groups agreed to the Joint Forest Management program. The moral of the story: "the broader the coalition, the more likely its success in bringing about decisive change." If the Indians can build such broad coalitions for their Joint Forest Management projects, why cannot we in Pakistan? Will Indian-style joint forest management strategies work in Pakistan? The forest experts need to debate such questions. Meanwhile, more research needs to be undertaken to ascertain the possibility of adapting foreign methodologies on forest management. Most probably, IUCN has even better participatory models in its collective knowledge-house for our specific use. Experts have to

further ponder these issues.

Pakistan has its share of success stories too. The example of AKRSP has been described earlier. The AKRSP model may be copied for attaining best results in the field. Privatization is less relevant, perhaps, to drainage and irrigation, which must be carried out on a scale beyond that of the individual land holding. However, it is possible that a system relying largely on direction from local landowners will work better than one involving stakeholders with diverse interests. More research needs to be undertaken on a suitable model for managing Pakistan's forest resources. Some consideration needs to be given to the possibility of diminishing the role of government in the administration of resources as an adjunct or alternative to decentralization of government management.

The IUCN has pioneered the Roundtable mechanism—a process bringing together various stakeholders for the purposes of a dialogue—in Pakistan. Several Roundtables have been successfully held in the North Western Frontier Province and in Baluchistan. Thus IUCN is a trailblazer in this regard. The effort should now be to bring the mechanism to other localities, albeit in a more organized manner. The main purpose is to strengthen community participation efforts that will lead to strengthening of GOP efforts to manage sustainable use of natural resources. In addition, the Roundtable is to be institutionalized as a participatory dialogue process and not a stand-alone activity, that is, it is by definition never complete or finalized. Even if a plan were finalized as such, it would be subject to further review, modification, evaluation, monitoring, feedback, and improvement. Technically speaking, a dialogue participatory process mechanism lasts forever. It is never ever completely finished for it always continues. This is its main strength. The idea is to build as wide a coalition for positive change as possible; this takes time and sustained effort. In addition, the needs of different stakeholders are never constant and their perceptions of their needs change with time. Hence, a Roundtable process makes sense and needs to be implemented.

Given the reality in Pakistan, another consideration is in order, which is specific to the country's situation. The key to the success of the participatory mechanism is the role of the department head. He or she is the facilitator and coordinator of the whole effort. Research indicates that concerned state officials are not enthusiastic, with a very few exceptions, to the Roundtable concept. Therefore, participation should not only be mandatory but also rewarded by giving incentives to these officials for the purpose.

Through the Roundtable, we wish to institutionalize a mechanism for a true tri-partite partnership, which will bring together the local government, NGOs and community-based organizations (CBOs), and international agencies. For

this purpose the NGO sector must also be better mobilized to achieve maximum gain. The work of several good NGOs in the field needs to be studied further to find best practices and lessons to be learned. A detailed treatment of the subject is beyond the scope of this paper. Let it suffice that the NGO sector must also be streamlined and modernized along known principles of management applicable to the area. We have to first identify success stories in the field for the purpose. A few common sense principles can be easily derived for further applicability and duplication in other locations. More field research is needed here. A few common sense basics must be followed. The program should be able to:

- a. Mobilize households to form community organizations
- b. Link the voluntary organizations (VOs) and community-based organizations (CBOs) with governmental services
- c. Conduct a survey to identify priority community needs
- d. Assist VOs/CBOs to acquire essential skills for use in their own development efforts

Basic Ingredients of an Effective Roundtable Mechanism

The government environment department, before commencing the process, shall work out a detailed strategy. Consultations should be all-comprehensive, involving the full range of stakeholders. The timing of these consultations is very critical; they should not be held so early that no useful information is available, nor so late that all participants can do is react to proposals already under serious consideration. The department should ensure that local participation is not just tokenism, but should acknowledge involvement of community leaders as vital to the success of the department's goals. A permanent record would be kept in the department, and accessible to the public. An annual report would be submitted by the head of the department to the district Nazim, the indirectly elected chief executive of the district, for further action and modifications, if needed.

The Musharraf regime claims to attach the utmost significance to conservation and sustainable development. It is expected to promote actions to conserve the environment, and to reduce pollution and the wasteful exploitation and consumption of resources and energy. The regime is also expected to assure that sustainable development takes place in Pakistan. Notwithstanding GOP claims, little progress has been made in this direction. The implementation of NCS will remain problematic because of shortage of skills needed in critical categories. The new regime must realize that it cannot carry out the task itself. Therefore, for implementing the NCS, it should collaborate with international conservation agencies like IUCN and WWF; donor agencies like UNDP and UNIDO, and domestic NGOs of repute. The primary responsibility

for the preparation of the action plan will be with the GOP itself. It must plan to strengthen the capacity of civil society partners to find appropriate solutions to the nation's problems in the area. Little progress has been made in the field, however.

In the area of conservation, the Musharraf regime should enter a broad-based alliance with reputable international agencies like UNDP, IUCN, and WWF. The purpose of the exercise would be to formulate a viable plan of action to protect the environment and promote conservation efforts. Similarly, in the area of sustainable development the regime must work with successful domestic agencies like the AKRSP, Sungi, NRSP, Orangi Pilot project, and others. The regime should also create regional Roundtables for Conservation and Development. It should seek collaboration in specific programs. For example, the Sindh Katchi Abadi Authority (an entity set up by the government in 1987) can collaborate with UNDP, a district administration in Sindh, and the Planning Commission, to work out collaboration for the purpose of development of a particular division. The purpose is to link the concerned officials of the entire government system-federal, provincial, district, and local governments-with both international agencies like UNDP, IUCN, and WWF and the local NGO network.

Development of Resources on an Equitable and Sustainable Basis

This includes:

- a. Working out a mechanism to grant a fair share of the natural resource to the local people
- b. Enforcement of rules and regulations pertaining to exploitation of the resources
- c. Discussion of performance monitoring mechanisms for the sustainable use of the local resources
- d. Discussion of the monitoring and evaluation mechanisms to be undertaken by the department
- e. Formulation of performance indicators for the department
- f. Exploring the possibility of developing partnerships with outside businesses, development agencies, and others

The Musharraf regime needs to immediately create a robust public, civil society, and a new private citizens' partnership. The creation of a vibrant civil society is an essential pre-condition for the country's progress in the conservation area. The NGOs have played a vital role in the provision of social services and eradication of poverty in various parts of the world and in various communities within Pakistan. There are over 10,000 NGOs in the country. The regime should tap into their considerable expertise and resource base for the

country's conservation agenda. It should encourage them by providing financial support. To its credit, the Musharraf regime is aware of the need. It can be hoped that the military regime will take the necessary steps to achieve this partnership. Even before the establishment of the local governments on August 14, 2001, the regime instructed local officials to get input from the newly elected local government officials.

Next Steps

- a. Institutionalize periodic Roundtables mechanism in the district wherein the District government plays the key role of facilitator.
- b. Make efforts to invite representatives from all sections of the society, especially minorities and the disadvantaged.
- c. Disseminate information about activities in the field through the press, public notices, and so forth.
- d. Set and agree on priorities through maximum public participation.
- e. Agree on monitoring and control mechanisms for field projects.
- f. Discuss project outputs and results in a free and frank manner.

A tentative Roundtable agenda includes, but is not limited to, the following discussion points:

- a. Set and agree on priorities, keeping in mind the concrete reality of low budgets and low capacity.
- b. Compile an expert account of various conservation plans that includes citizen participation, especially of those that live in the area.
- c. Consideration of best practices in the area of conservation of natural resources. Lessons applicable to the local situation, if any.
- d. Development of resources on an equitable and sustainable basis. Working out a mechanism to grant a fair share of the natural resource to the local people.
- e. Enforcement of rules and regulations pertaining to exploitation of the resources.
- f. Discussion of performance monitoring mechanisms for the sustainable use of the local resources.
- g. Discussion of the monitoring and evaluation mechanisms to be undertaken by the department.
- h. Formulation of performance indicators for the GOP's conservation strategy.
- i. Explore the possibility of developing direct partnerships with outside businesses, and development agencies. Discuss alternatives and possible actions.
- j. Circulate reports on previous efforts so that everyone is up to date on the subject.

- k. Ensure that local participation is not just token, but that the involvement of community leaders as vital to the success of the GOP's goals is acknowledged. Participants shall include: village organizations and other local government representatives, and outside agencies like IUCN and UNDP. Measures shall be taken to strengthen existing Village Organizations through proper training. Make special efforts to invite representatives from all sections of the society, especially minorities and the disadvantaged. Measures to develop representation would include special field visits for the purpose.
- l. Disseminate information about activities in the field is disseminated through the press, public notices, and other information channels. Reaching out to the local press and getting them on board is an absolute must.
- m. Liaison with the Information Ministry for the purpose of wider dissemination of issues.
- n. Circulate a detailed working paper well in advance so that participants come prepared. The initial report shall confirm the mandate of the Roundtable. Also, ensure that all participants understand what happens in the Roundtable.

Specific issues that need to be discussed are:

- a. Local natural resources management plans that include citizens' participation, especially of those that live in the area.
- b. Settling and agreeing on priorities.
- c. Consideration of best practices in the area of conservation of natural resources. Lessons applicable to the local situation keeping in mind the concrete reality of low budgets and low capacity. In the past, many of the rural development projects failed because they were too complex for the public agencies to manage. Learn from experience. The establishment of mechanisms making participation by NGOs an integral part of rural development.

Obviously, one cannot foresee the specific agenda for the deliberations. The problems are complex and defy easy solutions. Therefore, the solutions shall also vary. The actual work of the Roundtable shall have to proceed gradually. Moreover, the very concept of a partnership-based Roundtable shall have to be popularized. Where the mechanism is very unfamiliar, much more effort needs to be undertaken to make the exercise fruitful.

A Generic Model of the Decision-Making Process of the Conservation Roundtable for Consideration

1. Issue recognition and definition

- a. Various perceptions of the problem stated
- b. Attempt to define objectively its distinguishing characteristics
- c. Character of the national conservation environment and trends within it

The search for information must be exhaustive, and all facts relevant to the issue must be gathered.

2. Goal selection

This requires the identification and ranking of all values (such as community security, survival, democratic governance, conservation, and economic well-being) in a hierarchy from most to least preferred.

3. Identification of alternatives

Compile an exhaustive list of available policy options with an estimate of the costs associated with each alternative course of action.

4. Choice

Select from competing options the single alternative with the best chance of achieving the desired goals. For this purpose, policy-makers must conduct rigorous means-ends, cost-benefit analysis guided by an accurate prediction of the probable success of each option.

Participatory Management and Evaluation Framework: Sequence and Methods

A generic Participatory Management and Evaluation (PM&E) framework could be adapted for our use. Why the PM&E approach? The PM&E techniques go beyond top-down models to include stakeholders in the very process itself. This approach creates a communication channel between those in authority and those living as intended beneficiaries. In addition, it recognizes that development and conservation programs might be challenged, and therefore decision-makers must be prepared to respond accordingly. Moreover, participatory techniques at problem solving and decision-making are in line with democratic Islamic philosophy of *shura* (a value emphasizing mutual discussion), *ijma* (process leading to consensus), and *ijtihad* (independent reasoning to solve problem).

The steps in the sequence are:

- a. Recognize who should be and who wants to be involved.
- b. Explain the participants' expectations of the process, and in what manner each group or person wants to contribute.
- c. Define the priorities for monitoring and evaluation.
- d. Describe the indicators that will provide the information needed.
- e. Submit a detailed plan on the responsibilities, methods, and timing of the collection of information.
- f. Collect information.
- g. Analyze information.
- h. Decide on how the findings are to be employed and by whom.
- i. Clarify if the PM&E needs to be sustained, and if so, how?
- j. Repeat the cycle after every six months.

Who will do it and how?

The Ministry of Environment and Local Government will provide the lead, energy, and impetus for the program. It will facilitate the whole process and help in devising a framework for integrated conservation through participation. Thus, it will spearhead meaningful networking at the district level to facilitate conservation in a scientific manner. The Ministry has to immediately take up required preliminary groundwork to make the Roundtable mechanism a success. Consultants from the outside may be hired for the purpose. The actual work of the Roundtable will be obviously grounded in the concrete reality of the district itself. Where the mechanism is very unfamiliar, much more effort needs to be undertaken to make the exercise fruitful. Most importantly, Pakistan can learn from others but it must be able to fix its own problems in its own ways by applying corrective measures only as appropriate for the country. The new local governments became functional on August 14, 2001, which is the independence day of Pakistan. The actual working shall obviously take some time. Meanwhile, the people can only wait for that to happen. The GOP, to its credit, has begun to institutionalize the Roundtable mechanism in the forestry sector in the North Western Frontier Province. We wish that every district should initiate the program. Any further delay would prove costly.

In sum, work at several levels is needed to make the Roundtable a success. Each individual partner must become better organized to make a real difference. However, the most important role in the Roundtable process is that of the local government. Without the GOP, taking the lead, all else shall fail. We hope that within a year we shall have effective government machinery in place at the district level. Pakistan's conservation efforts depend upon the successful development of the local government system in Pakistan. The essence should be on quick action, as Pakistan has already wasted a lot of time in its march towards sustainable development. The environmental crisis

is not getting better with time. Actually it is getting worse. Therefore, the country cannot afford to waste any more time.

References

Forests. (n.d.). Retrieved March 30, 2002, from <http://www.wwfpak.org/forests/content.html>

Government of Pakistan. (n.d.). *The Pakistan national conservation strategy*. Karachi: Environment and Urban Affairs Division, GOP, and IUCN.

Government of Pakistan. (2001). *Economic survey 2000-2001*. Islamabad: Economic Affairs Division, Ministry of Finance.

International Bank for Reconstruction and Development. (1994). *World development report 1994: Infrastructure for development*. New York, NY: Oxford University Press.

Caring for the earth: A strategy for sustainable living. (1991). Gland, Switzerland: World Conservation Center in partnership with IUCN, UNEP, WWF.

Malik, Nadeem. (2000, July 7). IMF urges Pakistan for exchange rate rationalization. *The News* (Islamabad).

Pakistan country report. (1994, July-August). *Climate Alert*, 7(4). Retrieved March 30, 2002, from http://www.climate.org/Climate_Alert/articles/7.4/Pakistan.html

.....
Sohail Mahmood <sohailma@isb.comsats.net.pk>, Ph.D., Area Studies Centre, Quaid-i-Azam University, Islamabad 45320, Pakistan. TEL: 92-51-2230834, FAX: 92-51-2230833.

Umar Karim Mirza <mensan152@yahoo.com>, Ph.D. Scholar, Pakistan Institute of Engineering and Applied Sciences, P.O. Nilore, Islamabad 45650, Pakistan. TEL: 92-51-2207381. FAX: 92-51-9223727.