

CHAPTER 9 COMMUNICATION & EDUCATION

9.1 Environmental Awareness

The North West Frontier Province is an ethnically diverse, religious society where traditional values, customs, and culture play a fundamental part in peoples' lives. Certain principles that have become norms in other parts of the world have not as yet been realized here. In fact, the general level of resistance to the forces of change is relatively high. For example, population planning programmes have achieved little success in Pakistan; in the NWFP, the success rate is even lower. The district and village public consultations organized by the SPCS provided strong evidence that lack of environmental awareness is a fundamental problem that needs to be addressed as a priority.

SPCS implementation will require the participation of people from all walks of life. To include as many people as possible in strategy development and execution, communication becomes extremely important. Building awareness of environmental issues and initiating a change in thinking and behaviour are both needed. Hence a communication strategy has been developed as a component of the SPCS, to inform the people of the Sarhad about sustainable development issues and to create an understanding and ownership of the SPCS among them.

But a communicator needs to know and understand people's thinking on a particular issue before an effective communication campaign can be designed. Under the SPCS communication programme, research is needed on what people know about natural resources, what their perceptions are about the use of these resources, and what the most effective tools of communicating with them would be. No empirical research has been done so far on the level of environmental awareness in the NWFP, and thus no reliable benchmarks are available.

9.1.1 Communication Tools

What the Sarhad does have is some traditional tools for communication that for centuries have played an important role in people's lives. One is the hujra, a daily meeting of the male members of a community to informally exchange views and discuss day-to-day matters. In rural areas, after a tiring day's work, most men get together in the hujra. In true Pukhtoon tradition, most respect is accorded to the view of the older men, with young men and even children encouraged to participate, to listen to, and take advantage of the wisdom and experiences of their elders.

At times, music and other entertainment may also be provided to fellow villagers. The hujra becomes a central place for activities at the time of marriage, death, or any other important event. In the case of dispute among members of the community or among two communities, this is where conflicts will be resolved and jirgas held. The jirga is equally important and is the traditional decision-making forum as well as a medium of communication in the village. It is a gathering of elders of the community empowered to take collective decisions and decide on policy; their decisions are irreversible and respected by the community.

While the hujra is for the men in the community, the godar and tandoor are meeting places for the women. The godar, sometimes quite far off, is where women draw water for the family; on their way there, women have an opportunity to discuss different issues and day-to-day happenings. They may also meet women from other communities there, extending their knowledge of what is happening elsewhere. The tandoor is where the daily bread is baked, an opportunity for another meeting. Though these are comparatively short meetings, the women do get a chance to talk and discuss issues. It is these four tools—the hujra, jirga, godar, and tandoor that will be used to reach out to the grassroots.

Of the formal media, radio is the most powerful, reaching almost everyone in the NWFP. Television is rapidly making inroads, but widespread poverty means that it is limited to the middle class and the rich. Its reach is further curtailed by the fact that television signals extend to only 48% of the province's population. The third most important medium is the cinema, visited by the young, particularly on the weekend, when many come to the cities to see a movie. The print media is limited to a handful of educated citizens—the total circulation of English, Urdu and Pukhto newspapers is under 100,000 in the province. But print is the most powerful medium for communicating with senior decision makers.

Theatre in the province is still in its infancy, partly because of a lack of support. Given support, novelty will attract people to theatre.

It can be seen that some of the traditional tools of communication—television and the print media will be of limited use in the Sarhad. Instead, media such as radio, folk arts and songs, cinema, theatre, hujra, jirga, godar, tandoor, district- and village-level community meetings, and interpersonal communication will have to be used more extensively. This, added to a mountainous terrain and low-ranking social indicators, are problems that will have to be tackled in any outreach programme.

9.1.2 Existing Initiatives

Environmental problems and concerns are relatively new in the NWFP. Major initiatives for environmental awareness have come mainly from the print media, for which they, especially the English press, deserve appreciation. Almost all the English dailies give substantial coverage to environmental issues, while some monthlies carry regular reports and features on the subject. This has helped make educated people aware of environmental problems.

The NWFP Environmental Protection Agency (EPA), with the assistance of the World Bank and the provincial Government, has undertaken an awareness programme. The main thrust is to increase understanding of the damage being done to the environment by pollution and to generate support, from the public and the bureaucracy, for the implementation of remedial policies. Polluters, be they industrial or vehicular, are one of the main targets of the awareness-raising campaign. Advertisements in the press and electronic media, posters, pamphlets, and sports and essay competitions along with seminars and workshops are being carried out. However, in the absence of a coordinated strategy, where a media campaign would be one method of building public pressure against offenders (along with other steps such as enforcement of punitive measures, legislation, and so on) the impact of such ad hoc efforts is negligible in terms of bringing about changes in people's attitudes and actions.

Sungi, a Hazara-based non-governmental organization (NGO), has been active in raising awareness in several areas on deforestation and industrial pollution. There is also a large network of small NGOs and community-based groups that are making a very valuable contribution in this regard.

Volunteer organizations, such as the Rotary Club and the Lions Club, also have environmental awareness on their agenda. They have been organizing walks and other similar activities.

A pilot public awareness project was launched in the last quarter of 1994 by IUCN's SPCS Unit with the financial support of UNICEF, Peshawar. Designed to field test some of the components of SPCS communication strategy, it consisted of two stage plays and several meetings. The latter were held in Peshawar: a media workshop to gauge the response of journalists, television and radio producers, writers, and actors to the SPCS communication strategy; a Communication Round Table for feedback on the SPCS communication strategy; and a meeting to elicit the input of lawyers and stakeholders on the proposed provincial environment law.

The plays were held in Abbotabad, the scene of a puppet show, and Mardan, host to a Pukhto comedy. Students and the general public dominated the audience of both plays, and the events were a big success. The project helped in understanding the impact in the Sarhad of different communication techniques, and reinforced the idea of using more non-conventional media for that purpose. Feedback on the SPCS communication strategy was most useful in taking it forward.

Environmental awareness raising has been started by a number of organizations and through different sectors. But for the most part these are piecemeal activities through fairly traditional media, aimed at urban centres. There is an urgent need for a comprehensive strategy that looks at the priorities identified by the SPCS and at the possible tools for communicating them. The next step would be to identify the possible players, including the institutions currently running awareness programmes.

9.1.3 The Strategy

The SPCS communication strategy will be implemented in a phased fashion through specific activities targeted at key audiences.

Provincial Line Departments

There is a need to increase the environmental consciousness of provincial line departments, to make them aware of the importance of the SPCS and to persuade them to play an active role in its implementation.

This is because the major task of implementing the SPCS will rest with the provincial line departments who will have to be convinced that any developmental activity that does not take into consideration the environment will not lead to sustainable progress. They will also need to believe that the SPCS offers practical solutions to the problems of the province.

Regular training and orientation courses on Sarhad's state of the environment and the SPCS, focusing on specific themes, will be organized cross sectorally for the line

departments to harness their support.

The SPCS focal points in Government departments, the NWFP EPA, the Planning, Environment, and Development (PE&D) Department, will all be valuable resources for this work.

Decision Makers

Political will and support are prerequisites for the success of any national or provincial project. Even the best and most comprehensive programme will fail if it lacks the support of political circles. The SPCS is no exception. Parliamentarians need to be contacted and briefed on the SPCS, and be persuaded to form a House Committee on the Environment in the provincial assembly. This would be supported by campaigning through the press for a cleaner environment.

The Minister for Environment will play an important role in contacting and convincing other members of Cabinet as well as provincial assembly members. The influence of members of the Communication Round Table will be valuable in contacting the Speaker of the provincial assembly along with the Minister for Environment.

NGOs

With NGOs the aim is to encourage them to assist in SPCS implementation. Large and mid-level NGOs will need to be convinced that the priorities of the SPCS match their own. With their influence and contacts, both in the Government as well as in communities, these NGOs could become a great resource for communication. Workshops and meetings with NGO support organizations, and large and midlevel NGOs will be organized to convince them of the need to support the implementation of the SPCS. The capacity of partner NGOs for communication will be improved and an information package on the subject will be developed and distributed among them.

The SPCS NGO coordinator will be the resource person for this purpose, in partnership with IUCN's member NGOs.

Ulema

Ulema (religious scholars) remain the most potent and influential institution for the change of social behavior. They exercise power over the minds and emotions of a majority of the province's people and can give Islamic relevance to environmental issues. The vast network of mosques makes them the most functional medium of communication, especially for the rural public. Religious leaders can be convinced to include environment in the curricula of religious madrassas (schools).

A core of ulema will be sensitized to the environment and its issues so that they can communicate and train others. A special package to support the training of master trainers among ulema will be produced. This will include material containing verses of the holy Quran and sayings of the Holy Prophet (Peace be Upon Him), emphasizing environment-related topics supported by practical exercises.

The members of the Communication Round Table will be a resource for this

purpose. The Auqaf Department could also be of great help.

The Formal & Non-Formal Media

There is a need to re-orient the media—journalists, and radio and television producers to environmental issues, more particularly to the SPCS and its programmes.

Media, both electronic and print, should play an important role in communicating the SPCS, since on one level they reach out to decision makers, and on another they reach out (particularly radio) to the grassroots. Cinema, puppetry, theatre, folk art, and music festivals also have the potential to inform, educate, and communicate with the people.

All would need a certain amount of skills training and continuous flow of information on the environment to convey the message effectively.

An Environmental Information Management Centre (EIMC) will be established in Peshawar. The creation and operation of a forum of environmental journalists will be supported. A group of puppeteers, theatre artists, and local singers will be trained and supported to write and present shows and also to train others.

The Khyber Union of Journalists and the provincial Information Department could be good resource institutions in this regard. The influence and support of the General Manager, Pakistan Television Corporation, will be of great value. In addition, the members of the Communication Round Table can also prove influential in working with the non-formal media.

General Public

It will be crucial to use the knowledge base of the general population to raise awareness of the complex nature of environmental problems, and in the process use information as a tool to help people find solutions.

More than 70% of the people live in villages. They have a direct and close contact with nature. They are the major beneficiaries of natural resources and at the same time affected by environmental problems. The success of any environmental communication campaign will largely depend on the effective dissemination of the messages of the SPCS to these rural people.

Deputy Commissioners with the support of NGOs will encourage Maliks and Khans to hold hujra meet-ings and discuss environmental issues. NGOs, community- based groups, and village organizations will be sensitized to and encouraged to work for environment and to involve people in the campaign. These efforts will be supplemented by radio, television, other media, and the ulema.

Industry

We need to inform industrialists and business con-cerns about environmental legislation and to persuade them to adopt the National Environmental Quality

Standards (NEQS).

Industries and businesses are direct users of the environment. The message that needs to be conveyed to them is that if they do not conserve first, development will not last. However, at the same time the Polluter Pays Principle should be clearly communicated.

An environment cell will be established in the Sarhad Chamber of Commerce and Industries to provide information on environment-friendly technologies, NEQS, and pertinent legislation. A core of industrialists will be convinced that environment-friendly technologies can lead in the long-term to cost reductions so that they can convey the message to others.

The SPCS focal point in the Department of Industries, the EPA, and NGOs would be the resource persons/institutions.

Federal Government & Donor Agencies

The SPCS needs the support of Federal Government for its various projects. Donor agencies would be another target audience, and they need to be convinced about the importance and practicality of the SPCS and the role it can play in the lives of the people of the NWFP. They would also have to be kept up to date and constantly informed about the SPCS action plan.

Concerned Federal Government departments and donor agencies will be given regular briefings on the SPCS plan of action. The PE&D Department will be the resource institution for this activity.

Armed Forces

There is an urgent need to integrate the armed forces into the campaign for the environment, especially afforestation.

Recognizing the positive role the armed forces can play in environmental care, they need to be convinced of environmental issues to support the implementation of the conservation strategy.

The local armed forces leadership will be approached and requested to take part in environmental initiatives that would benefit from the organized personnel and facilities of the armed forces. The SPCS Communication Round Table will be a valuable resource for this purpose.

9.1.4 Monitoring, Evaluation & Readjustment

Effective communication lies in giving information and receiving feedback with the latter part of the loop often forgotten. Hence for the SPCS Communication Strategy to be effective, there needs to be monitoring and evaluation to determine the effectiveness of message, to hear what the people have said, and to change what will need to be communicated in the future.

The following activities will be carried out for monitoring and evaluation of the strategy:

- ?? a sample survey amongst the various target groups to establish their present understanding of and attitudes towards the environment;
- ?? concurrent monitoring of the activities under the communication strategy;
- ?? repeat sample surveys, once every two years, amongst the target audience to assess the changes in understanding and attitudes and to relate them to the implementation of the communication strategy; and
- ?? regular adjustment of the strategy as warranted by the monitoring and evaluation outcomes.

9.2 Environmental Education

A fully developed environmental education strategy for SPCS has not been completed at this point. In initial meetings with the SPCS staff, the Education Department identified two preliminary mechanisms that are necessary for the development of a strategy.

- ?? a focal point for improved environmental education, based in the Education Secretariat; and
- ?? a list of educational tools to use as a basis for further deliberations and development of a full strategy.

In response to the Department's request, this portion of the SPCS has been developed to stimulate creative thinking to assist in the development of a full strategy and detailed action plan. The proposed goal for the SPCS education strategy is "to equip future citizens to make environmentally sound decisions and make a commitment to the sustainable management of the natural resources of the NWFP." One necessary element to achieve this long-term goal is a well-planned, comprehensive, and coordinated approach to environmental education. An environmental education strategy will be an integral part of both the SPCS and the provincial education policy.

9.2.1 Present State of Education

Pakistan's education system is still struggling to divest itself of its colonial past, during which only a few privileged individuals had access to education, much of which was of minimal quality. The NWFP is today, still faced with the twin dilemmas of insufficient quantity and poor-quality educational resources.

Enrollment rates are very low. In 1992, fewer than half of Pakistan's school-age children attended school, and drop out rates after primary school were high, with approximately 60% of males and 75% of females leaving early. A privileged few have access to good education in the private English medium schools located in

urban areas, but the majority of students, particularly in rural areas, have access only to Government or mosque schools.

Female education is particularly poor. Few girls enroll in schools and even fewer complete their education. There is also an acute shortage of women teachers. Many more families would be willing to enroll their daughters and allow them to continue their education beyond puberty if schools, headed and staffed by women, were available in the vicinity of the family home. Breaking out of this cycle will be a difficult and slow process.

Many children do not go to school. Of those who do, few proceed beyond basic education. For those who do receive education, the learning experience often has little meaning for day-to-day living. It seldom attempts to develop their intellect or potential as human beings, nor does it prepare them to be active, responsible citizens of Pakistan.

Within the classroom, the textbook, the teacher's voice, and the blackboard are often the only available tools. The environment outside the school, which can be a rich learning resource, is not used. Textbooks have little regard for the student's conceptual understanding, interests, or language ability.

Teachers are often inadequately trained. Teaching is seldom focused on student needs, nor is it activity-based. It is dominated by the traditional approach of transferring a large amount of information that has little relevance to the present or future needs or interest of students. Traditional methods of education are reinforced by similar constraints in the training of teachers.

Change will take time. Education reform is plagued by complications and delays. One of the contributing factors is the overlap of responsibility between Federal and provincial Governments. Education policies, curriculum development, and the initiatives for updating and changing textbooks are in the hands of the Federal Ministry of Education whereas the delivery of student education, teacher training, and the production of textbooks are the responsibility of the provinces.

The mounting pressure from ordinary citizens in their roles as parents and employees, from the press, from academicians and educators, from the Civil Service Commission, and from development agencies seems to be having some effect. As a result, there is a growing political will towards change in terms of both quantity and quality of education. The Social Action Programme (SAP) is one manifestation of this growing momentum. Other signs of change are the Primary Education Development (PED) Programmes in each province and the Asian Development Bank-funded Teacher Training Project.

The Education Department, NWFP is creatively using these opportunities to develop innovative approaches to the challenges ahead. The Education Department has indicated that environmental education should not become a separate programme or project in schools but should be integrated into the already established institutional infra-structure and ongoing programmes and projects. Environmental education can be a powerful agent for change. Children learn best when their learning is based on what they already know and comprehend.

Environmental education brings relevance and meaning to the learning process. It develops the skills of observation and of information gathering and processing as well as problem solving. It invites and demands active participatory learning. It has meaning and relevance for adults too, and as such provides an excellent opportunity to change the perception of teachers and revolutionize teaching practices.

For the long-term, successful implementation of the SPCS, it is essential that all children in the NWFP have access not only to education but to quality education that

includes environmental concerns. The people of the NWFP have intuitively reached the same conclusion. Environmental awareness and the introduction of environment into the formal education system were often at the top of the list of issues identified in the public consultations.

9.2.2 Introduction of Environmental Education in Schools & Their Support Systems

A way ahead has already been suggested by the Bureau of Curriculum Development and Education Extension Services in the NWFP in its comments on a report of Workshop on Environmental Education for Teacher Training held in Karachi in 1993. The following important points were concluded:

- ?? the Bureau considered it neither feasible nor desirable to introduce environmental education as a separate subject. As the curriculum is already overloaded, it is not considered feasible to eliminate an existing subject or substitute another subject or add a separate unit, which would increase the heavy load borne by teachers and students;

- ?? environmental education should strengthen other subjects. There is already a concern at the tertiary level that primary and secondary schools are not providing an adequate grounding in mathematics, chemistry, and other sciences required for environmental monitoring and analysis. But environmental studies should not be expanded at the expense of basic sciences; and

- ?? subjects like Islamiyat, Social Studies, Languages, Art, Health and Physical Education, and Mathematics should include environmental education concepts and interventions.

9.2.3 Capacity Building for Environmental Education Through Human Resource Development

Teacher training courses must provide teachers with the opportunities to become experienced in resolving environmental issues. Teachers have to be fully equipped with effective methods for introducing environmental education in appropriate subject areas. Similarly, teacher perceptions also need to change. Often, teachers do not see any connection between what they are teaching and environmental concepts and issues. Consequently, they do not feel that it is their responsibility to teach about the environment.

Environmental educators are in short supply in Pakistan. Certificate courses in environmental education are not available in the country. Jordanhill College, at the University of Strathclyde, Scotland, runs a three-month certificate course on environmental education, awareness, and communication. The course is designed for international participants. Fourteen people from Pakistan have already participated. Eight of these have been absorbed by the World Wide Fund for Nature (WWF) and IUCN; one has left for further studies. Both organizations conduct workshops and develop materials for teacher training.

The Bureau of Curriculum Development and Education Extension Services also suggested that prior to embarking upon curriculum revision it will be necessary to set up groups of master trainers for environmental education. The training of trainers and master trainers would be a more strategic use of the few environmental educators available. Given the opportunity and the resources, their expertise could be made available to the provincial Education Department. On-going collaboration between IUCN, WWF, and the Bureau could produce very rich results in terms of quality and quantity of trainers and master trainers. The EPA could also make a valuable contribution. It has an intimate knowledge of the environmental issues of the NWFP and awareness raising is a principal part of its mandate.

The Bureau's thoughtful analysis of capacity building for environmental education omitted one important element. Teachers—however well-equipped and motivated—can bring about change only if their supervisors support them. The same logic will apply at all levels of education. The appropriate directorates and hierarchical levels will need to be well informed about, and oriented to, the needs of and for environmental education.

9.2.4 Institutional Infrastructure

The present infrastructure of the Education Department can easily lend itself to the above initiatives in human resource development. The Bureau of Curriculum Development and Education Extension Services is responsible for curriculum development; the in-service training of teachers; pre-service training and the refinement and distribution of learning materials, teachers' guides, and kits. To manage these vitally important functions, the Bureau has only a small team of approximately 20 officers, including the Director. The subject specialists, an audio-visual officer, and a group of instructors working under a chief instructor are all involved in some way with either the design or delivery of training.

Approximately 30 reorientation courses for all categories of in-service teachers are conducted each year by the Extension Services. Instructors for elementary courses as well as Primary Teaching Certificate and Certificate of Teaching teachers are just two of the categories receiving training. In rural areas, the NWFP has to rely heavily on poorly trained teachers. The Education Department has taken an innovative step and since 1991 has delivered a crash training programme during the summer and winter vacations. Each year master trainers are trained and ad hoc centres are set up. In 1993-94, 83 ad hoc centres were set up for the summer vacations and a further 22 during winter. In total 3,024 teachers were trained in the summer and 1,059 in the winter. The content and materials for in-service training are not prescribed by the Federal Ministry of Education. This leaves each province free to take those measures most effective for meeting its own needs. Environment should be introduced into this programme.

9.2.5 Curriculum & Textbook Revision

Teaching certificate courses must follow the curriculum and use the books prescribed by the Federal Ministry of Education. However, the revision of existing curriculum to integrate environmental and development issues into existing training curricula for enhancing and supplementing the existing system requires a provincial initiative. A demonstration model is being developed by St. Patrick's College of Elementary Education in Karachi, in partnership with IUCN. Upon completion of the model, the

NWFP could consider similar training in one of its Elementary Colleges, for possible replication in all such colleges.

Present school textbooks contain several references to the environment. But many other lessons have the potential to be used for environmental education. In many cases, only a change of emphasis or a slight extension is needed. An analysis should be done of existing textbooks to identify such possibilities. This analysis could be used in training programmes.

Although the present curriculum and textbooks, if used creatively, could allow the introduction of environmental education, further revision is highly desirable. The NWFP should use its influence to advocate further initiatives by the Federal Ministry of Education. In the meantime, the Bureau should prepare itself to make optimum use of future opportunities through an evaluation of the needs emerging during training sessions.

The mandate of the national Text Book Board is to produce, print and distribute textbooks within guide-lines laid down by the Federal Ministry of Education. These reflect the national curriculum adapted for provincial use by the provincial Bureau of Curriculum. With little effort and without exceeding the guidelines, the textbooks of all subjects could be easily amended to give greater support to environmental education. In mathematics, for example, graphs could demonstrate the deforestation and afforestation rates in the NWFP.

Two other measures could be taken immediately to support the infusion of environmental information and messages into textbooks. An organization with expertise in environmental education could be invited to take part in the planning and review stages of text-book development or could be invited to write the books. In the long-term, the Text Book Board would need to build in-house expertise in environmental education.

9.2.6 Existing Initiatives

The Education Department's Projects

Several new initiatives are under way already that have an impact on environmental education.

The SAP, for example, is charged not only with developing new primary schools but also in seeking ways of involving the community in the management of education. Environmental education also seeks ways of forging links between education and the realities of local communities. Thus the inclusion of environmental education into the SAP initiatives could prove a powerful combination.

The PED Programme, supported by multiple donors, has a strong training and education element. Environmental education components for resource persons, master trainers, and trainers would result in a greater number of classroom teachers equipped to infuse environmental concerns into their classroom teaching.

The Primary Education Project for Improved Learning Environment has the responsibility for developing primary school instructional materials with annotated

teachers' editions. The materials are based on three principles: they should teach the skills of the subject matter, prove interesting to the students, and support the teacher to work effectively in all kinds of classrooms. Training teachers in the use of these materials is also part of the agenda. The Primary Education Coordination Office brings cohesion to these multi-donor supported initiatives. The Asian Development Bank-funded Teacher Training Project is working to transform pre-service training for teachers into teacher education. New institutions such as model colleges for teacher education and provincial Institutes of Teacher Education will support continuous upgrading in curriculum and pedagogy in teacher education. Close collaboration with all of these movements towards change will ensure that environmental education becomes an integral part of the mainstream of educational reforms.

Private & Public Schools

Several private and public schools have already begun to include environmental themes in their teaching and training programmes. Within the NWFP, the Aga Khan Education Service, Pakistan has a strong presence in Chitral. It has collaborated with the Government on teacher training. Shayun Public School in Chitral is in the process of setting up a teacher training programme. Beacon House Public School also has a well-established teacher training programme validated by Bradford University in the United Kingdom.

Many other private schools such as the Fazle Haq College, Mardan, the Pak International College for Girls, Abbotabad, and the Frontier Children's Academy, Peshawar take advantage of in-service training opportunities provided by organizations such as the In-Service Training Unit (ISTU). These programmes already contain some elements for environmental education. If strengthened, they could be powerful channels for training others. The Frontier Education Foundation provides grants for the establishment of private schools. Such schools could have a contractual obligation to include environmental education in their curriculum.

Extra-curricular Activities & Informal Education

The National Conservation Strategy Unit of the Federal Ministry of Environment, Urban Affairs, Forestry and Wildlife has requested each provincial Education Department to open Environment Clubs in all educational institutions. If these are to be established and remain viable, club leaders will need training to enable them to design and organize suitable activities for club members. NGOs could assist in this training. Edwards College, Peshawar, for example, has an Environmental Club which has developed a tree nursery. Other schools should be encouraged to do the same. Edwards College also at one time had a social action programme. This could be revived and used for community environmental activities in partnership with local schools. The twinning of a Government school with a neighbouring private school to plan joint environmental activities is another possibility.

Physical Education teachers are often assigned the duty of organizing boy scouts activities in schools. Part of their training should be the development of outdoor environmental activities. The boy scouts should also develop training programmes for environmental activities. The EPA and WWF Pakistan support many non-formal activities such as Earth Day celebrations and poster and essay competitions.

NGOs in Schools

WWF is extremely active in delivering environmental education in private and public schools in the NWFP. Their education officer in Peshawar is also designing an environmental education component for the B.Ed. course. WWF also publishes environmental education materials.

The Education Unit of IUCN Pakistan is involved in capacity building for environmental education through human and material resource development. Teacher training and the training of trainers for both in-service and pre-service training are part of its mandate, which also includes support for the enhancement of curricula, syllabus, and textbooks.

At the school level, some institutions have established Environment and Wildlife Clubs for their students. They serve to educate students about the importance of the environment, the problems associated with it, and the loss of biodiversity. Various activities, competitions, and functions are organized for the members and through them.

Some NGOs have also started a programme of environmental education for schools and colleges. One NGO, Protection of Environment and Rural Development, has established tree nurseries in different institutions and is involving students through the tree planting campaigns at Edwards College. The Pakistan Environmental Protection Foundation has organized training courses on the environment for teachers in addition to holding high-profile public gatherings. Other NGOs in education should be supported in strengthening their input into environmental education. These organizations, if provided the resources and opportunity, could be a great source of strength if harnessed into collaborative projects with the Government and each other.

The ISTU runs in-service workshops for private and public school teachers both in Peshawar and other districts of the NWFP. It also trains master trainers. The Unit asked IUCN and WWF to collaborate in the delivery of a training workshop in Peshawar on environmental education. A master trainers workshop in Mardan will have input from IUCN.

The Society of Pakistan English Language Teachers conducts in-service training of private-school teachers and from school to college level in the Government sector. In some provinces it has also worked with the Text Book Boards. The group has begun to incorporate environmental themes in its work, but needs more support.

The Pakistan American Cultural Center caters to thousands of young people and adults who want to learn English. It, too, has an interest in introducing environmental themes but needs support.

9.2.7 Institution-strengthening

If environmental education is to become truly embedded in education in the NWFP, the Education Department will need, over time, to become more self-sufficient in this type of knowledge.

A small number of key people involved in teacher training, material design, curriculum development, and text book production will need to acquire formal

training in environmental education. They should be charged with bringing together a group to plan and setup an Environmental Education programme dedicated to providing short- and medium-term courses, internships, and on-going environmental education activities. This should be embedded in already existing institutions such as the Department of Environmental Planning and Management or the Institute for Education and Research at the University of Peshawar.

The Centre for Environmental Education, Nehru Foundation in Ahmedabad, India, and the Centre for Environmental Studies in Indonesia may be good models for study. Other required initiatives, such as the South Asia, South East Asia Network for Environmental Education may provide useful support.

If the Education Department and other education institutions and organizations are to contribute effectively to the SPCS, environmental information will need to be readily accessible. The proposed Environmental Information Management Centre may provide this link between education and environment. IUCN and WWF will be useful channels for accessing global and regional information on environmental education.

Environmental projects of the SPCS will also need to take the responsibility for communicating with and educating local communities, educational institutions, and the public about their work.

9.2.8 Implementation Mechanisms

Implementation must go hand in hand with further strategy development. Thus a focal point for environmental education will be recruited to work within the Education Department. A Round Table will be constituted with representatives from all levels of the Government education sector and from civil society, parents, private education, employees, and NGOs involved with education and rural development. Environmental specialists will also be represented. The SPCS Communication and NGO Round Tables should also be represented to ensure that joint concerns are considered.

Demonstration districts may need to be selected. Peshawar could represent both the urban and the rural plains. Chitral or Abbotabad could represent the predominantly rural areas and the hills. Chitral is a logical choice, as it has been selected for a District Conservation Strategy. On the other hand, Abbotabad is logistically easier and the Bureau of Curriculum, one of the key educational institutes, is located there. Perhaps both can be developed as demonstration areas.

The end result should be that each school has teachers committed and skilled in using environmental education in their teaching wherever appropriate, and who are supported by like-minded leaders. Learning instructors, themselves committed and trained, will support the heads in creating 'green' school development plans. These would include not only classroom teaching but also school rituals and extra-curricular activities. The physical environment and school surroundings practices, such as the use of paper, water, electricity and waste disposal, will be considered. Links with the community and any environmental projects in the immediate vicinity will also take place.

Estimated time periods for significant results to be produced range from 5 to 20 years. A realistic goal for the NWFP would be to have a major impact on public

attitudes and behaviour in between 10 and 15 years. Although with careful planning and commitment and minimal resources, some results could be achieved within 5 years.

9.2.9 Tertiary Education

At every stage of education, students need to deepen their understanding of environmental issues. Therefore the same basic infusion approach should be used in colleges and universities. Initially the training arrangements may have to be on an ad hoc basis, as there is no regular infrastructure for training college or university teachers.

All students of these colleges should have obligatory environment studies requirement as they already have for Pakistan Studies and Islamiyat. Opportunities might eventually be provided for specialization in environmental engineering, environmental impact assessment technologies, and community health, with a strong focus on environment and occupational health.

At the university level, the Department of Environmental Planning and Management at the University of Peshawar is the first centre of graduate study in environmental management in Pakistan. Its role is central to the production of a generation of competent environmentalists who can use both physical and social sciences to analyze environmental processes and prescribe solutions. Founded in 1990, the department offerings include Environmental Planning and Management, Environmental Impact Assessment, Environmental Economics, and Environmental Chemistry, along with Biological Pollution, Chemical Pollution, and Remote Sensing. Given more research facilities, the department could be more active in environmental awareness and education. There are 10-15 graduates annually.

To ensure that this and future programmes remain multi-disciplinary, it is important that internal curriculum committees are established, with economists, lawyers, chemists, foresters, sociologists, and others who represent the disciplines from which environmentalists can draw their disciplinary knowledge. Such committees should ensure that the various disciplines are being properly included in the environmental studies framework.

Similarly, to ensure that the programme remains relevant to the world outside universities, such programmes should be guided by external advisory committees that should include representatives from the Pakistan Council for Scientific and Industrial Research and other research agencies near the university, business, environmental NGOs, and Government agencies such as the EPA and the National Institute of Public Administration (NIPA). Links should also be maintained with teachers' colleges and with agriculture and forestry schools.

Environmental research activities in masters and doctoral programmes should be encouraged. Environmental components should be added to existing programmes in agriculture, forestry, health, and engineering. Joint courses such as environment-business, environment-law, and environment-engineering should be introduced. Faculty members should be encouraged and assisted to develop optional courses on environmental issues showing the cross-disciplinary linkages. Environmental materials, perspectives, and linkages should be stressed in all engineering, forestry, and agriculture courses. Integration is necessary if these graduates are to cope with

the interactions between and among disciplines in the environmental field to provide the foundation for sustainable development.

WWF is already working on the infusion of environmental education into the B.Ed. course in the NWFP. IUCN is negotiating a similar intervention in Karachi. These two examples could be examined and adapted for replication in all B.Ed. courses in the province. Teachers who go on to acquire a graduate degree in education are those whose career path in education is likely to bring them into positions of influence. These potential decision makers need an in-depth understanding of environmental education. Departments of Education in the universities should be persuaded to negotiate with the University Grants Commission and be supported in designing appropriate components.

9.2.10 Decision Makers & Professionals

Decision makers in different sectors have an impact on the environment. There is a need to proactively seek opportunities for educating selected key groups. Moreover, capacity building in Government departments is a strong theme throughout the National Conservation Strategy. The environmental orientation of Government officers is necessary as a basis for this. The National Institute of Public Administration, the Pakistan Military Academy (PMA) Kakul, the Pakistan Institute of Management Studies (PIMS), and the Pakistan Academy for Rural Development (PARAD) have been identified as key institutions.

The NIPA is responsible for training Government officers and has introduced training for senior policy makers in environmental awareness and issues facing Pakistan. It has operations in Karachi, Lahore, and Peshawar. In Peshawar, the NIPA has already been involved in developing a curriculum for sustainable development with the University of Peshawar. The institute could prove to be a very strong channel for introducing concepts of conservation and sustainable development to decision makers. Similar potential also exists in the PARAD who offer environment related courses too.

The PMA Kakul is responsible for pre-service and in-service professional training of all commissioned officers in the military. Although the army nurtures trees, the potential threat to wildlife during army exercises needs to be taken into account by them. Hence there is an urgent need for integrating environmental components in the PMA training programmes.

The PIMS aims to promote management development in the country. Services offered by the PIMS include in-country courses, research and publications, and management consultancy services in the area of strategic planning, human resource management, marketing management, and organization development. Its clients include the Government, private-sector groups, business, and industry. Therefore inclusion of environmental education components in these courses could have a direct impact.

9.2.11 Basic Education, Literacy & Development Programmes

Basic education and literacy programmes could be powerful channels for making people more conscious of their natural resources and deepening their understanding of the issues involved. In all rural areas people are closely and visibly affected by the

natural environment and also have direct impact on it. So environmental issues hold vital relevance for their daily lives. Moreover, reading and writing skills are most easily learned when the content of what is being taught is relevant to the student. It is essential that basic education and literacy programmes receive support to 'green' their materials through the inclusion of environmental themes that are specific to their audiences and locations. Developers and deliverers of such programmes need related training.

Khwendu Kor, a Peshawar-based NGO, has been running environmental awareness programmes for women in the rural areas since 1993. The organization is active in some selected villages and is carrying out activities such as family planning, establishing home-based literacy centres, encouraging courtyard plantation, and planting tree nurseries. They have the advantage of having a trained work-force of educated women who decide on the villages to work in and then interact closely with the community. Its educational activities in Karak and Malakand Districts include a Female Adult Literacy Programme and an Integrated Basic Education Programme in partnership with the Directorate of Primary Education and UNICEF.

Strengthening Participatory Organization has initiated an Integrated Basic Education Programme in collaboration with UNICEF in Nowshera district. The objective of the programme is to motivate the communities for non-formal female education.

The Education Unit of IUCN Pakistan has already supported the Adult Basic Education Society, an NGO catering to rural Punjab, in developing readers for rural women based on environmental issues. This example could be analyzed to form a base for developing materials to suit the NWFP's needs. Other NGOs with programmes in rural development, women in development, health, drug rehabilitation, and other allied fields are increasingly expressing the need to include education and awareness raising for the environment into their agendas. As yet, no needs assessment has been made.

9.3 COMMITMENTS

Environmental Awareness

During the next three years, a commitment is made to:

- ?? conduct a sample survey on the existing level of environmental awareness among people and on the effectiveness of recent and current initiatives in environmental communication;
- ?? establish the EIMC at Peshawar
- ?? have SPCS focal points in key departments actively promote the environment and SPCS;
- ?? hold regular inter-departmental thematic briefings and workshops in the Government departments;
- ?? arrange meetings of the members of the Communication Round Table with

- the provincial Cabinet members;
- ?? persuade parliamentarians to form a House Committee on Environment;
 - ?? arrange special half-day seminars on the environment for parliamentarians;
 - ?? train a core of ulema on environmental issues, so they can impart training to others;
 - ?? have the Deputy Commissioner, and NGO and community leaders hold hujra meetings to discuss environmental issues;
 - ?? train and support a group of writers, journalists, puppeteers, artists, and singers to present environmental issues through their art;
 - ?? support the creation and operation of a forum of environmental journalists;
 - ?? integrate boy scouts and girl guides into the campaign for environmental protection and awareness;
 - ?? develop and distribute information packages among target implementers of the SPCS on how they can implement the SPCS plan of action in practical ways
 - ?? train and build capacity of NGOs, community-based organizations, and village organizations in environmental issues, for disseminating environmental information and educating local communities;
 - ?? establish an environment cell in Sarhad Chamber of Commerce and Industries to educate business-men and to help them comply with the NEQS;
 - ?? approach and request the local armed forces leadership to take part in environmental rehabilitation activities;
 - ?? produce a documentary on the environment of the NWFP
 - ?? conduct fortnightly briefings for journalists on the SPCS and other related issues;
 - ?? televise and broadcast commercials with effective environmental messages on radio and television;
 - ?? encourage and support different social sectors, organizations, and people to form pressure groups to ensure environment-friendly decision making; and
 - ?? contact and convince ulema training schools to include environment in their curricula. Over the long-term, a commitment is made to:

- ?? develop the capacity of local institutions to set up environmental information centres at the district level
- ?? hold regular briefings, workshops, and seminars for target audiences of the SPCS, particularly decision makers, ulema, politicians, and media representatives;
- ?? make dramas, documentaries, radio programmes, puppet shows, street theatre, and plays focused on environment a regular feature;
- ?? conduct environmental awareness surveys every three years to assess the level of environmental awareness and the impact of the awareness campaign; and
- ?? modify the environmental awareness strategy accordingly.

Environmental Education

During the next three years, a commitment is made to:

- ?? recruit a focal point for environmental education to work in the Education Department;
- ?? establish an Environmental Education Round Table to review and update the environmental education strategy and assist in its implementation through potential stakeholders;
- ?? establish a planning and management group in the Education Department;
- ?? conduct detailed planning with SAP, PED, and other projects for the infusion of environmental education;
- ?? select demonstration districts to pilot test the environmental education strategy;
- ?? hold an orientation session for all Directors of Education and key project staff;
- ?? conduct an analysis of text books as a base for training for the creative teaching of environmental education;
- ?? design, initiate, and evaluate training for the staff of the Bureau of Curriculum, Master Trainers, District Education Officers, Assistant Education Officers, Learning Coordinators and select ed schools heads and nature clubs leaders;
- ?? test an environmental education curriculum for Primary Teaching Certificate and Certificate of Teaching courses and allied training materials in a college for elementary education;
- ?? develop, test, and replicate an environmental education component for a

- B.Ed. course with allied training;
- ?? participate in national and international seminars/ workshops on strategic planning for environmental education;
- ?? initiate 'greening' of literacy and basic education activities;
- ?? include an environmental education component in Chitral District Conservation Strategy; and
- ?? develop strong links between environmental education focal points and other strategies/projects of SPCS.

Over the long-term, a commitment is made to:

- ?? conduct in-depth formal environmental education training for key people in the Education Department;
- ?? ensure through the Bureau of Curriculum that environmental education is in future curricula;
- ?? ensure through the Text Book Board that environmental education is highlighted in future textbooks;
- ?? develop a number of 'green' schools in demonstration districts
- ?? strengthen the capacity of private and public schools for environmental education and collaboration with Government
- ?? set up an environmental education centre;
- ?? develop appropriate environmental components in professional colleges to strengthen their professional training and to develop a specialist subject area;
- ?? setup in the Department of Environmental Planning and Management of the University of Peshawar, an internal multi-disciplinary curriculum committee and an external advisory committee;
- ?? build an environmental education component into M.Ed. courses;
- ?? make environmental components part of the curriculum of the NIPA, PARD, PIMS, and PMA Kakul;
- ?? conduct a survey to assess NGO capacity for implementing environmental education;
- ?? develop educational programmes in national parks and protected areas, and links with education institutions;

- ?? include environmental education and communication in all projects of the SPCS as an integral part of their design; and
- ?? develop a data base of all organizations, institutions, activities, and people involved in environmental education.