Project Document for SDN, Pakistan

Jan 94 - Jun 96

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A. CONTEXT

The United Nations Conference on Environment and Development (UNCED) brought into existence a comprehensive plan for sustainable development at the national and global scale. This plan, known as Agenda 21, is designed to help developing countries acquire the capacity to implement the recommendations of the Conference. Agenda 21 recognizes the powerful role of information sharing and dissemination on issues and actions related to sustainable development.

Agenda 21 repeatedly notes the need to deal with fundamental problems caused by inadequate availability, analysis, and use of information in the field of development and its relation to the environment. It points to the lack of effective mechanisms for exchanging information between the South and the North, the lack of human resources and institutional capacity in developing countries to make use of available information, and the lack of information infrastructure to support research and development effort.

The United Nations Development Programme (UNDP) has been given the lead responsibility at UNCED for capacity building, through its Capacity 21 programme, to help developing countries formulate economic, social and environmental goals, plans, programmes and policies that lead to sustainable development. The Sustainable Development Network (SDN), with its capacity to provide quick access to date, speedy analysis and the timely dissemination of information, is a crucial part of this effort.

The global plan for SDN, is to set up national SDNs in key countries around the world. These national SDNs will combine electronic communication, face-to-face meetings, and other means of communication to link sources and users of information on sustainable development through government, research organizations, non-governmental organizations (NGOS), grassroots and entrepreneurial organizations on a global scale. Thus SDNs should foster informed dialogue and communications to empower those stakeholders directly affected by the development process. SDNs further aim to facilitate access to the global communications network and knowledge base which can provide information on different aspects of sustainable development. These networks include E-mail, computerized resources such as commercially available databases and information services and the largest international network, the Internet (with its 20 million users and growing at a phenomenal rate).

Overall, the agenda of the SDN is grand in its scope but sufficiently flexible to allow for adjustment based on the conditions prevailing in the individual countries. Each SDN has been allowed time to chart out its course, and to assess how it can meet some, or all, of these objectives through a phased programme approach.

1. Description of sub-sector

Pakistan has a country specific National Conservation Strategy (NCS) which seeks to transform attitudes and practices and to influence national consumption patterns such that the country can work towards sustainable development. To this end, the NCS has also developed a Communication Strategy in order to articulate the need for carefully thought out, research based, planning of communication inputs for each of the 14 core areas deemed critical to Pakistan's environmental survival. The Communication Strategy outlines the different levels of the communication process: public relations, mass awareness and behavioral change and points out the need to concentrate on methodologies to bring about behavioral change as the key focus for any communication intervention. SDN would contribute to, and be part of this overall Communication Strategy by providing one tool for information exchange and dialogue.

Access to scientific and technical information is limited by lack of funding for libraries and other sources of information. However most large government offices have microcomputers as do the universities and Research and Development (R&D) institutions. CD-ROM databases have only recently been introduced in some of the better endowed institutions. Electronic networking nationally and globally is in its infancy, and is unlikely to catch on in this sector without significant government encouragement and financial support.

Research and Development (R&D) efforts remain unfocussed and therefore very little cooperation and coordination is apparent in what happens in R&D institutions and educational institutions. Very little effort is made to link the demands of business and industry with R&D efforts or the curriculum at the educational institutions. This is mainly due to the absence of a coherent Education and Science and Technology policy coupled with the general lack of interest in these areas by the political parties and the bureaucracy.

The business community has obtained information about products and processes through informal contacts overseas, visits to trade fairs, and information provided by the national trade and industry information services of UNDP's DEVNET, which has a nodal point in Islamabad. Almost all such information is supply driven. There is an absence of any efficient, national organization or body which can carry out a comprehensive investigation of a user's needs. A business wishing to explore new avenues has to rely on expensive foreign consultants (whose knowledge can be unreliable) or on informal sources of information. Just as in the public sector, this sector (despite its competitive urge), is starved of much needed information and is becoming increasingly conscious of this lack of access to information as the global marketplace puts increasing demands on the producers.

The NGO movement, though small in comparison with those in the neighbouring countries, shows signs of making a significant contribution in areas where NGOs have been successful elsewhere. The enthusiasm of the NGOs and the drive to bring about a change in the society has required them to access information from a large range of sources. Here too what they get is fragmentary and often not easily understandable. A number of large, urban NGOs now have computers and are active users. Many of them are ready to join the network.

While there has been a steady influx of microcomputers in the country, there has been very little attention paid to wide area networking apart from a few isolated companies such as Pakistan International Airlines. Some large companies and organizations have local area networks. Networking has been discouraged by the high tariff rates and the monopolistic attitude of the Pakistan Telecommunication Corporation (PTC). This fortunately may be changing as the PTC opens up the market for private sector investment. Recently PTC has invited foreign and national companies, through open advertisement, to bid for the setting up of a data network in the country. In the past, PTC's own data network had failed to provide a suitable service, and caused considerable problems for its hundred-odd subscribers who had been persuaded to pay very high rates.

2. Host country strategy

Pakistan has developed its own National Conservation Strategy (NCS) which is the guiding document for SDN. Since UNDP encourages all countries that participated in UNCED to develop further national plans for Agenda 21 through its Capacity 21 programme, the National Conservation Strategy (NCS), will help guide the SDN in setting priorities.

There are 14 core areas of the NCS: 1. Maintaining soils in croplands. 2. Increasing irrigation efficiency. 3. Protecting watersheds. 4. Supporting forestry and plantation. 5. Restoring rangelands and improving livestock. 6. Protecting water bodies and sustainable fisheries. 7. Conserving

biodiversity. 8. Increasing energy efficiency. 9. Developing and deploying renewable energy sources. 10. Preventing/ abating pollution. 11. Managing urban wastes. 12. Supporting institutions for common resources. 13. Integrating population and environment programmes. 14. Preserving the cultural heritage.

These 14 core areas are supported by programmes in population, education, communication, research and technology, women in development, training, and information systems. (The discussion on information systems in the NCS document is limited.) The success of all these programmes and the main thrust areas of the NCS will necessarily depend on quick access to relevant information as well as the facility to exchange ideas and information across these related, but different activity areas. Electronic networking offers a useful means for this access and interaction, and while it may be regarded as part of the communication and information systems programmes, its scope extends beyond these. It can become an indispensable tool for the whole NCS.

The communications and education programmes of the NCS lay great stress on the "process" aspect of development and emphasize social mobilization, community participation and behavioural change to avoid the ad hoc, quick-fix solutions where media is seen as the only communicator. It is within this matrix of ideas and approaches that the SDN can take root by providing information in almost all areas of concern to the NCS. SDN can become a vehicle for strengthening the information technology aspects of NCS implementation.

A concern of governmental and non-governmental agencies is the lack of inter-sectoral information access. Part of this arises from an absence of electronically readable information, but is compounded by out dated management of organizations and the information contained therein. There is also an absence of an information policy in the country, and the few worthwhile efforts that have begun for making information more readily accessible to users do not fit into an overall plan. In the Pakistani context, where the government has enormous powers, the current state ofinformation disarray can only be rectified by an enlightened leadership in the government. It should see the need for information, demand it, and use it for rational decision making. The SDN can be one of the initiatives to highlight and demonstrate some of these issues through its work and thereby help increase the awareness and demand for speedy and easy access to relevant information.

3. Prior or ongoing assistance

GOVERNMENT OF PAKISTAN

The Ministry of Environment and Urban Affairs Division (EUAD) which has direct responsibility for coordinating the implementation of the NCS, has been allocated funds to set up a data analysis centre. In the first phase of the Centre's work, data on human settlements will be input followed by information about environment related projects. It is expected that analysis of the progress of NCS will be carried out by this centre.

The NCS recommends improved collection, storage, and retrieval of existing natural resource inventories. It also suggests the setting up of systems for the widespread dissemination of information to all natural resource users, while removing outmoded protocals limiting such access. The use of satellite imagery is recognized. Another supporting measure is the development of environmental data in the Federal and provincial statistics agencies to support environmental analysis in sectoral departments.

EUAD through its NCS unit has an on-going programme of mass awareness about the environment. This has included: holding of an environment mela; poster/essay competition for

school children; publication of special supplements in national dailies; broadcasting talks on radio.

The Environment Wing of the Planning Commission is responsible for screening all projects for environmental impact and for ensuring that environmental considerations are evident in the Five Year Plans.

ENERCON is another federal unit under the Ministry of Water and Power responsible for implementing energy efficient policies for the government. To this end, ENERCON has launched a series of pilot projects in areas such as transport fuel efficiency and energy efficient building design. ENERCON is receiving limited support from other donors now that USAID support for the project has ended.

At the provincial level, Punjab and NWFP have an Environment Section within the Planning and Development departments which coordinates all environmental activities in the province. Additionally an Environmental Protection Agency (EPA) has also been created in each province, whose mandate is to monitor environmental standards and ensure compliance to legislation. The NWFP province is also in the process of formulating its own provincial conservation strategy.

DONOR SUPPORT

UNDP

For the pilot phase of SDN in Pakistan (Dec '92 - June '93) UNDP provided moderate financing as part of an Interregional project. During the pilot phase a Needs Assessment was carried out to gauge the potential for SDN within the Pakistan context. See Appendix V for a summary of activities during the pilot phase.

Additional funding from UNDP, both from the Pakistan Country programme and from Inter-regional sources, and the International Development and Research Center (IDRC), Ottawa, Canada will support this project until June '96.

UNDP is also involved in other environmental activities: support to the Kasur Tannery Waste Project aimed at reducing the effluent (with UNIDO and other donors); the GEF Biodiversity Project; the GEF Fuel Efficiency project, Assistance to the International Water Logging and Salinity Institute; Watershed Management; the Honey Bee in Mangrove Forest project and the Margalla Hill Management Plan, etc. Some of these are being implemented in collaboration with IUCN.

FAO--Food and Agriculture Organization

The central focus of the FAO programme is to increase productivity of crops and manage natural resources. Since 7 of the 14 core areas of the NCS relate directly to agriculture, the FAO focus falls squarely into the environmental mandate. Most of FAO's technical assistance is financed through UNDP. However it uses other donor funds when it undertakes capital investment activities. FAO executed projects within the environmental area include: Integrated Watershed Management at Suketer in Azad and Jammu Kashmir; a proposed project on trickle and drip irrigation in Balochistan and integrated pest management.

World Bank

The Environment Protection and Resource Conservation Programme is a major umbrella programme worth USD 62M spread over 7 years with 13 major components of which 2 (in collaboration with IUCN) will be supported by the European Commission. Apart from the areas

apparent from the project title, there will be a focus on institutional development. Pilot projects in watershed rehabilitation, rangeland rehabilitation and forestry will be part of this effort. Provision exists for publicity about the programme through the mass media. There is however no budgetry provision for electronic networking in this project.

The Bank has also supported the Social Forestry Project in Punjab; a Northern Resources Management project in AJK and has shown interest in supporting the Margalla Hill Management Plan.

As a result of a comprehensive exercise the World Bank has accepted the NCS as the National Environmental Action Plan (NEAP) and has ranked the projects in the NCS Action Plan after developing guidelines for such a ranking system. These guidelines will be useful for future NCS related projects.

The Bank has also extended credit to Balochistan for institutional development of the Environment Section in the Planning and Development Department, Environment Protection Agency and Forest Department. In addtion there is support for natural resource rehabilitation, i.e. Makran Coast sand dune stabilization, Hazarganji-Chiltan National Park, watershed and range management in Ziarat Juniper forests.

Asian Development Bank

As part of its support of EUAD, the ADB carried out a two year project of strengthening the Federal EPA. Training in Environmental Impact Assessment (EIA) was also imparted to provincial EPAs. They are also providing support for Social Forestry in NWFP.

ADB has now allocated $0.6M as a technical assistance grant for consultancies related to environmental management and will entertain small requests by individual NGOs.

The European Commission

The European Commission has recently signed an agreement to implement the Upland Rehabilitation Project focusing on forestry and watershed management in three areas: Dir Kohistan; Galiat and Murree Kahuta. (IUCN plays a major role in three projects.) The projects, expected to last for seven years, will be based on social mobilization of communities who will seek assistance from government line departments.

The Commission has also signed an agreement to supply equipment to two provincial EPAs, principally through two mobile laboratories for air and water monitoring.

The Canadian International Development Agency (CIDA)

CIDA, through IUCN, has provided major support to the implementation of the NCS since its inception in 1984. They have recently approved another project which will provide institutional funding to IUCN to carry on its existing programmes. It will also channel funds through IUCN in support of two government units: The NCS unit within EUAD and the Environment Wing of the Planning Commission as well as the Sustainable Development Policy Institute (SDPI) in Islamabad.

The Journalist Resource Centre (JRC), the information and communication wing of IUCN, has since its inception also been funded by CIDA through its support to IUCN. JRC is responsible for the overall development of a communication strategy for the NCS, liaison with press and media ,

development of a resource library, for publications and training.

JRC has for several years published the NCS Bulletin which covers a wide range of subjects relevant to NCS. Their library in Karachi is perhaps the best stocked and catalogued collection on the environment in the country. Through the publication of a large number of well-produced reports, and their outreach to the media through training and close contacts with journalists, this Centre has been instrumental in increasing the consciousness about sustainable development in the country.

In 1992, the Sustainable Development Policy Institute was formed in Islamabad. Its mandate is to research policies of interest to the NCS and support GOP and NGOs in the definition of these policies. Major support for it comes from CIDA with funding from NORAD for institutional support. Current research interests cover programmes in: governance; energy; poverty alleviation; population growth; agriculture; environmental health. SDPI has a large publication programme charted out which will include an annual Citizens' Report on Environment and Development. An active programme of workshops and seminars is pursued. It already has a sizeable library with several CD-ROMs and other electronic databases.

The Royal Netherlands Embassy

The Netherlands Library Development Project (NLDP) has been involved with the training of librarians in automation and in networking libraries. Funding is expected to continue until May 1994.

Support was provided for the environmental profile of Balochistan and NWFP; for waterlogging and salinity control as well as for land use planning; and for pollution abatement of tannery effluent project in Kasur.

The Swiss Development Corporation (SDC)

Switzerland, through SDC, has recently entered into support for the environment. They are currently funding the Sarhad Provincial Conservation Strategy by providing Technical Assistance through IUCN to the government of NWFP. They are also involved in forestry and irrigation/drainage projects in that province. In Punjab, they are providing support to an NGO, PIEDAR, which is developing community based strategies for water management. In Sindh they provide some funds to a large drainage project (LBOD) as well as to SAZDA, the Sindh Arid Zone Development Authority.

NORAD

NORAD has been involved in a Training for Women in Forestry project, provides funding to another forestry project in the Northern Areas through the Aga Khan Foundation and has given some seed money to SDPI (see above, under CIDA). NORAD supports IUCN in a project to save the Mangrove swamps in Sindh.

The Overseas Development Assistance (ODA), United Kingdom

ODA has provided some funding for the development of the NCS Action Plan. They also provide training in environmental studies through scholarships from the British Council and are supporting programmes concerned with population control.

US Aid

Support from this agency will come to an end in 1994. Over the last decade US Aid has provided institutional support to a number of organizations. In the agriculture sector there has been major funding for agriculture universities in Faisalabad, Tandojam and Peshawar. The National Agriculture Research Centre has also received a very large grant. A large number of academics from these institutions have received training in the USA from fund provided by this donor. As the funding winds down, US Aid is keen to provide electronic networking to link these institutions and trained persons and to also connect them to the global network.

The Aid programme has also provided support for electronic recording and sharing of records of the National Assembly of Pakistan. This is to be extended by connections with the Provincial Assemblies in provincial capitals at Karachi, Lahore, Quetta and Peshawar.

4. Institutional framework for sub-sector

Government of Pakistan

The Federal Level

The government of Pakistan has taken key responsibility for the implementation of the National Conservation Strategy. To do this they have set up the following institutional framework:

The Ministry of Environment and Urban Affairs Division (EUAD) has overall responsibility for implementation of the NCS. Under the Minister of Environment there is a Secretary responsible for the workings of the ministry. The Secretary is supported by two Joint Secretaries (and an Additional Secretary), one responsible for global environment issues, legislation, etc. and the other for the National Conservation Strategy unit within the ministry.

Pakistan EPA (PEPA) is responsible for implememtation of the Environment Protection Ordinance and for scrutiny and recommendation on Environment Impact Analyses.

The Environment Wing in the Planning Commission is responsible for vetting all projects for their environmental impact and is also mandated with writing environmental concerns into the Five Year Planning Documents.

The Provincial Level

The NWFP is currently preparing a provincial Conservation Strategy. Since NCS implementation is basically a provincial responsibility provincial EPA and Planning and Development Departments are important players in the implementation of the NCS. Other line departments will also be required to be involved in the process.

Government supported organizations that are sources of information are:

Pakistan Science and Technology Information Centre (PASTIC); Pakistan Centre for Appropriate Tech. (PCAT) and Pak. Council for Scientific and Industrial Research (PCSIR); Technology Information Promotion Services (TIPS).

To encourage South/South exchange of information in trade and technology, UNDP and the government set up a TIPS nodal point housed in PASTIC in Islamabad. The node presently receives support from the government but not from UNDP. User charge for the services offered supplement its running expenses.

There are over 20 countries connected to DEVNET in Rome, the hub of the TIPS information network. Information from all countries is compiled, indexed and distributed from there. In Pakistan, a weekly diskette arrives with information separated under appropriate headings ready for distribution to almost 1000 subscribers nationally. Information about Pakistan's products is collected and sent to Rome. Current access to Rome is through fax or telex.

PASTIC houses the national node of UNEP's INFOTERRA network. This network, with headquarters in Nairobi, through links with over 120 centres globally and an extensive database, can provide information related to industry and environment. The link to Nairobi is via fax or telex. UNEP no longer provides financial support to this node. A small grant from the government now helps to keep this office functional.

PASTIC also houses and supports the CEHANET. CEHA is the Regional Centre for Environmental Health Activities, a technical centre established in Amman, Jordan, by the World Health Organization's Regional Office for Eastern Mediterranean. CEHANET is the Centre's Environmental Health Information Network. It was launched in 1988 with a grant from IDRC to cover the initial two years of operation. Pakistan is one of the 23 countries on this network. Access to the information on the database in Jordan is by fax or telex.

PASTIC is the national nodal point for ASTINFO, UNESCO's Asia Pacific Regional Information Exchange.

NADLIN, as part of the Ministry of Science and Technology is an node of ENSIC net, a regional network (non-electronic) with nodes in seven countries and headquartered in Bangkok. This data and information centre specializes in water related subjects. NADLIN maintains a large database in this area.

Pakistani NGOs

IUCN--The World Conservation Union, Pakistan, actively supports the implementation of the NCS. It was a key player in the development of the National Conservation Strategy (NCS) and continues to strongly support its implementation. As part of this effort, it has been in constant touch with the various sectors instrumental in making the Strategy successful. This includes the government, NGOS, researchers, individuals, communities and the business and corporate sectors. These are important groups of immediate interest to the SDN.

The World Wildlife Fund (WWF) has an extensive programme with offices in Karachi, Lahore, Quetta, Peshawar and Islamabad. Work on biodiversity is carried out in three areas: Suleman Range, Bar Valley in Gilgit and the Himalayan Jungle. The headquarters of WWF in Lahore has a large library that includes audio-visual resource material. Training workshops for teachers for the formal and non-formal education sectors are held. Part of WWF's outreach programme includes the publication of about three magazines, one of them a comic strip in Urdu for children.

Among the other NGOs 25 were surveyed regarding their potential interest in SDN. Of these, very few were aware of, little alone be users of computer mediated communications (CMC) even though all of them have a computer.

Two major NGOs, the Trust for Voluntary Organizations (TVO) and the Support for Participatory Organizations (SPO) that support work of a large number of other NGOs, require particular attention. These "umbrella" NGOs have an outreach to many other NGOs operating in the area of sustainable development. This also applies to Shirkatgah and the Aurat Foundation which are concerned with womens' development with especial reference to the environment.

The Society for Conservation and Protection of Environment (SCOPE), was founded in Karachi by a group of committed environmentalists in 1988. In addition to acting as a pressure group, they have promoted environmental consciousness among the public. SCOPE has been active in public interest litigation and been very successful in a number of well-publicized cases. It is now an IUCN member.

SHEHRI (also an IUCN member) and the Urban Resource Centre, both in Karachi bring out newletters in English highlighting the city's problems. SHEHRI's newsletter will also be printed in Sindhi, a regional language. In addition, SHEHRI has held seminars on urban problems, increased consciousness among architects and town-planners, and helped to bring pressure on builders who have violated building regulations.

The National Rural Support Programme is working to foster a countrywide network of grassroots organisation which would enable local communities to plan and undertake their own development and to facilitate it through local mobilization combined with efficient and effective utilization of allocated resources.

The Sarhad Rural Support Corporation programme consists of relatively small scale interventions in a rather restricted number of rural sectors, presently with an emphasis on irrigated agriculture. The main activity is the support of productive physical infrastructure projects, the majority of which are aimed at agricultural improvement.

The Agha Khan Rural Support Programme was established by the Agha Khan Foundation in 1982 to help improve the quality of life of the villagers of Northern Pakistan. The mandate of AKRSP is to focus on income generation in collaboration with government departments, elected bodies, national and international development agencies and commercial institutions.

It aims at raising the income and quality of life of the people in the remote and poor areas in the mountains north of Pakistan. Developing institution and technical models for equitable development and evolving sustainable, long term strategies for productive management of natural resources in a dry and fragile mountain environment. AKRSP's activities now cover Gilgit, Ghizer, Baltistan, Ganche and Chitral districts.

Other NGO such as SDPI and JRC-IUCN are covered in Section 3 above under CIDA, which is the major donor that provides support for their work.

There are several other NGOs such as the Federation of Pakistani NGOs and the Rural Development Foundation, with headquarters in Islamabad, which would benefit from information exchange.

Universities

The University Grants Commission (UGC) has started an electronic network connecting 5 universities, allowing email access to international networks. Unfortunately, except for the university in Islamabad where the UGC is located, and which needs to only dial locally, none of the other universities are using this service, principally due to the administrators' lack of interest. This applies for inter-communication between these universities as well as international messaging. Increased funding and better management will be necessary to bring these and other universities on line with the network.

The Lahore University of Management Sciences (LUMS), a new, prestigious, private university, is the only educational institution that has shown a serious interest in networking on campus and internationally. It has close links with the business and industrial sector.

The HEJ Institute of Chemistry at Karachi University established a dail-up connection to UUNET and BITNET over a year ago. The use of email service through this node has been minimal. Last reports indicated that dial-up connection is made about twice a week, mainly for the staff of the Institute.

The Business Community

The Federation of Pakistan Chambers of Commerce and Industry will be developing a database and linking with UNIDO in Vienna for information exchange.

The Overseas Chambers of Commerce, to which all foreign companies belong, is interested in greater connectivity nationally and internationally.

Working with the business community will require energy and strong communications. There is interest at the Federation of Pakistan Chambers of Commerce and Industry and the Karachi Chamber of Commerce and Industry in environmental issues and also in developing a regional outlook.

There is an initiative of the Commission of the European Communities to help establish a business information service in Islamabad linked with European Chambers of Commerce and Industry: the `European Community Business Information Centre'.

The Employers' Federation of Pakistan with a vast membership, holds courses in subjects on automation and management. It is interested in information on cleaner technologies and new methods of improving office automation systems.

Netherlands Library Development Project and Pak. Library Assoc.

NLDP and PLA are involved in developing plans for introduction of information technology, development of databases, establishment of networks and training of librarians in Pakistan. NLDP which began in 1991 will end in May 1994, but these activities will be continued by the PLA.

NLDP has opened computer training centres in several cities for training librarians. Retrospective electronic cataloguing of existing collections using CDS-ISIS software is provided at roughly USD 1 per document to interested libraries. A current contents service covering about 500 magazines in the social science area is provided through subscription and there is a facility to provide copies of articles from these journals. NLDP has been an active supporter of library automation and resource sharing. It has plans to link electronically about 10 libraries in Islamabad.

Emphasis of this work is on making bibliographic information through various sources accessibe to users in Pakistan. This contrast with SDN's thrust for access to resources (other than merely bibliographic) through electronic conferences and other methods of CMC.

Regional activities and organizations

The UN agencies have major information sources. In Islamabad the UN Information Centre has a large collection of UN reports. UNESCO and other UN agencies have their own libraries in Islamabad.

The Philippines has a SDN programme, and new SDNs are expected in the Mekong and the Pacific regions.

The National Center for Software Technology (NCST), Bombay, hosted the second SDN Starter Kit meeting in Dec. '93. This will be the nodal point for electronic communication with Indian NGOs and other developmental agencies.

The Pakistan Institute of Development Economics, Islamabad, is the country's nodal point for DEVINSA, a social sciences database with headquarters in Sri Lanka. Reports from six countries in this region are entered in this database which is updated by exchange of diskettes.

The Association of Progressive Communication, an association of global networks working in the area of sustainable development presently does not have a node in Pakistan. It aims to electronically link groups working around the world in this sector.

Telecommunications organizations

The Pakistan Telecommunication Corporation (PTC) which handles the bulk of the telecommuniciation traffic within and outside the country is state-owned. Pakistan Telecommunication Foundation, an offshoot of PTC, has recently announced its own public data network which it claims will become operational in 1994. It has yet to be seen whether this venture can provide more efficient and economical service than the existing system.

Very recently PTC has invited national and international companies to bid for getting a license for setting up a data network in the country. With the advent of this new network there is likelihood of improvement of service, and reduced tariff rates for data communication.

The two cellular phone operators offer mobile communication service at a price affordable by only the higher-end business user. Shortly, a third company will begin to offer its cellular services.

B. PROJECT JUSTIFICATION

1. Problem to be Addressed; the present situation

Pakistan will need the best information available to deal with a whole range of development and environmental issues, both national and global. It will need to remain aware of trends, news and views, especially those of its partners and competitors, if it is to be able to negotiate the best agreements possible or implement plans that are both practical and appropriate for the future. Timely access to information and advice is therefore essential. Action for sustainable development requires collaboration and resource sharing across distances and a variety of barriers, including geographical and political boundaries.

The flow of electronic information within Pakistan and with the outside world has been hindered by a lack of appreciation of its value, lack of infrastructure and by artificially high costs. Networking stakeholders involved in promoting sustainable development must overcome these barriers. Help can be sought from several players already involved in developing the means to use computer mediated communications and computer networks and conferencing systems worldwide for this purpose.

The overarching aim of SDN is to be a catalyst for increasing the flow of information relevant to sustainable development through sharing of national resources, and by facilitating access to international groups and institutions that can provide it. Increased flow of information by itself does not lead to its timely use; several other factors such as its cost, its relevance and appropriateness determine whether it will be useful to the community at large. These factors and others that make

the information useful to the stakeholders of SDN will be considered.

The NCS puts great emphasis on information dissemination issues in Pakistan and depends upon ability of cross sectoral linkages at every level. SDN will be in the position to facilitate this and complement the work of other organizations, cooperating with them whenever possible. It will also create a niche for itself in areas where others have felt a need but have not had resources or the know-how to enter and can act as a link to sustainable development agendas within Pakistan and worldwide.

The pilot phase of the SDN project started in December 1992 with the appointment of a Coordinator and a team of researchers. It is housed within the IUCN Islamabad office since IUCN is a key player in environment in Pakistan and occupies a facilitatory role between donors, NGOS and government. The Minister of Environment has publicly recognized the lead role IUCN played in the formation of the NCS and has called upon its continuing assistance as a partner organization for NCS implementation.

During the pilot phase (Dec 92 - Jun 93) the tasks performed by the SDN team have been according to the Terms of Reference (TOR) stipulated by UNDP and directed by a Steering Committee representing a wide range of interests and concerns.(for details on pilot phase see Appendix V)

Since Jun 1993, SDN has been successful on several fronts. The SDN teams has delivered talks at several workshops and seminars, conducted their own workshops on networking for groups ranging from school children and teachers to agriculture researchers, talked to decision makers and entrepreneurs and large computer and communications companies, held regular tutorials for those wishing to join the electronic network, etc. There has been an effort to encourage the commercial network service NARGIS by offering free advice to them and by assisting their new users to get online by installing their modems and software. At times SDN has lent modems and provided communications software for speeding up such a linkup.

Since the start up of the regular email dial-up connection with SDN, NY, there has been a great deal of interest in the use of SDN's services; which are provided free of cost for a few months. Conference down-loads from APC conferences have been experimented with. For the foreseeable future, though, the use of these conferences will be limited, partly due to the limited reading and writing habits of potential users of SDN in Pakistan. The ability to post a query on an appropriate conference and getting information from it has been most encouraging, and it is this area, in addition to basic email that the SDN sees itself concentrating on. Much printed information has also been received by regular mail sent by persons or institution that were contacted by email.

SDN has been able to get information of critical importance in disposing of a toxic chemical dump, announcing a staff vacancy internationally at UNDP Pakistan related to sustainable development, getting a staggering volume of printed material about several problems ranging from hospital waste disposal to effects of dumping of acid on aquatic life and, very recently, on the methods of phasing out leaded petrol (gas) in Pakistan. These are only a few examples of the queries that SDN has helped to put on Internet. Among the formal sources of information the most useful has been our contact with INFOTERRA, which through its worldwide contact had provided a wealth of extremely valuable information.

There has been a marked change in the telecommunications policy in Pakistan toward removing the state's monopoly. Tenders for data networks have been floated by the government inviting local and international companies to enter this market. All this has happened since the start on the SDN. Whether SDN has had any impact on this change of attitude by the government will remain unknown, but it is clear that SDN has highlighted the need for Pakistan to get a better network at

numerous fora, in meetings with decision makers and through many publications in the national press.

Telephone lines continue to cause frequent breakdown of connection to SDN, New York, so an effort is being made to get better digital lines as well as an international line so that we can dial NY if and when needed. At present, SDN, NY, dials our system twice daily for picking up and dropping email. As traffic builds up it will be possible to justify more frequent connection with NY.

The Steering Committee, headed by the UNDP's Resident Representative, is a reflection of the strong links that SDN has with the Government, UNDP, IUCN, NGO's, Technical Information Institutes, Libraries, the Business Sector and other Donors. It is expected that the composition of the Committee will change according to the interests of members and room will be provided for new leaders from the community to join, bringing with them new ideas and initiatives. A separate and smaller Advisory Committee reflecting a similar constituency will be constituted and will meet once every two months to provide SDN with more frequent links to its constitutents. (for details on the steering committee and Advisory Committee, see section 8 "Coordination Arrangments")

The previous section, like others that precede it, lists only some of the major players. It is quite likely that some other equally important organizations have not been covered here but will be approached during the course of project implementation.

2. Expected end of project situation

1. At the end of this project period, SDN will be operational at the national level with BBS in Karachi (at IUCN), in Lahore (at LUMS), in Faisalabad (at the Agriculture University), in Peshawar (location of node to be determined) and Islamabad (at SDN office) offering the following facilities to the largest possible number of groups or individuals:

. electronic mail between organizations using the SDNs in these five cities.

. electronic conferences (newsgroups) on sustainable development for users in these cities.

. A direct dial link with UNDP New York and/or with other computer(s) to download/upload electronic mail and selected electronic conferences or newsgroups.

. The SDN will offer selected Internet newsgroups and selected conferences of the Association for Progressive Communications to its nodal partners and through them to the public at large. Even if only a very select number are offered, this would establish the service. A BBS service may be a first step in this direction.

2. Training and technical support will have been provided to each of the offices supporting the nodal points so that they are in a position to facilitate the training for users that are connected to them. Access to the nodal points will be open to everyone.

3. The SDN will have enhanced ability to connect and exchange information with other organizations of the United Nations that offer information that is critical to the implementation of Agenda 21 such as the INFOTERRA node at PASTIC. In general, the SDN will work closely with UNEP to encourage greater use of their resources.

4. SDN will have increased the effectiveness of TIPS, the national node of DEVNET, which is a UNDP project centred in Rome.

5. SDN Pakistan will have communicated with regional networks of organizations working in the area of environment and development through Internet.

6. The 'Sourcebook on Sustainable Development in Pakistan' will have been prepared. This will be an inventory of information resources, a directory of expertise and other related information. It would be available electronically.

7. Government organizations and others will be encouraged to create directories of their experts. These directories will be compiled into a national directory of experts which would allow a highlighting the names of all experts in a specific field. Through such an electronic directory, with areas of expertise indexed for easy access, greater use of national experts will be possible.

8. SDN will have encouraged the facilitation of other BBSs around the country which carry information relevant to sustainable development. These could cover information gleaned from national and international sources.

9. SDN will have helped to create an environment for greater sharing of information about sustainable development through improved access to electronically readable information in the government and non-governmental sectors.

3. Target beneficiaries

The target beneficiaries of the project are those concerned with the implementation, monitoring and evaluation of the NCS and sustainable development projects. Several such users/partners are mentioned in the preceding section. Individuals and groups working in the general area of development will also benefit, including researchers.

4. Project strategy and institutional arrangements

The strategy for SDN relies on building partnerships and alliances with other stakeholders of the developmental community. These must have an outreach programme to groups not necessarily connected electronically with the help of those that are connected to SDN, thereby widening the user-base for SDN's services. It is essential that SDN complements the services of these existing organizations and groups by increased linkages among them and through helping two-way communication with international groups working on similar issues.

The Users' Need Survey gave SDN a better perspective on where it could be most effective in helping the sustainable development agenda in Pakistan. While a number of organizations are working for sustainable development, it was clear that there is an important niche related to electronic networking where SDN could fit in and become a significant contributor.

The survey has also highlighted the institutions and organizations that need to receive initial attention from SDN (based on their importance to the national sustainable development agenda, their desire to network and their ability to create a multiplier effect for SDN's services). So as not to overstretch the human resources of the SDN and to focus on obtaining tangible results by end of 1996, we have adopted a three stage strategy that concentrates on completing the following:

(1) Technology: the setting up of the technological framework at 5 nodal points. The locations of these nodal points are given in Section 2.

(2) Development of organizational users: SDN will concentrate on developing at least 100 active users of each nodal point of the SDN. This will mean atleast 500 users countrywide.

SDN's network will encourage the widest range of users whether individuals or those belonging to organizations. The following is a small sampling of representative NGOs, GOP departments, business, educational institutions to which these users may belong:

1. The Ministry of Environment and in particular their data centre
2. The Sustainable Development Policy Institute
3. NADLIN
4. Pakistan Agriculture Research Council
5. SCOPE, Sheri, Aurat Foundation, Shirkatgah etc.
6. Federal Chamber of Commerce
7. University Grants Commission
8. PASTIC and associated networks such as TIPS, INFOTERRA, ASTINFO, etc.

Such organization would become models, and their experiences could help others who wish to join the networking community.

(3) Outreach: As national networks mature, SDN's activity will move more towards providing information services to this community of users rather than concentrating on hardware issues.

A rough guide to the time which the SDN team will devote to various activities during the next phase is:

- Setting up of BBS, electronic networking and training	40%
- Advocacy, Outreach, Information Access and Dissemination	30%
- Consultancy, Marketing, Research	30%

The first activity requiring 40% of SDN staff-time will be related to electronic networking through SDN's 5 nodal points. It will require training of persons at these nodal points to maintain the system. They in turn will solicit users from individuals and other organizations and help them to get online. This may require them to help install a modem, provide software support as well as trouble-shoot when needed. The nodal point person will also be the first stop for users wanting information about relevant computer conferences either on the local BBS or internationally. As an example, the nodal point person in IUCN, Karachi would be expected to locate a piece of information that may be available in the organization's library, with the assistance of the librarian or a local expert. This person may also be requested to put a query on an Internet conference by a local organization that is not on the network. Coordination between the various nodal points and technical assistance (in the initial phase) will be provided by Islamabad's node.

Setting up the hardware and having each of the nodal points using the SDN networking services are essentially technical problems. In fact the technical issues have already been solved in the countries of the North and numerous countries of the South. In Pakistan, the process of getting people, organizations and the government to appreciate the benefits of access to knowledge through the networks is the real challenge for SDN.

The most difficult task for SDN will be to establish the importance of Computer Mediated Communication in the minds of government departments and to get the government officials to make their resources available for use in electronic form. It will also take a lot of effort to make them begin utilizing CMC for national and international communication in their every day work.

SDN has noted that many of the government officials and decision makers in industry some times

have personal computers at home which are used by their children. Children use these computers enthusiastically and usually study at well-endowed schools which also use computers in their classrooms. SDN plans to help connect these students and schools locally to SDN's BBSs. Messages will then be able to be transferred to other cities where SDN operates. Downloads from several Internet K-12 (Kindergarten to 12th Grade) conferences relevant to sustainable development and other subjects, can also be provided by SDN to these users. Not only is this effort justified in that it will help the students (and their teachers) to communicate nationally and internationally, it would encourage the students to teach their parents, the decision makers and the elites who are one of SDN's main targets, to appreciate and ultimately use CMC. The proposed Research Assistants may need to spend time in schools and other educational establishments to get computer networking established there.

SDN intends to work closely with the Environment and Urban Affairs Division and assist with the setting up of their data base centre (see GOP under Part A, Section 3), with particular assistance provided in information management and training. This will require one out of the four, Research Assistants to be placed in the centre for an extended period. This person will facilitate the staff of EUAD to get onto the network and will also assist with putting queries on relevant international conferences. When this networking effort from EUAD is successful, replication in other government departments will be facilitated.

SDN, Islamabad will continue to put queries from a wide range of users on computer conferences and provide them feedback. This can range from an SOS message for information about the disposal of a toxic chemical to a request for an incinerator for a hospital or details of ecology courses taught in other countries. Such a service will be available to those who do not have email facility. Useful, demand-driven information obtained from the network will encourage these people to come online.

The above activities will be in addition to publishing newspaper articles, meetings with decision makers, making presentations to different groups, and by helping to connect a wide range of interested users to the existing network services. Work will continue on the Directory of Information Sources and it is expected that this will be available in electronic form by the end of 1994. SDN is also working with PCSIR to set up a data base of national experts in science and technology (S&T), and this too will become available by 1995. The directories may also be printed in association with other organizations. These activities will take up 30% of staff time.

The S&T database will have a data field to describe the areas of expertise of every expert in S&T. More than one area of expertise may be inserted (and would be encouraged) for each person listed in the database. A thesaurus would be used for selection of these areas to ensure standardization and ease of access. The database will be designed to have short records which will allow frequent updating. This database could be used by planners and decision-makers, among others, to locate indigenous talent.

Consultancy and marketing efforts will be performed mainly from the SDN office, Islamabad, but with significant contributions from the four other nodal points. All nodal points will try and get maximum number of users to utilize the services offered by SDN.

The services which the SDN is capable of providing by itself or in collaboration with others are:

1. BBS service in five cities and, through these, access to international conferences of interest to a wide range of users.

2. Popularizing the setting up of BBSs by a range of people and organization. Providing international conferences to these BBSs as well as email around the country and

internationally.

3. Providing access to electronic data specific to UN and other agencies involved in development.

4. Attracting students and schools with computers to become part of the network.

5. Providing software development/information management consultancy, and development support where feasible, for EUAD and other organizations involved in NCS impementation. SDN will also extend this service to others.

6. Research leading to reports related to local/national networking plans may be carried out for the government and others.

7. Conference and news feeds to the media and other users.

8. Training and workshops related to information technologies.

SDN has already provided free consultancy on information services and products to various organizations within and outside the government. As in-house expertise improves, in parallel with the development of a marketing plan, such services and others listed above will be priced.

It may be necessary to create a new short-term position in the Islamabad office for developing a marketing plan. The person appointed will travel around the country when necessary as well as provide assistance in training along with the staff from the nodal organisations.

Research into various issue of concern to SDN will continue to be carried out by existing staff members, but to make the effort more thorough Research Assistants will be employed to collect data and material on specific issues, as well as assist in writing. They may also be used as trainers where demand on the existing staff is over-stretched.

Keeping abreast of changes in government communications policy, and the role of the private sector in providing communication services will be part of the research agenda of SDN. Another important issue that will be explored is the dissemination and use of data and information obtained from the networks, within all the important sectors in the country by users of SDN network services (email and conferences).

The above activities related consultancy, marketing and research will take up 30% of staff time.

In summary, in addition to being a catalyst for change within the country with regards to electronic information dissemination and use, SDN will help provide a basic hardware capability at five nodal points with staff who are able to train users of SDN. The increase in staff suggested in this proposal is to ensure that the SDN's outreach to the public is increased. SDN will aim to get at least 500 users on the SDN network during the next three years, and train them to utilize our services optimally. These users in turn will help attract other users. SDN will, with time, begin to market its services. It is expected that the benefits of SDN will reach a wide sector of the public who in the initial stages cannot have direct access. This can happen through intermediaries such as NGOs, support organisations, research institutions, consultants, and others on the network.

5. Reasons for assistance from UNDP/executing agency

UNDP was identified by the international community during the Earth Summit as the lead

organization of the United Nations to help developing countries acquire the capacity to implement Agenda 21.

Technology transfer and access to information and knowledge was identified as a cross cutting issue by UNCED, a separate chapter was devoted to developing the means to facilitate access to information, as well as helping developing countries bridge the data gap they experience with the industrialized world.

The SDN in Pakistan is a direct response of UNDP to these recommendations and the needs of the Pakistan NCS. The IDRC is also keen to assist the implementation of the NCS and the SDN Pakistan will bring together UNDP, IDRC and the IUCN which has been a major partner of the Government in the formulation and now the implementation of the NCS.

6. Special considerations

The SDN with its close connection with the NCS will pay special attention to the environment, technology transfer and developmental issues of concern to women. It will also foster access to information to the private sector and help increase private investment, based on the principles of sustainable development. It will invite the active participation of NGOs, businesses, education and research institutions, and the whole developmental community, including the government and donors.

Within the context of the NCS, gender issues are treated at both a thematic level, and as integrated within the context of all the difficult sectoral programmes; ie they are both cross sectoral and intersectoral.

Thus, if SDN is seen as a part of the implementation of the NCS, with particular reference to information flow, gender within SDN must be similarly treated.

The SDN secretariat within itself, by being part of UNDP and IUCN's management structure, would be an equal opportunity employer, and make an effort to employ women at all levels.

The SDN programme, through and with its nodal points, could emphasize issues of particular relevance to women and the Environment. Linked to the nodes would be NGOs and institutions working especially on Women Development and Environment (WIDE) issues - eg Shirkat Gah with the LUMS node in Lahore, and with the IUCN node in Karachi.

In addition, such projects and activities which have particular focus on WIDE could be preferentially networked to the nodes so as to ensure that the information to and from them gets the largest audience. This could be particularly beneficial for example, in issues of women and forestry, education and health.

7. Coordination arrangements

The SDN Pakistan is responsible to a network of institutions. Day to day management and administrative support is supplied by IUCN Pakistan while overall directional support is given by the Steering Committee. The SDN is also directly connected by computer link to SDN, New York and IDRC, Ottawa. Finally SDN is answerable to client needs.

In order to deal with this web of institutional connectivity it is essential that management and reporting responsibilities are clarified and made simple in the following manner:

- The coordinator is responsible for day to day management of the project, budget, personnel management and outputs.

- IUCN is responsible for the overall administration, finanacial management and technical support including quality control and production in a timely manner. IUCN will be contracted to provide overall guidance on behalf of UNDP and IDRC, and will be ultimtely responsible for the outputs of the project.

- IUCN reports to UNDP and IDRC who provide overall policy direction.

- The technical team at SDN, NY will provide technical and administrative backstopping, and will ensure some over all uniformity in project execution vis-a-vis SDNs in other countries. It may continue to provide training and guidance through participation in workshops during the life of the project. It can make recommendations, but it is up to each SDN to implement what it thinks is best, based on the local conditions. Close cooperation with national SDNs is welcome by SDN, NY.

The Steering Committee (SC) will comprise of active, influential individuals who can help assess the progress, advise the Coordinator about future programmes, and be good ambassadors for SDN. All decisions regarding additional funding and basic changes to the project document would be reviewed by the SC. The SC will be chaired by the UN Resident Representive (or a senior member of the UN staff), with the Secretary of the SC appointed by UNDP. The membership of the Committee will be constituted by UNDP and IUCN in consultation with the Coordinator. As nodal points develop, senior representatives from the organizations that house the nodal points may be asked to attend the meetings or become members of the SC. The SC should not be very large and would meet once every six months.

A separate Advisory Committee (AC) of informed and committed individuals will also be formed by UNDP and IUCN on the advise of the SDN coordinator, to provide regular links between SDN and its constituents. It would meet at least once every two months, and all technical and non-technical matters regarding the implementation and management of the SDN would be discussed. Meeting on the network could substitute for a physical get-together. It would hence be necessary for all memebers of the AC to be active users of the computer network.

At the face-to-face meetings, the project coordinator would review progress on the SDN workplan with the AC, and SDN staff and AC members would provide any other "feedback" on the progress of the SDN. Modifications to the SDN workplan would be discussed and agreed upon by this committee. The AC would not have more than seven members, and would include representatives from UNDP, IUCN, Government, and the nodal points. The SC, will be chaired by IUCN and the coordinator will be its secretary. Unlike the SC, the AC would operate at the "working" level with members who are well versed and well informed on all aspects of the SDN. The SDN coordinator would regularly liaise with AC members and keep them well informed, through the SDN BBS, on SDN activities.

8. Counterpart support capacity

It is recommended that IUCN continue to be the executing agency until Dec 1996. IUCN is well positioned to provide linkages with the NCS and other Government of Pakistan initiatives related to the environment and offer a better alternative, than for SDN to operate completely independently.

It is expected that the four new nodal points will provide support in terms of office space, administrative support and personnel and will be able to provide some hardware and operational budget to the node.

C. DEVELOPMENT OBJECTIVE

Development objective

To promote sustainable development and the implementation of Agenda 21 through the NCS in Pakistan by facilitating increased access to information, knowledge and expert advice and by increased communications between stakeholders locally, nationally and globally.

D. IMMEDIATE OBJECTIVE, OUTPUTS AND ACTIVITIES, WORKPLAN

Objective

Increase user group access to information about sustainable development by June 1996.

Success Criteria

The setting up of five nodes in Islamabad, Karachi, Lahore, Faisalabad and Peshawar each with BBS and trained staff by June 1996.

The Karachi and Lahore node will be set up by end of 1994. The other will follow in the next year. If appropriate institutions in other cities are particularly interested and wish to contribute equipment and personnel quickly, they may be considered sooner than presently planned. For example there is some interest shown by organizations for setting up a node in Quetta, Balochistan, using equipment given by the USAID programme.

Generate atleast 500 active users accessing the five nodal points. This can be measured by monitoring their use of electronic mail, putting queries on and contributing to conferences and making use of SDN's ability to access information. It is expected that the information obtained by them from the network will be made available to their partners.

A large number of other services listed in section 4 will also be provided to a range of users.

Several large organizations working in the area of sustainable development will be linked nationally and internationally through email. Conferences will be accessed from a variety of sources such as The Association for Progressive Communications (APC).

The Directory of Information Source will be available electronically at the nodal points. A Directory of National Scientists and Technologists will be developed in collaboration with PCSIR and other agencies, and this will also be made available on the network.

Instead of a separate section for the workplan it has been incorporated in the following list of outputs and activities. The workplan is somewhat fluid and will require frequent adjustments by the Coordinator. These will be reported to the Advisory Committee. Advice and input of the Committee will be sought frequently. (Also see annexe I on the workplan.)

[Activities are followed by list of persons responsible for them. C = Coordinator, RAN = Research Associate for Networking, RAD = Research Associate for Database/Applications/Networks, MT = Associate for Marketing and Training, ES = Executive Secretary, RAT = Research Assistant]

Output 1

Setting up a functional node in Islamabad.

Activities and Workplan for Output 1

The following activities will continue throughout project period.

1.1 Expand and manage office. (C, ES, RAT)

1.2 Install software components of the Starter Kit and demonstrate their use. Use and demonstrate other parts of the Kit such as CD-ROMs and directories. (RAN, RAD, RAT)

1.3 Purchase additional hardware locally or through OPS, UNDP, New York when appropriate. This may require, as suggested by UNDP, NY, the purchase of a UNIX-based machine to cater for possible Internet connectivity from Pakistan. (ES, RAN, RAD)

1.4 Advertise and encourage a range of users to access to BBS first on a free basis and later to begin charging for the services. (RAN, RAD)

1.5 Establish regular computer link for email and conference downloads through SDN, New York. Advertise a range on conferences available from APC and other sources on the BBS. Until such time as others can place their own queries on the computer conferences, SDN staff will do this for them, and will forward to these people the information obtained. (RAN, RAD)

1.6 Monitor the usage and evolving needs of users of BBS and other SDN services. (RAN, RAD)

1.7 Demonstrate the use of optical scanner and character recognition software to convert existing documents into electronic readable form. Target government departments initially. (RAD, MT)

1.8 Train users of node to make optimum use of network and other SDN services. (RAN, RAD, MT)

1.9 Connect UN agencies, SDPI, NADLIN, PARC and TIPS to SDN's BBS. (RAN, RAD)

Output 2

Set up and make operational nodes in Karachi and Lahore.

Activities and Workplan for Output 2

2.1 In addition to many of the activities related to Output 1:

2.2 Negotiate cost and revenue sharing with partner organizations. (C) Until end of 1995

2.3 Ensure a part-time person from counterpart organisation at each nodal point. It may also be necessary to employ a full time Research Assistant at these nodal points for 12-18 months. This person would manage and advertise the services of SDN. (C, ES) Until mid 1995

2.4 Training of the Research Assistant and key persons within the organization will be provided by SDN. (RAD, MT, RAT) Until mid 1995

Output 3

Develop nodal points in Peshawar and Faisalabad

Activities and Workplan for Output 3

Same as for Output 2

Output 4

Develop about 500 active users of SDN's services

Activities and Workplan for Output 4

The following activities will continue throughout project period.

3.1 Outline a plan with each nodal point to enable it to provide services to others. (MT, C)

3.2 Train relevant staff. (RAN, RAD, MT, RAT)

3.3 Monitor usage of network and other services. (MT, RAN, RAD, RAT)

3.4 Participate in meetings with partners of these organizations to widen the user base. (MT, ES)

Output 5

Increased computer mediated communication nationally and globally and for making national and international data sources readily available in electronic readable form and on networks.

Activities and Workplan for Output 4

The following activities will continue throughout project period.

4.1 Advocacy through writing in the national press on communication and sustainable development issues. (all)

4.2 Making presentations to interested groups, and others such as journalists, who can help to further propagate these ideas. (all)

4.3 Demonstrate to government and business sector leaders. (C, MT, RAD, RAN)

4.4 Lend/Sell modems to and train interested organizations and groups of individuals who can become active users of networks thereby increasing the user base and also become a lobby for improving such facilities in the country. Included in these groups are school children. (all)

4.5 Research on communication policy issues and their implication for information access and usage. (MT, RAN, RAT, C)

4.6 Research flow of information about sustainable development obtained through networking and other means within the development community. Interpretation of the information obtained will be the responsibility of the users of SDN services. (C, RAT)

4.7 Research issues of self-sustainability of SDN in Pakistan and relate it to similar ventures globally. (RAT)

Output 5

Market SDN's services and develop a marketing plan to move towards self sustainable operation.

Activities for Output 5

5.1 Recruit a marketing person for a short term located in Islamabad with skills in computers.(C) Late 1994 or early 1995.

5.2 Visit potential users of SDN, demonstrate the services of SDN and provide estimates of the cost of acquiring the services. (MT) Throughout.

5.3 Using the BERDNET proposal as a starting point to explore the formation of a consortium to run a value-added information service on new data network that are expected to start operating in Pakistan. (MT) Throughout.

5.4 Develop a comprehensive plan for marketing the services of SDN. (MT, RAT) By mid 1995

E. INPUTS

Financial support will come from UNDP ($ 225,000) and IDRC ($ 225,000). This will cover:

- Salaries and benefits for staff.

- Funds for office rental and appropriate information technology to enhance present capabilities for computer mediated communications and other office automation tools beyond what has already been acquired.

- Funds to cover telecommunications costs for downloading and uploading data, for electronic mail and for all direct distance dial communications, including fax.

- Funding for meetings, workshops and training sessions involving key stakeholders in sustainable development and other SDN nodes in Pakistan. This will involve extensive in country travel.

- Funds for national, regional and international travel.

- Funding will cover all the operational and personnel cost of the Islamabad office. To ensure the proper training of personnel at the Ministry of Environment and Urban Resources initially, a Research Assistant may be needed for full-time help within the Ministry. The Research Assistant may also assist in the initial stages with the operation of the newly created data centre at the ministry.

- The Research Assistants will assist the Coordinator and other members of the SDN team in research activities and information gathering. Some of this work will be done in collaboration with SDPI. They will assist getting children and schools on the network.

- A new position of Marketing and Communications specialist will allow for more efficient outreach and the development of a marketing strategy for SDN's services.

JRC-IUCN will provide assistance in the production of publications and handouts. IUCN, Islamabad will provide linkages with NCS projects and related activities.

LUMS will help to get the business community to actively use the services of SDN and is expected to provide counterpart support for the nodal point that will be housed on its campus in Lahore.

It is expected that IUCN and LUMS will provide counterpart support in terms of some hardware, part-time personnel and operating costs.

F. BUDGETS

The following budget breakdown should be read after reviewing the notes given at the end of this section.

Proposed budget for the Pakistan SDN (Jan '94 to Jun'96)

Figures in US $

Line item	Unit cost	Total
Personnel		
SDN Coordinator:	2000/mo	60,000
Research Assoc., Networking	600/mo	18,000
Research Assoc., Databases & Information	500/mo	15,000
Research Assistant (4) (for 12-18 months). Estimated for 18 months (new positions)	450/mo/person	32,400
Marketing and communications specialist (new position) (for 6 months)	800/mo	4,800
Secretarial Assistance	450/mo	13,500

Sub Total:		133,700
Operations		

Operating costs	1250/mo	37,500
Telecommunications (For polling from New York: assume about 15 min/day, USD 2.50/min., 5 days a week, 4 weeks a month)	750/mo	22,500
Other direct distance dialling	750/mo	22,500
Training, publication, handouts, advertisements	800/mo	24,000
Purchase of publications and research material	400/mo	12,000

Sub Total		118,500
Hardware and software		
Islamabad Office		

Office notebook	3000	3,000
Desktop computer (UNIX workstation once we have Internet connectivity)	5000	5,000
Software (Starter Kit)	3000	3,000
High speed modem	750	750
Portable high speed modem (for demonstrations)	400	400
Laser printer	2000	2,000
Portable ink jet printer	750	750
CD-ROM player (SCSI) for demo	750	750
Misc.	14000	14000

Sub Total		28,900
Travel		

International travel (INet, IT meetings and study tours). 2 Trips/yr	9,000/yr	27,000
National travel between nodes and to meet		

users	9,000/yr	27,000
		54,000

Single Nodal Point Expenditure (There are 4 nodal points)

Operational cost		
Operational expense (1 year)	500/mo	6,000
Communication cost (1 year)	500/mo	6,000
Hardware		
PCs (486 sx 33 Mz) (May not need to be provided for every node)	2000 ea	4,000
High-speed modems Total for one node	750 ea	1,500
Misc hardware and software	1000	1,000
Sub-Total cost for 4 nodes (Total cost per node = 18,500)		74,000
Sub Total		409,100
IUCN management fees is 10%		40,900
Overall total (incl. management fees)		450,000

Notes:

o Counterpart contribution in kind from IUCN and LUMS is expected.

o UNDP Pakistan will contribute 25% of the overall UNDP funding.

o SDN expects to generate funds though charging for its services. These are not considered above.

o It may not be necessary to provide all the hardware that is listed to the nodal points.

o The job of the Research Assistants should last only as long as the nodal point cannot provide to do the same work. Nodal points will be encouraged to provide this person as soon as possible, preferably by the end of the first year.

G. RISKS

- If NCS should fail through lack of donor and government support toward its implemention, the impact of SDN will be minimal for the sustainable development agenda. (Even without NCS--the overarching justification for SDN--it could perform a useful purpose helping to

increase information flow.)

- If SDN is unable to put into effect a successful business plan, it will not become self-sustaining. End of donor support will therefore bring an end to the project. The networking environment is, however, changing fast in Pakistan, and if SDN fails to survive beyond June 1996 it will have still helped to set in motion other networking efforts in the public and private sectors which could continue similar work.

- Should the government of Pakistan brings in measures to restrict ready access to communication networks, SDN would not be in a position to continue providing access to information on sustainable development.

- There is a need for maintaining continuity of staff, more so because SDN comprises only a few persons. Change in personnel and absence of any staff member for an extended period can seriously affect the operation.

- Delays in the acquisition of equipment can slow down progress.

- The NCS implementing departments of the government may not utilize the tools and facilities of SDN. Unlike the other sectors such as the NGOs, research, business and education, the government departments tend to take a longer time to adapt to new technologies.

- Although a great deal of interest in SDN was expressed by all the sectors interviewed by SDN, actual use of the products may turn out to be inappropriate (require too much effort, be too expensive) for many of them.

H. PROJECT REVIEWS, REPORTING AND EVALUATION

The project will be subject to a joint review by UNDP, IDRC government and IUCN at least once every 12 months, the first such meeting to be held within the first 12 months of the start of the full implementation. This could be made part of a bi-annual Steering Committee Meeting. The SDN Coordinator and IUCN shall be responsible to prepare and submit to each review meeting a Project Performance Evaluation Report (PPER). Additional PPERs or reports may be requested, if necessary by UNDP or IDRC during the project.

A project terminal report will be prepeared for consideration at the terminal review meeting. It shall be prepared in draft sufficiently in advance to allow review and technical clearance by IUCN at least four months prior to the terminal review.

ACRONYMS

ADB	Asian Development Bank
AJK	Azad Jummu & Kashmir
APC	Association for Progressive Communications
BBS	Bulletin Board System
BERDNET	Business, Education, Researsh and Development Network
CIDA	Canadian International Development Agency
CMC	Computer Mediated Communications
EIA	Environmental Impact Assessment

EPA	Environmental Protection Agency
EUAD	Environment and Urban Affairs Division
GOP	Government of Pakistan
IDRC	International Development and Research Center, Ottawa
IUCN	The World Conservatation Union
JRC	Journalists' Resource Centre of IUCN
LUMS	Lahore Unviersity of Management Sciences
NARGIS	Network Accesed Regional and Global Information Services
NCS	National Conservation Strategy
NCST	National Centre for Software Technology
NGOs	Non-governmental organization
NLDP	Netherland Library Development Project
NWFP	North West Frontier Province
ODA	Overseas Dev. Authority, U.K.
PARC	Pakistan Agricultural Research Council
PASTIC	Pakistan Scientific and Technological Information Centre
PCAT	Pakistan Council for Appropriate Technology
PCSIR	Pakistan Council for Scientific and Industrial Research
PEPA	Pakistan Environmental Protection Agency
PLA	Pakistan Library Association
PTC	Pakistan Telecommunication Corporation
R&D	Research and Developmwnt
SCOPE	Society for Conservation and Protection of Environment
SDC	Swiss Development Cooperation
SDN	Sustainable Development Network
SDPI	Sustainable Development Policy Institute
SPO	Strengthening Participatory Organizations
TOR	Terms of Reference
TVO	Trust for Voluntary Organizations
UGC	University Grants Commission
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WWF	World Wildlife Fund

I. ANNEXES

I. Work Plan

The workplan has been incorporated in section D above. Fine tuning of the plan will be done in consultaion with the Advisory Committee.

II. Training programme

See the mention of workshops and conferences and the study tour mentioned in the workplan.

Training activities should be integrated in the work of the two research associates and the Research Assistants.

SDN will impart training in networking, information management, gathering and dissemination. News about relevant information technologies will also be disseminated to the trainees and users

of SDN's services. All potential users will be targeted.

III. Equipment requirements

As per the SDN Starter Kit and the programme of work proposed, and including equipment to ensure computer mediated communications, including electronic mail and electronic conferencing.

As electronic traffic builds up there may be a need to have workstations at the busier nodal points to handle the traffic. As we would like to see about 100 users at each nodal point there may be a need to go beyond the PCs that we are presently planning for the nodal points.

IV. Job descriptions

SDN Coordinator

He/she will receive inputs from the Resident Representative UNDP, the Country Representative of IUCN, the Director of the SDN at UNDP New York, and IDRC, Ottawa. The SDN Coordinator will report to the Advisory Committee and through that to UNDP and IDRC as its donors. Day to day management and guidance will be provided by the IUCN Country Representative.

The SDN Coordinator will work closely with the SDN Advisory Committee, the Director of the UNDP SDN in New York and with UNDP, IDRC in Ottawa and IUCN staff. Ongoing communications on a regular basis perhaps in the form of a brief monthly overview of activities or frequent meetings will be maintained.

The SDN Coordinator will be responsible for managing the small SDN secretariat, for undertaking and/or supervising the ongoing tasks of research and analysis. He/she will seek guidance from the Advisory Committee regarding priority activities and the allocation and expenditure of funds, and for developing a business plan and/or other plans for the ongoing operation of the SDN.

He or she will be responsible for submitting timely reports, both technical and financial, through IUCN to the UNDP Resident Representative, the Director of the UNDP SDN in New York and to the Steering Committee with whom he or she will work closely in all respects.

He or he will be responsible for maintaining liaison with the Director, SDN, in New York, and for participating in meetings regarding the promotion and/or operation of the SDN in general.

The SDN Coordinator will be expected to have a very good understanding of the issues related to sustainable development in Pakistan and otherwise, a demonstrated understanding of the use of information technology for computer mediated communications, demonstrated and strong managerial skills, ability to write well, and good interpersonal and communication skills along with initiative and an ability to work independently.

Research Associate / Computer network specialist

Under the supervision of the SDN Coordinator, the computer network specialist will be responsible for assisting the coordinator to develop an operational SDN node and for establishing the necessary hook ups, acquiring and installing the hardware and software and training and demonstrations of the operating SDN node.

He or she will have a good understanding of and demonstrated experience using computer mediated communications, especially computer networking.

He or she will have demonstrated communication skills and the ability to express himself or herself in writing and orally. Good presentation skills will be very useful.

Research Associate / Database and Information specialist

Under the supervision of the SDN Coordinator, the specialist will be responsible for assisting the coordinator to develop the Directory of Information Sources, acquiring and installing the hardware and software and training and demonstrations of information products the operation of the SDN node.

He or she will have a good understanding of and demonstrated experience using databases and computer mediated communications. He or she will have demonstrated communication skills and the ability to express himself or herself in writing and orally. Good presentation skills will be very useful.

Research Associate / Marketing and Communications specialist

Under the supervision of the SDN Coordinator, the specialist will be responsible for assisting the coordinator to develop a marketing and communications plan, training and demonstrations of information products, visit current and future users of SDN for consultation, demonstration and users need assessment.

He or she will have a good understanding of and demonstrated experience in marketing and communications, with a good practical knowledge of information technology.

He or she will have the ability to express himself or herself in writing and orally. Good presentation skills are essential.

Research Assistants

The Research Assistants will be appointed to assist with gathering and compiling material for research related to communication policy, information flow and for assisting with training. After initial training by the SDN staff they may be assigned to some of the partner organizations for training their staff. Placement in the Ministry of Environment and Urban Affairs' data centre is expected for some of them. Some of them will assist with the research of the marketing specialist, while others may assist with networking and database development.

These persons will have a science or engineering background, but others such as management science graduates will be considered.

Good communications skills will be necessary.

V. Summary of Pilot Phase

During the 6-month pilot phase of SDN the following tasks were completed:

- User need survey

- Review of the status of electronic networking in Pakistan in the private and public sectors.

- A Directory of Directories to direct users of SDN to appropriate source of information nationally.

- A comprehensive plan for the future development of SDN, called BERDNET. This plan outlines the rationale and strategy for providing inter-connectivity for the Business, Education & Research and Development sectors within the country, as well as with the Internet.

- SDN staff have contributed a number of articles to the national newspapers on sustainable development,information technologies, sources of information, and social developmental issues and have made presentations to individuals and diverse groups about SDN and information exchange; offered advice and training to a number of NGOs and individuals in database development and networking; provided technical advice to and advertisement for NARGIS, the only commercial email service in Pakistan.

- The Coordinator attended the SDN's Starter Kit Meeting in Ottawa.

- The Research Associate, incharge of networking, attended the INET '93 meeting and workshop in California. Following these, he was a volunteer at the Interop meeting and helped to set up the Interop network.

- Research Associate, incharge of databases, helped to form a local user group for Micro CDS/ISIS.

Present staff comprises of a Coordinator, two Research Associates, an Executive Secretary and a part-time Research Assistant supported by IUCN.

Facilities include: Two 486 PCs, two 286 machines, one HP scanner, one high speed modem, one CD-ROM internal drive, and some borrowed and personal hardware. Twenty low speed modems are presently available for sale to users of SDN's BBS. A fair collection of books relevant to networking.

VI. Financial and Accounting Arrangements

IUCN will receive funding from the two donors, UNDP and IDRC, and it will manage all financial reporting. Equipment purchase may be local, or from the most convenient and economical source overseas with approval from IUCN. Equipment may be purchased directly from a vendor overseas in consultation with SDN, NY.
