

Policy Note 1992:5

**A background study
for NORAD's
environmental action
plan in Pakistan**

Khawar Mumtaz and Rolf Selrod

ISSN: 0804-4511

Policy Note 1992:5

**A Background Study for
NORAD's Environmental
Action Plan in Pakistan**

by

Khawar Mumtaz* and Rolf Selrod

9th August 1992
Revised

* SHIRKAT GAH, 18-A, Mian Mir Road, Lahore-54840, Pakistan

CONTENTS

	pages
Maps of Pakistan	
EXECUTIVE SUMMARY	i
Introduction	1
CHAPTER 1: PAKISTAN'S ENVIRONMENTAL PROBLEMS	
1.1. The setting	3
1.2. Global issues	11
1.3. National issues	13
CHAPTER 2: THE NATIONAL RESPONSE	
2.1. The Context	18
2.2. The National Conservation Strategy	18
2.3. Governmental Environmental Institutions	20
2.4. Ongoing and Planned Environment Related Activities	22
2.5. Non-Governmental Organizations	23
CHAPTER 3: INTERNATIONAL INSTITUTIONS	
3.1. Multilateral financing institutions	27
3.2. UN-institutions	30
3.3. Bilateral donors	33
3.4. International NGO's	37
3.5. Coordination between donors	40
CHAPTER 4: NORAD'S CURRENT ACTIVITIES	
4.1. Overall Strategy	41
4.2. Strategies for Cooperation with Pakistan	42
4.3. Norwegian Expertise in the Field of Environment	43
4.4. NORAD's Current and Planned Projects	45
4.5. NORAD's Environment Related Projects	45
CHAPTER 5: CONSIDERATIONS AND RECOMMENDATIONS	
5.1. Considerations	55
5.2. Guiding Principles	56
5.3. Recommendations on Ongoing NORAD Activities	57
5.4. Possible Future Areas of Cooperation	59
5.5. Commercial Collaboration	63
5.6. South-South Cooperation	64
References	65
ANNEXES	

MAP 1 : POLITICAL



EXECUTIVE SUMMARY

1. INTRODUCTION

In spring of 1992 NORAD commissioned a study to prepare an environmental strategy for its future activities in Pakistan. The study reviewed Pakistan's environmental setting and the principal environmental issues facing the country. The responses to these were then examined, particularly the National Conservation Strategy, besides other governmental and non-governmental efforts. Donor support to government and non-governmental efforts was also reviewed along with NORAD's own strategies, Norwegian expertise in the field of environment and projects currently supported by NORAD.

Within the context of the above, the following conclusions and recommendations were made:

2. MAIN CONSIDERATIONS

- * Pakistan's natural resources are under serious pressure and are likely to be further degraded as population spirals.
- * The growth as pursued so far has been unsustainable.
- * Development has not had an adequate impact on people's quality of life.
- * Development experience is biased towards large scale/capital intensive projects.
- * Government's programmes are affected by structural weaknesses.
- * Pakistan, however, has taken cognisance of the problems as is evident from the formulation of the NCS and its approval by the cabinet.
- * The channels of implementation have largely been government line ministries and agencies with negligible participation/involvement of communities/NGO's.

NORAD's consideration are:

- * To work in coordination with the national plans of individual countries.
- * To provide support for ecologically responsible management of natural resources.
- * To undertake initiatives to minimize environmental damage and regenerate renewable resources.
- * To provide environmentally oriented institutional support and cooperation.
- * To support environmental consciousness and information activities.
- * To recognize environmental constraints in development and maintain activities within economically, socially and ecologically viable limits.
- * To give gender issues special attention.
- * To have EIA's conducted prior to starting new projects.

3. GUIDING PRINCIPLES

In view of the above considerations, the following principles are suggested:

- a) NORAD should support activities within the framework of the NCS recommendations and priority areas; the 14 strategic areas are listed in Annex 3.
- b) Activities should be assessed with a view to their ability to sustain themselves beyond the project period.
- c) Support should be extended to projects that ensure people's/communities participation in project formulation and execution through communitybased organizations (CBO's) and NGO's.
- d) Geographical concentration should be given to the North West Frontier Province (NWFP), the coastal area of Sindh and the Northern Areas. A geographical concentration should however, not be a "strait-jacket". Innovative projects in areas where Norway might have a comparative advantage in skills and/or in technologies may be taken up.
- e) Development strategies that are supported should address equity as well as growth and environmental management.
- f) Focus should be on conservation and preventive measures.
- g) Integration of environment concerns and relevant expertise into development planning and to sectoral ministries and institutions should be supported.
- h) Donor coordination should be actively sought and encouraged, both informally and through the formal governmental channels in order to avoid overlap and resolve contradictions and conflicts in case they emerge.

4. RECOMMENDATIONS ON ON-GOING PROJECTS

4.1 AKRSP Forestry Project: In the team's opinion the project is into its substantive phase and merits support to the end of its Programme period (1995). The support may be given for two year periods at a time, conditional on monitoring and evaluation reports.

4.2 IUCN Mangrove Project: The time available before Phase II ends in December 1992, is too short to consolidate the achievements of the project. Support should be considered for a period of up to two years with more allocations for community organization.

4.3 Peshawar University: The programme is of high importance. Support is needed to develop curriculum and courses in line with Pakistan's environmental needs. Partnership arrangements with Norwegian institutions like NORAGRIC are recommended involving teacher-student exchanges and appointment of one or two Norwegian advisors for up to two years.

4.4 Rural Electrification Project: The project requires support till completion. Other similar possibilities may be explored for the future.

4.5 Citizen's Environment Report: The support given for 1992 could not be availed. The team suggests that support be given for the next year and further support be considered after the Report has been produced.

5. POSSIBLE FUTURE AREAS OF COOPERATION

Given Norway's special competence in environment related areas like mapping, environmental surveillance, natural resource accounting, marine and water resource management, pollution control, hydroelectric powerplants and environmentally benign technologies in certain industries, the NCS priorities and NORAD's desire to support activities that are likely to have far-reaching impact or multiplier-effect, the following areas are recommended for further evaluation:

- * Cooperation between Norwegian and Pakistani mapping authorities in producing thematic maps related to environment and natural resources.
- * Cooperation, and possibly also commercial collaboration, for introducing environmental surveillance in the coastal waters.
- * Cooperation to introduce resource accounting and budgeting systems, either with authorities or with research institutions.
- * Cooperation with ENERCON on Energy Saving Measures. Within this sector commercial collaboration might be viable.
- * Support for regional cooperation in studies on the impact of climate change, and where appropriate, cooperation with relevant norwegian institutions.
- * Support basic awareness- and education activities with environmental components through NGO's. Support to NGO environmental/ development pilot projects with community involvement.
- * Support environmental education on university level and cooperation with relevant Norwegian "counterparts".
- * Support to Women's Groups on sustainable development issues.
- * Support the new Sustainable Development Policy Institute (SDPI) and possible cooperation with Norwegian institutions.

The team feels that special attention should be given to the regional conservation strategy of the North Western Frontier Province, the Sarhad Provincial Conservation Strategy. NORAD should consider to provide assistance to further develop environmental legal framework, pollution standards and institutional strengthening of environmental institutions as well as environmental awareness and responsibility by the sectoral provincial authorities. The team feels that working with these issues might be easier on the provincial level than on the federal level. If NORAD would like to consider federal institutional support, the team feels that the NCS-unit and the planning authorities are decisive in the further follow-up of the NCS. The team will, however underline the need for a very careful coordination with other donors in any support for institutional strengthening.

The team regrets not to be able to suggest concrete projects in support of south-south cooperation, but feels that in the difficult political situation between India and Pakistan, the initiatives for cooperation like the one taken by IUCN should be considered favorably. The NORAD representations of Bangladesh, India and Pakistan should actively look for possible cooperation possibilities.

INTRODUCTION

In the spring of 1992, NORAD decided to commission the preparation of an environmental strategy for its future activities in Pakistan. Khawar Mumtaz and Rolf Selrod were asked to formulate a draft strategy. Tariq Banuri, as a resource person, gave an input to the study in its initial phase and provided some of the basic information for chapter 1. The draft report was written in May/June 1992 in Islamabad/Lahore and was finalized in August 1992

The report is divided into five main chapters.

Chapter 1 deals with today's environment/development setting in the national context, and focuses on the principal global and national environmental challenges facing Pakistan.

Chapter 2 deals with the response of the Government on these challenges; the National Conservation Strategy. It deals with national governmental and non-governmental institutions and their plans and positions in this endeavor.

Chapter 3 gives an overview of current activities and plans related to environment of international development institutions and coordination between them.

Chapter 4 lists NORAD's strategies, Norwegian expertise in the field of environment and discusses the current NORAD projects.

Chapter 5 contains the considerations and recommendations of the team on principles, ongoing projects and possible future areas of environmental cooperation with Pakistan.

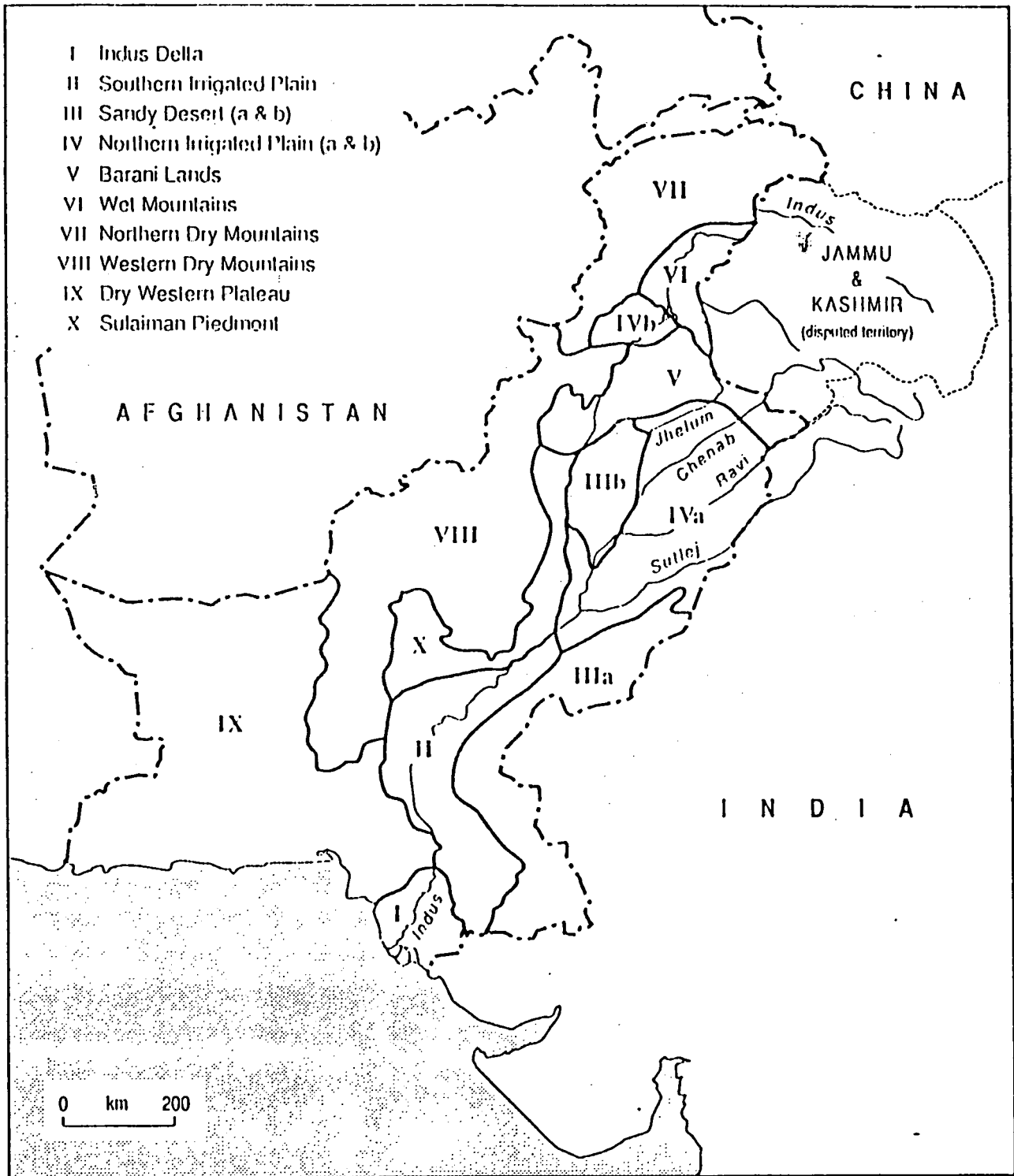
After consultations with the NORAD representation and keeping in view NORAD's existing development cooperation with Pakistan, the team decided to focus on federal institutions, the North Western Frontier Province and the coast of the province of Sindh as areas of possible assistance. The team has not had the capacity to call on all institutions which may have proved to be relevant to our study, but have made a fair selection as listed in Annex 2.

The team has benefitted greatly from the assistance and cooperation of the NORAD representation, Pakistan Governmental officials and those listed in Annex 2. We would also like to thank IUCN for arranging meetings.

All conclusions and recommendations are those of the team only, and do not necessarily coincide with the views held by Pakistani or Norwegian authorities. The terms of reference for the team has guided the setup of this report, and is attached as Annex 1.

As valuable information for our work, we have been fortunate to have the recently published Pakistan National Report to UNCED, the National Conservation Strategy and impressive surveys and publications from IUCN. Numerous other documents made available by donor agencies are also acknowledged. The team have also benefitted from the guidance of NORAD's strategies as listed in the terms of reference.

MAP 2 : AGRO-ECOLOGICAL REGIONS



CHAPTER 1: PAKISTAN'S ENVIRONMENTAL PROBLEMS

1.1. THE SETTING

Pakistan's environmental problems are closely linked with its physical features, natural and human resources, the nature of its economic development as well as its social and institutional structures. This section provides the context within which environmental problems need to be addressed.

1.1.1. Physical features

Pakistan has a land area of 88.2 million hectares, or about the same area as Norway, Sweden and Denmark together. It borders Iran, Afghanistan, China, India and the Arabian Sea.

The country may be divided into three major regions being **the high northern mountains** with 50 peaks over 6,700 meters at the confluence of three of the world's highest mountain ranges - the Himalayas, the Karakoram and the Hindu Kush, **the Indus plain** being the drainage basin of the Indus and its tributaries and consisting of fine alluvium deposited by the river system and lastly the lower and more arid **western highlands**. Basically, Pakistan is a dry country of the warm temperate zone with most of it being arid or semi-arid steppe land. Rain is highly variable with 3/4 of the country receiving less than 250 mm rainfall and a small 7% getting more than 500 mm.

1.1.2. Natural Resource Endowment

Pakistan may be divided into 10 agro-ecological zones plus an eleventh zone being the urban/city system, see map 2. These zones represent a wide ranging diversity from high mountainous areas, to flood and arid planes, to deserts, forests, lakes, marshes and mangroves.

Land

Of the surveyed land, about 20% or 20 mill. ha. is classified as cultivable, i.e. with agricultural potential. Most of this is already under cultivation. Nearly 16 mill. ha. are irrigated and 4 mill. ha. are rain fed. An overview of land capability is given in table 1.

Much of the land is of medium to poor quality and suffers from adverse conditions. Some 17% of the surveyed area is affected by water erosion, some 7,6% by wind erosion, some 8,6% by salinity, and some areas by flooding and ponding. More than 96% of the arable soils contain less than adequate organic matter.

The proportion of cultivable land is not likely to increase much, since the unsurveyed areas consist mainly of barren and inaccessible mountains or deserts. There are, however, some indications that unsuitable land is being used for agricultural purposes. Modest future increases in agricultural output may

most likely to come from increased cropping intensity, subject to the availability of water.

Table 1, Land Classification

Description	Area (mill. ha.)	Soil limitations	Production potential
Very good agricultural land	5,2	None for general agriculture	Very high
Good agricultural land	7,0	Minor	High for general agriculture
Moderate agricultural land	4,8	Moderate	Moderate for general crops
Poor/marginal agricultural land	3,0	Severe	Low, for a few crops only
Good forest or rangeland	0,2	None/minor for forestry/rangeland	High for forestry/range development
Moderate forest or rangeland	1,3	Moderate	Moderate for forestry/range development
Poor forest or rangeland	15,4	Severe	Low
Non-agricultural land	23,2	Severe	None for any economic use
Unclassified	1,8		
Total surveyed	61,8		
Un-surveyed	26,4		Mainly barren or inaccessible land
Grand total	88,2		

Source: Pakistan National Report to UNCED. 1992

Water

Of Pakistan's two critical natural resources, the water constitutes the binding constraint on future agricultural development.

The main source of surface water is the Indus Basin irrigation system. It is one of the largest and oldest in the world, and covers about 70% of the

geographical area. It includes three main artificial reservoirs at Mangla, Tarbela, and Chashma. These reservoirs had an original live storage of about 15 Million Acre Feet, but is expected to be reduced drastically due to siltage. The system comprises also 18 large headworks, and a network of 43 independent canal systems. In addition to this, the system includes thousands of watercourses and irrigation channels that are managed, singly or collectively, by local farmers. A vast aquifer of variable quality exists under the Indus Plain, recharged by natural precipitation and river flows.

The development of large scale irrigation schemes over the last 50 years has captured almost all the basin's run off. The long-run projection of the water flowing into the Indus basin system is about 139 MAF (173 billion m³). With the average amount of water being withdrawn, some 104 MAF, for use through the canal system, the loss to evaporation, some 11 MAF, and the necessary 20-27 MAF to the Arabian Sea to maintain the ecological balance in the Indus delta and recharge the coastal mangrove system, the scope for further expansion seems limited.

Forests

Pakistan has one of the lowest forest endowments in the world. The total area classified as forest constitutes about 4,6 mill. ha., or 4-5% of the land area. Of this area, 43% is described as coniferous forests, 38% as scrub forest, 12% as mangrove forest and the rest as irrigated plantations and riverine forests.

Hill forests containing species like deodar, fir, blue pine, spruce, chilghoza, juniper, chir pine, oak and horse chestnut are main sources of timber for construction and provide large quantities of fuelwood and resin. They also sustain the grazing requirements of millions of cattle, goats, sheep and camels. Growing in the country's major watersheds, it contributes significantly to mitigation of floods and droughts in the plains. Also the foothill forests consisting mostly of bushes and stunted trees provides important grazing areas and protection of watersheds and wildlife. Riverine forests along the southern part of the Indus are high value timber like babul, obhan, lai and jand for the coal-mining and furniture industry as well as for fuelwood and charcoal. Pakistan is a wood deficit country and import is necessary. Most observations agree that the natural forest areas are in a process of rapid decline.

Energy

Pakistan has a considerable potential to develop hydro-electric power. It is estimated that 26,800 megawatt of this energy source could be developed, of which only 11% (about 2,900 MW) has been developed so far. Constraints to development of hydro-electric power include large capital requirements, problems regarding the sharing of revenues and irrigation water, and the environmental and social impacts associated particularly with the building of large dams. Substantial potential exists also for local "micro" hydro-electric development.

Pakistan's fossil fuel reserves are limited. It is estimated that if domestic reserves were used to meet all the fuel consumption needs of the country, oil reserves would last 2 years, natural gas reserves 16 years and coal reserves about 26,5 years, if 10% consumption growth per annum is assumed.

Coal and hydro-electric power are seen as the main future energy sources, while alternative energy sources like solar, wind or tidal energy has not yet received great attention. It is estimated that 90% of all rural households and 60% of urban households meet their fuel requirements from fuelwood and other biomass sources.

Minerals

Pakistan is poorly endowed in terms of minerals. Among the minerals having export value, only chromite, rock salt, barite and marble are being mined. Metallic mineral deposits include inter alia iron ore of low grade, copper and lead-sink, while a wide variety of gemstones are found in the north. Only emeralds are however being exploited on a substantial commercial base.

Fisheries

The total catch in 1989 was some 446.000 tonnes of which 3/4 were marine species. Pakistan produces a surplus of fish for export. The average direct consumption of fish is almost 2 kilo per head per year, and is increasing. FAO estimates suggest that further catch increases are possible without depleting the marine resources, with a maximum sustainable yield of 2 mill. tonnes per year.

1.1.3. Human resources

Pakistan's population is currently estimated (January 1. 1992) at 117,32 mill. (61 mill. males and 56 mill. females) at an annual population growth rate of 3,1%. (Economic Survey, 1991-92, p.120)

About 56% of the population is in the province of Punjab, 5% in Balochistan, 16% in the North West Frontier Province (NWFP) and 23% in Sindh. Over the years, the rural-urban shift in population has been accelerating. By 1981 it almost doubled from 15,4 % at the time of independence (1947) to 28,3 % with the urban population growing at the rate of 4,8 % per annum.

The population growth rate is attributed to high and sustained levels of fertility and relatively rapid decline in mortality though infant and child mortality rates, at 106/1000 and 166/1000 respectively, are still high. The total fertility rate in Pakistan is about 6,5 children per woman.

Pakistan's human development index is disappointing. According to the UNDP Human Development Report (1991), Pakistan ranks 120th out of 160 countries and is placed among the category of low human development countries.

Pakistan's population is characterized by:

- * **Poverty:** Economic growth in Pakistan has failed to transmit benefits to the poorest sections of society and has created sharp income inequalities. Up to 40% of households receive only 18 % of total expenditure (1984-85) and consume on average less than 1/3 of what the better off consume. (UNDP, 1992, p.13) Poverty in the countryside is particularly widespread with the average income of agricultural workers having fallen to 1/3 of the urban average were most of the development has taken place. At the same time, the pattern of growth has proven to be unsustainable, damaging and depleting natural resources on the one hand and not succeeding in improving people's quality on the other.
- * **Short life spans** (57 years) with one child out of ten dying in its first year, sixteen of hundred not reaching five years of age, and majority malnourished.
- * **Negative sex differential:** Pakistan is one of five countries in the world with a negative sex ratio. Women constitute about 47,5% of the population. (1981 census) This inverse ratio is attributed primarily to women's disadvantaged position in society. Usually married early (average 22,2 years), women is viewed as dependent and unproductive, their education not considered essential, their mobility restricted and their roles perceived primarily as those of wives and mothers. Not surprisingly women's formal labour force participation rate (LFPR) is very low (data sources differ on figures; The Economic survey of Pakistan, 1991-92. quotes a LFPR of 7 % for 1986-87). The strong desire for male children (seen as income earners; old age security) results not only in high fertility, but also in poorer nutrition for women, higher mortality and morbidity rates (maternal mortality is 6 per 1000) and lower life expectancy than males.
- * **Youthful composition:** The population is weighted towards the young, unproductive age groups with approximately 45% of the population below 15 years of age. (1981)
- * **Low literacy rates:** male literacy is at 43% and female literacy at 18%, and that of rural women as low as 7%. School enrollments are low with female enrollment at about 50% that of male. The Economic Survey, 1991-92. states that about 49,2% of the relevant female population enrolls in primary schools (up to grade 5) as opposed to 83% boys. At the middle level (grades 6-8) female enrollment drops to 29,4% (males 58,9%) and by the secondary stage further to 17,2% (males 36,6%). Literacy has increased by almost 0,5% per year. However, given this trend over the last years, only 31% of the population are supposed to be literate by 1992. This is well below the average of 42% for South Asia and 60% for third world countries. A large part of the educated labour force is said to have few employable skills, and lacking in particular scientific and mathematical skills needed by the marked.
- * **Poor health:** According to UNDP (1992, p.3) daily calorie supply is at 97% of requirements compared to that of Low Human Development

Group of countries (99%), All developing Countries (107%), and industrialized countries (132%). Availability of health services is limited to 55% of the population, safe water to 45% and sanitation to 20% of the population. (1985-88 figures. UNDP, 1992, p.3)

The state of human resources in Pakistan and the rate of population growth are closely linked. Firstly, physical infrastructure imperative for improving the quality of life fails to keep pace with the need of the growing population. There are therefore endemic shortage of schools, health facilities, housing, water and sanitation. Secondly the pressure on the natural resources increases. For the poor these are sometimes the only affordable resources to fulfill their basic needs.

1.1.4. Economy

Pakistan has a centralized system of macroeconomic management, focussed on economic growth and the maintenance of external solvency. Real Gross Domestic Product (GDP) has grown at roughly 6% per annum since the 1960's, and per capita income, estimated at US\$ 414,3 in 1991-92, (Economic Survey 1992, p. 3) has more than doubled since 1972. Despite this, the economy is not assessed to be in good shape.

The country has a medium-to-low level of external trade relative to its national income with a ratio of total trade to the Gross National Product (GNP) of 44%. This places Pakistan in the middle range of closed and open economies. A high level of worker remittances, currently at level of approximately US\$ 1,5 billion is an important factor in this respect.

Pakistan has contracted a significant degree of international debt. The long-term official debt amounts to US\$ 16 billion, i.e. 33,3% of GNP. The annual service on this debt is US\$ 1,8 billion, which is 2,8% of GDP, or almost 24% of export receipts (Pakistan National Report to UNCED 1992, p.6). The high level of debt remittances combined with high defence expenditures have made Pakistani economy dependant on foreign sources, besides leaving very little for allocations to the social sectors. According to the Economic Survey (1991-92), interest at approximately US\$ 2,6 billion on both domestic and foreign debt, shows a marked increase of 31,3% since last year, with interest on foreign debt being 19,2% higher (pp. 25-26)

Primarily a rural economy, Pakistan has relied on its natural resources and agriculture (and agro-based manufactures) for economic growth. The agricultural sector accounts for about 1/4 of GDP and half of the total employment. It is the highest contributor to the country's foreign exchange earnings with food (rice) and cotton based exports accounting for about 60% (1984-1990). The sector is also the major source of surplus for investments in other sectors.

The industrial sector accounts for about 22% of GDP. It is biased towards large-scale capital intensive enterprises and is financed in large measures by

agricultural activities. A substantial part of the large scale enterprises lies today in the public sector. However, privatization of these, as a policy, has now been initiated. Its growth has relied on a great extent on protection measures, such as tax holidays, low interest rates and duties. The small scale manufacturing sector is entirely owned by the private sector. It is fast expanding and has maintained a 8,4% growth rate. It is labour intensive, and accounts for about 81% of the industrial employment.

As stated above, agriculture is the main employer of the labour force (51%) followed by industry (12,7%) and trade (11,9%). The estimated unemployment rate for 1991-92 is 3,3% (2,6% rural and 4,58% urban). However, if the disguised unemployment and under-employment are also taken into account, the unemployment rate would be 13,5% (Economic Survey. 1991-92, p.130).

An important dynamic of Pakistan's growth process is a buoyant, unregulated informal sector. The sector, largely undocumented, is according to World Bank estimates, said to employ about 60% of the urban labour force, including the majority of women. It consists of small-scale labour-intensive enterprises marked by low level of technology and high self-employment. The informal sector is also including the substantial drug trade that operates through the country. This reportedly accounts for the high levels of illegal money outside the formal economy.

1.1.5. Social structures

Four elite-based interest groups are dominant in the social and political structure of Pakistan, the bureaucracy, the military, the large landowners and the industrialists. In rural areas, 0,5% of landowners own 30% of total cultivated area. Industry is controlled by a small number of families and heavy industry, banking and insurance, nationalized in the 70's by Bhutto, are undergoing the process of privatization, with may further reinforce the dominant groups. A new trading class is emerging, with some political clout, in urban areas.

Pakistan is also a country a number of ethnic peoples with different languages, cultures and historic background. There are tensions and unrest i several areas, especially in the interior area of Sindh. What the people have in common is Islam (about 98% of the county's inhabitants are muslims), a religion that influences social customs and individual behavior.

1.1.6. Government Institutions

Weak institutional mechanisms both at policy/planning level and at the level of execution/implementation have been endemic to Pakistan's development and environmental problems.

The planning process is highly centralized and distanced from local needs and priorities. People's participation is not institutionalized. Representative bodies at local, provincial and national level are dominated by the urban and rural elite who do not necessarily reflect the needs of their constituents.

Local governments at the lowest tier of representative institutions, are weak with low tax base and revenue raising powers, poor management and very low level of community/village level participation. The role of the representative of the central authority, the Deputy Commissioner is very powerful as he performs executive functions, has juridical responsibilities as well as those of tax collection.

Five Year Plans and Annual Development Plans are the two major instruments of planning. The former sets policies and sectoral targets which act as guidelines for resource allocations within each sector. The Annual Development Plans include the annual budget allocation for new approved and ongoing projects and are prepared both at the federal and provincial levels. Approval of projects is determined by their costs, larger projects are being approved at the federal level, those of lower cost at the provincial. Outside the main planning process are Special Development Programmes under which the federal government allocates resources among provinces.

A serious shortcoming at the planning as well as the execution level is the inadequate coordination between various ministries and departments. This has particularly been problematic for holistic environmental planning. Natural resources are managed by different departments and ministries, depending on whether they belong to the federal, provincial or the local responsibility. Separate agencies are responsible for resource assessment, exploitation and use with jurisdiction often overlapping or in conflict. Rivalries are not uncommon, nor is working of two departments at cross purposes with each other.

1.1.7. Non-Governmental Organizations

Pakistan has an estimated 5000 to 8000 non-governmental organizations (NGO's) out of which about half are probably registered and functioning. The majority of these are urban based (70%), very small and depend largely on voluntary contributions. NGO's with a national spread are very few. Larger NGO's number five or six and there may be two dozen mid-sized ones; the latter with annual budgets less than Rs 2,500,000 or US\$ 100,000. (Smillie: 1992, p.v.) Most NGO's focus mainly on relief and welfare, the areas of operation being education, health, women's development and children's welfare. The budgets of a substantial number (75% by one estimate) are less than Rs. 20,000 (approximately US\$ 830) a year.

The major constraints of NGO's are lack of funds, transport and competence. Those running the NGO's are untrained and do not have administrative/management skills and has little knowledge of wider issues. The NGO's usually work in isolation and are not aware of other NGO's operating in other sectors; their information base is also very limited. Among areas identified by a number of studies in which NGO's need support are: management, institutionbuilding, mobilization for self-help, net-working and coordination.

1.2. GLOBAL ENVIRONMENTAL ISSUES

While all countries are (more or less) anxious about the threat to human survival posed by global changes, the interests as well as the anxiety is higher where there is a coincidence with more immediate and direct concerns. This is either when the country is acutely vulnerable to global changes, or where the global process of degradation has coincided with local environmental degradation and resource diminution. Pakistan is concerned on both these counts.

Of the most critical global problems is the threat of **climate change**. This is induced by the emissions of greenhouse gases in excess of the absorptive capacity of the earth. The excess, both historically and currently, comes mainly from industrialized countries. While they must take the major responsibility to stabilize and reduce such emissions, developing countries should not afford to sit idle and ignore this problem. The threat of climate change is serious to all countries and in particular to developing countries with limited adaptive capacity and high degree of dependence on biological resources.

Global warming for Pakistan would entail loss of low costal areas, including the vast areas of mangrove forests at the coast of Sindh, displacement of people, accelerated costal land erosion, more frequent and serious flood and storm disasters, drainage problems, salt water intrusion, increasing salinity problems in costal areas and damage to costal infrastructures. Mountain glaciers and snow covered areas are likely to recede and possibly creating reduction of water downstream.

The threat of increased ultraviolet radiation caused by the **depletion of the ozone layer** is addressed in the Montreal Protocol to the Vienna Convention on the Protection of the Ozone Layer. The major part (75%) of the CFC family of gases that deplete the ozone layer is emitted from industrialized countries. The Parties to the Protocol have agreed on a strict timetable for the phase-out of these gases for the industrialized countries. Developing member countries are given both a "grace-period" for the phase-out, and financial and technological assistance. The financial mechanism shall cover all incremental costs associated with transition from the controlled substances to alternatives and substitutes, and be additional to other financial flows to such countries.

Pakistan is not a producer of CFC-gases, but may still be a victim of its impact. The northern part of the country lies in a zone where the concentrations had fallen by 4% of 1970 values by 1989. Excess exposure to ultraviolet radiation increases the incident of skin cancer, cataract in the eyes, weakens the immune system and affects adversely plant yield and biological systems.

The rapid loss of **biological diversity** is mainly taking place in developing countries. Even if this is regarded with serious global concern, it is not fully recognized as a global responsibility as countries are claiming full sovereignty

in their management and utilization of these resources. While the world at large is interested in the protection of this diversity and countries with biotechnology industry are interested in access to these resources, no models have emerged for compensating biological rich countries for economic losses because of preservation or sustainable utilization of these resources.

Pakistan covers a wide range of ecological zones. The country's landscape and habitats include islands, marine and costal areas, warm and sandy beaches, cliffs, bays, mud flats, volcanos, mangrove forests, estuaries, delta, lakes, dry rocky or montane wilderness, deserts, cultivated flood plains, rivers, riverain forests, semi-arid uplands, tropical broad-leaved forest, mountains, moist temperate and dry temperate coniferous forests, sub-alpine forests, alpine pastures and glaciers. Given these climatic and topographic variations, a wide variety of plant and animal life has developed. Many of the species are endemic to Pakistan and some exist only in small areas or pockets.

Although the extent of the problem of species extinction has not been thoroughly documented, it is clear that of animal and plant species known to have existed in the past have disappeared. A 1991 IUCN report lists a large number of threatened plant and animal species in the country. Ecosystems with vast ranges of interdependent plant, animal and micro-organisms are faced with serious degradation due to agricultural expansion, deforestation, drainage of wetlands, pollution, water engineering, new settlements and over-exploitation of rangelands by domestic livestock. There are more than 7 mill. ha. of protected areas in Pakistan including 10 designated national parks, 82 wildlife sanctuaries and 83 game reserves. While the number of protected areas is impressive, these are not considered adequate by wildlife experts. These areas are governed by a range of specific laws which are however very poorly enforced.

International waters are increasingly being polluted both from land based sources and ships. International waters are also often harvested way beyond the limits of the carrying capacity. The result is that valuable fisheries and other marine life are threatened.

The geography of Pakistan places it in close neighborhood to areas where many oil tankers sail, exposing it to the potential risk of oil leakages. Considerable pollution also steams from industry, urban and agricultural run-offs to the costal waters of Pakistan and threatening important breeding areas like the mangrove forests.

1.3. NATIONAL ENVIRONMENTAL ISSUES

While Pakistan is not a major contributor to global environmental problems, its environmental concerns include both global problems as well as purely local ones. These are air and water pollution, loss of land to desertification, waterlogging and soil erosion, destruction and degradation of forests, poisoning of the food chain and the neglect and erosion of rich cultural heritage evolved over centuries. These problems have emerged because of convergence of three factors: a limited resource base, inadequate societal institutions for economic and natural resource management and economic and demographic pressure. At the same time, the three familiar coping mechanisms, namely emigration, financial inflows and technology transfer, have become more elusive in recent years.

Pakistan's major environmental problems, as identified by the National Conservation Strategy (NCS), may be categorized as those related to:

- *natural resources*
- *population-natural resources interface*
- *institutional shortcomings*

1.3.1. Natural Resources

Large areas of land have lost much of their productive capacity and are subject to erosion, waterlogging, salinization and loss of organic and other nutrients. There is evidence that agricultural as well as non-agricultural land is not being used optimally. Unsuitable land is being converted to agricultural use, rangelands are being over-grazed without any rehabilitation measures, crops are not selected to match soil quality, and crop rotation is not practiced properly. While agricultural production has increased, distribution has worsened. Land distribution in most of Pakistan remains highly skewed with a small percentage of landholders holding a very large proportion of cultivable land. The result of the skewed land distribution and power structure on technological change and the use of land and water resources is manifold. One is the apparent neglect of natural resources of the absentee landlordism. Lack of understanding and information has clearly led to various environmental problems in the agrarian sector. However, even where this information and realization exists, the present structure of the farming community has prevented positive steps to be taken to halt or prevent the neglect and misuse of agriculture's scarce natural resources.

Livestock has a share of more than 1/4 of the country's agricultural production. The livestock population, probably more than 100 mill., is to a large extent living on land with too little rain to support permanent cultivation or forestry. These rangelands are today stocked with more animals than they can support without being deteriorated. The result is severe soil erosion. The people using these resources are generally poor, illiterate and strongly influenced by tradition. They are often not conscious of the need to manage their resources more carefully. Even if they were given the necessary

information, they would often not be able to afford to manage their resources in a long-time perspective.

There are scarcely any excess capacity to meet the growing demand for water for the expansion of irrigation, provision of drinking water and recharging of groundwater supplies. The extension of the irrigation network, coupled with the absence of natural drainage facilities, has resulted in an increase in the area of salinity afflicted land. Traditionally engineering solutions have been favored over biological solutions. A mixture of the two, requiring a greater involvement from the local population has been missing. Large quantities of irrigation water is wasted because of an inefficient system of distributing water-rights among the farmers, and also because of a relative decline in water charges for canal supplies. Increased mining of groundwater have lead to a serious drop in the ground water table in many parts of the country.

The increasing contamination of ground- and surface- water from agricultural chemicals, industrial and municipal wastes is a cause of growing concern. Contaminated water is by independent sources (Report in the Magazine Herald, April and May 1992) said to be the major factor affecting the health of the nation. It is claimed that practically the entire country is exposed to seriously polluted water, contaminated both by toxic chemicals and microbiological organisms. DDT in the body fat of the population is reported to be among the highest in the world. So far, no regulations for water pollution has emerged.

The NCS identifies conservation and the regeneration of land (including rangeland) and water as the most critical issues in the primary sectors. Inefficiencies in water and land management is seen as integral to the issue.

The NCS give top priority to the forestry sector as a "vital ecological safeguard", particularly to watershed, riverine and mangrove forests. The hither unsustainable use of forests is seen as a major cause of loss of top soil cover, silting of dams, floods and damage to marine and costal resources. With forest management assumed by state forestry, contradictions between the objectives of state forestry and those of local communities have emerged. The latter mainly look to the forests as a sources of fuel and fodder, while the government emphasizes its commercial logging aspects. By the year 2000, firewood requirements are expected to be about 30 mill. cubic metres. There is a necessity of organized tree-planting on farms and wastelands, and to achieve control with unlawful commercial logging going on especially in the northern part of the country. The mangrove forests are also under serious stress. Reduction in annual flows of fresh water, silt and nutrients down the Indus, overcutting for fuel and fodder, overgrazing by camels and dumping of chemical wastes and other pollutants are all threatening the mangroves and the ecological system which supports a large costal population.

The rich fauna and flora are dwindling. This is both a result of human expanse followed by a deteriorating habitat for wild species and unlawful or

unregulated hunting. Recent surveys indicate that plants are disappearing while medical plants are generally underutilized.

Pakistan is energy-deficient in the sense that its energy use per capita, at one fourth of the world average, is one of the lowest in the world. It is energy profligate because its consumption of energy in relation to its GNP is one of the highest in the world - twice as high as Brazil, Sri Lanka, and Germany, and almost four times as high as Switzerland. The major commercial sources of energy in Pakistan are oil, gas, electricity and coal. The industrial sector is the largest consumer of commercial energy (27.2%) followed by the power sector (20.2%). Brick-making industry relies entirely on fossil fuel (97% of the current coal supply). In 1987-88 fuels and electricity met 68% of Pakistan's energy requirements. Non-commercial sources (fuelwood and bio-mass) accounted for 32%. Nuclear energy is provided by only one 137 megawatt power station near Karachi. A second reactor is proposed with Chinese help. Supply of energy in Pakistan is affected by inefficient transmission and distribution (22.5% of all power generated was lost in 1989-90).

An increase in energy consumption is inevitable, and there are growing concerns about the economic and environmental costs of all major energy sources. Some of the environmental costs are listed in table 2 below. Development of greater energy efficiency and reliance on renewable sources is recommended in the NCS. Hydropower and coal (provided particulate and sulphur emissions are controlled) are seen as future sources of energy. Alternate energy sources are unexplored.

Table 2, Environmental Impacts of Development and Use of Energy

Energy subsector	Associated Impact
Coal mining	Land disturbances, resettling of residents, dust emissions, acid mine drainage and pollution of rivers and streams, destruction of wildlife habitat
Thermal Electricity Generation Using Coal	SO ₂ , NO _x emissions, with human health effects and possibly crop damage, increased CO ₂ emissions
Hydro-electric Generation	Flooding of land, displacement of people, resource use conflicts, effects on natural aquatic and riverine habitat, local climate change, ecological impacts including loss of wildlife habitat, erosion and watershed disturbances leading to increased flooding and low flows in dry season

Electricity Transmission	Displacement of people along right of way, potential radiation impact on humans from high-voltage lines
Oil and Gas Production	Water pollution from well brine, oilspills, toxic air emissions of H ₂ S
Automobile Fuel Consumption	Air pollution in cities including lead and carbon monoxide, respiratory disease among urban dwellers, lead poisoning of children
Fuelwood	Indoor air pollution and health effects, deforestation, ecological impacts including loss of wildlife habitat, erosion and watershed disturbance leading to increased flooding and low flows in dry season
Burning of Plant and Animal Residue Wastes as Domestic Fuel	Loss of organic water needed by soils, local air pollution

Source: Pakistan National Report to UNCED, 1992

Nuclear energy is at the moment an insignificant source of power in Pakistan although there are plans to establish additional nuclear plants. There seems not to be any strong environmental concerns in Pakistan in the issue of nuclear safety. This should however merit some more awareness, particularly because of the high population density close to the plant, and the weak institutional preparedness to deal with any accidents.

Industrial pollution is already damaging water courses and air. This could reach alarming proportions in the next ten years when industry is expected to double. Lack of effective standards, implementation mechanisms, green technology, and siting policies is a contributing factor in this area. Waste water and sewerage disposal are part of the problem as also is fuel emissions from badly maintained vehicles in the urban areas.

1.3.2. Population

Pakistan is experiencing a population explosion which has already taken serious toll on the environment. It is likely to prove disastrous if it is allowed to grow unchecked for much longer. According to the NCS, population growth at current rates (3.1% p.a.) cannot be sustained beyond a limit (200 million by year 2010).

The population issue in Pakistan is linked with that of equity, poverty and women's underprivileged position. Economic hardships and social problems give long-term environmental degradation. As natural resources continue to

be used unsustainable they get scarce and/or deteriorated, resulting in higher prices and hardships for the poor. Urbanization, is a normal consequence of modernization and development. When it is combined with high growth rates (4%) as in urban Pakistan, it becomes a critical issue.

Although the country's policy has been directed towards reducing the population growth rate for decades, not much success has been achieved. In the absence of an effective and dynamic communication strategy to motivate people, change in social attitudes will not take place. The NCS places renewed effort on family planning programmes as a necessary step to succeed with the strategy itself.

1.3.3. Institutional Shortcomings

Institutional weakness is an important determinant of Pakistan's environmental crisis.

At the official level major problems are of:

- * coordination between federal and provincial ministries and with other government departments;
- * understaffing and/or lack of technical expertise in institutions specially set up to carry primary responsibility for environmental protection and resource conservation (EUAD, PEPA, EPA's, etc);
- * a highly centralized and bureaucratic development planning system.

As far as legislation is concerned, a number of laws exist governing natural resource management, but many are out dated and others are narrow in scope. Legislation covering new areas is required. Implementation of the existing ones is very weak.

The NGO's or community based organizations are either in a rudimentary stage of development or have been weakened because of state's assumption of natural resource management. The NGO's are small in size and scope, have insufficiently trained technical and managerial staff and have limited resources. While there is potential, the NGO capacity to facilitate sustainable development is at the moment inadequate.

CHAPTER 2: THE NATIONAL RESPONSE.

2.1. THE CONTEXT

It is clear from the preceding chapter that the challenge facing the country is a serious one, caused as much by rapid population growth, increasing urbanization and industrialization and bad management of resources, as by short-sighted planning and complex socio-economic and political problems. The task of meeting this challenge is an enormous one, requiring efforts from all sections of society: government institutions and agencies, NGO's, specialists and experts, communities, women and individuals. Despite the fact that Pakistan is neither a major global polluter nor a large consumer of resources (Pakistan has no CFC production, little sulphur dioxide emissions and contributes negligibly to ozone depletion and acid rain) its environment is in a state of acute degradation and misuse.

2.2. THE NATIONAL CONSERVATION STRATEGY

The most significant response from the government to the challenge has been the formulation of the National Conservation Strategy (NCS), approved by the Cabinet and publicly launched in May, 1992.

The over-riding objectives of the NCS are:

- 1) *conservation of natural resources;*
- 2) *sustainable development, and*
- 3) *improved efficiency in the use and management of resources;*

The achievement of these goals depends on greater public partnership in development and management, merging environment and economics in decision making, and focusing on durable improvements in the quality of life of Pakistan. A comprehensive document, the NCS first records and reviews the state of Pakistan's environment (the quality of land, water, air, energy use, the health of its people, institutions and policies dealing with environment), assesses its resource base and the extent of the environmental problems.

NCS then looks at the opportunities for improvement in various sectors of the economy. Recommendations are made for policies and measures in agriculture, forestry, rangeland and livestock management, water supplies, marine and coastal resources, wildlife and mining. Steps are further recommended on energy supplies, industrialization, urbanization, pollution, and recreation and tourism. Programmes in other sectors include population planning, efforts to make women become active and equal partners in development, environmental awareness, educational reforms, research and technology development and improved collection of environmental information.

Finally, the document identifies implementation areas and the commitment needed by government, NGO, and the private sectors (Annex 3).

The 14 core areas identified for priority implementation are:

- *maintaining soils in croplands,*
- *increasing irrigation efficiency,*
- *protecting watersheds,*
- *supporting forestry and plantations,*
- *restoring rangelands and improving livestock,*
- *protecting water bodies and sustaining fisheries,*
- *conserving biodiversity,*
- *increasing energy efficiency,*
- *developing and deploying renewables,*
- *preventing and abating pollution,*
- *managing urban wastes,*
- *supporting institutions for common resources,*
- *integrating population and environment programmes, and*
preserving the cultural heritage.

Altogether 68 specific programmes are identified in these areas, each in a time-frame of ten years and each with communication, extension, research and training as important components. Investments of Rs. 150,7 billion are recommended over the next decade with largest expenditures suggested for maintaining soils in croplands, for preventing and abating pollution, and for increasing energy efficiency. A shift of funding from high cost development programmes is recommended and the private sector is called upon to contribute towards this (approximately Rs. 60 million). Multilateral and bilateral aid and raising of domestic revenues through taxation are seen as public sector resource mobilization. Doubling of national investment is called for (from 4% to 8%) to natural resource management and efficient use of critical resource by the year 2001. During 1991-93 the proposal is to incorporate NCS-policies and measures into the 8th Five Year Plan (1993-1998).

The NCS identifies a shortage of skills to implement the Strategy. These are: technical manpower to assess and monitor emission controls; trained extension staff with government and NGO's; environmental social scientists and economists; primary scientific research staff; and well trained administrative professionals who are efficient and have technical knowledge of environmental issues.

Central to the implementation and transition towards sustainable development is the community based management of resources. Government, NGO's and donors are thus called upon to foster and nurture local participatory organization for the management of common resources.

2.3. ENVIRONMENTAL INSTITUTIONS (GOVERNMENT)

The NCS recognizes the need for substantial institutional improvement for implementing the NCS. During the first ten years it is anticipated that institutional development for Federal-provincial leadership will entail building a capacity to review major policies and large projects for environmental impacts, and some capacity to anticipate and intimate them through policy revision/project re-design. The NCS recommends the creation of special institutions for the attainment of its goals.

Among earlier measures was the establishment of **Pakistan Environmental Protection Council**. Established in february, 1984, under the provision of the Environment Protection Ordinance, 1983, and chaired by Pakistan's President, it is mandated to:

- (i) ensure enforcement of the Ordinance;
- (ii) establish comprehensive national environmental policy;
- (iii) ensure incorporation of environmental consideration into national development plans and policies;
- (iv) ensure enforcement of the national environmental quality standards; and
- (v) promote environmentally related research.

The Council's members include federal and provincial ministers responsible for environment, and other federally selected appointees. EUAD will act as a secretariat for the Council. However, the Council has yet to meet.

2.3.1. New Units

At the federal level the **Environment and Urban Areas Division (EUAD)** of the Ministry of Housing and Works is the main federal agency with responsibility for environmental protection and resource conservation. As an understaffed Division, it is in the process of being strengthened. A **NCS-Implementation Unit** has been created in EUAD with the responsibility of carrying out the objectives concerning policies, plans, programmes and projects in the area of environment, pollution and ecology as well as regulatory functions in collaboration with linked structures in provinces.

The NCS Implementation Unit serves as the secretariat for the Implementation Committee (see below), and is also responsible for donor coordination. The formal donor coordination meeting is scheduled to be in mid-October 1992.

A high level **Implementation Committee** to coordinate NCS implementation has been created. Headed by the Minister for Environment it consists of the Ministers for Finance and Economic Affairs, Science and Technology, Industry, Education, Food, Agriculture and Cooperatives, the Minister of State for Cooperative and Forestry, the Deputy Chairman of the Planning Commission, Cabinet Secretary, Secretary of the Provincial Coordination Committee,

Secretary of Environment Division and the head of the NCS-Implementation Cell. The Committee will also approve the activities of the NCS-unit in EUAD.

An Environment Wing in the Planning and Development Division under a senior official has also been established. This is seen as the key unit within the policy planning process for the incorporation of environmental concerns in development policy, Five Year Plans, Annual Development Plans and for investment allocations for programmes and with linked structures in the provinces.

All the above are, however, recent creations and in early stages of development.

Pakistan Environmental Protection Agency (PEPA), originally established to be the secretariat and executive arm of the Council, is now an attached Department of EUAD. As such it will operate as EUAD's technical, legal and enforcement arm, undertaking fieldwork and research as necessary. PEPA is also responsible for establishing guidelines on how implementing agencies should undertake EIA procedures during project planning, and for reviewing and sanctioning EIA's. PEPA, is to be headed by a Director-General. Presently it has no staff except for two EUAD staff who have been given the additional duties of PEPA staff positions.

At the provincial level, Punjab, Sindh and NWFP have each established their own EPA's. Punjab's EPA, established in July 1987, and with some 270 staff, is the only EPA with some capacity to act, although its focus and staff experience is strongly on problems of urbanization and industrial pollution rather than land and natural resource management. NWFP and Sindh EPA's only have administrative staff and are presently recruiting technical staff, with NWFP's EPA so far the more developed. None of the EPA's can enforce the Ordinance until PEPA, under a meeting of the Council, delegates its authority to act under the Ordinance to the EPA's. An alternative way to give EPA, enforcement powers would be for the provinces to pass their own environmental protection legislation. Baluchistan and Azad, Jammu and Kashmir (AJK) are still considering establishing EPA's.

ENERCON is an institution created through government initiative focussing on energy conservation. Set up as an autonomous body in 1986 under the Ministry of Planning, its scope spans the entire country and every sector of the economy. ENERCON's concern is primarily energy conservation which it believes will have a positive impact on the environment by cutting down emissions, etc. Initial support for ENERCON came from USAID (till 1991). The Ministry of Planning provides the finances (Rs. 5 million per year) for the core staff. It has contracted a loan from Asian Development Bank and has support for various projects from UNDP, Sweden, ODA and from GEF. It has currently developed ten proposals in different sectors and have floated them for comments. Among these there is one for training of women in energy conservation.

ENERCON seeks to work closely with the private sector and to introduce technical and to other solutions for energy conservation that are commercially viable and may be picked up by the private sector.

2.3.2. Other Agencies

A number of other institutions exist in the governmental structure but their functioning is marred by poor co-ordination and communication, overlap and 'turf' problems i.e. rivalry and sometimes even conflict. None have the capacity to conduct independent environmental impact assessments - an element that the NCS recommends instituting in every ministry. Included among these agencies/institutions are authorities concerned with the urban environment like the Karachi Development Authority (KDA), Lahore Development Authority (LDA) and the Capital Development Authority (CDA).

The Ministry of Communication is partly concerned with water pollution, ports and shipping in its mandate. The Ministry of Food and Agriculture has responsibility for the protection of forests, wildlife and marine resources, and for research into the effects of pesticides and fertilizers. The Water and Power Development Authority (WAPDA), Pakistan Atomic Energy Commission (PAEC), Geological Survey of Pakistan (GSP), Pakistan Forestry Institute (PFI) and the Pakistan Agricultural Research Council (PARC) also have environmental responsibilities.

2.4. ONGOING AND PLANNED ENVIRONMENT RELATED ACTIVITIES

2.4.1. The Eighth five Year Plan

The major planning process currently in progress in the country is that of Eighth Five Year Plan (1993-1998). The Approach Paper to the Plan states: "the Eighth Plan will place the growing concern about environmental degradation on the national planning agenda". (p.57)

The Paper recognizes that issues of environmental concerns extend across the major sectors of the economy and that in seeking solution the Plan will draw upon the NCS.

2.4.2. Environment Oriented Projects under implementation

Currently a total of 70 environment projects are under implementation according to Government sources. These are spread over nine sectors viz Maintaining Soils in Croplands, Increasing Irrigation Efficiency, Protecting Watersheds, Supporting Forests and Plantations, Sustaining Fisheries, Conserving Biodiversity, Deploying Renewables, Preserving the Cultural Heritage and Others (for details see Annex 4).

A number of other projects have also been formulated and included in the portfolio of Aid-Worthy Projects presented to the Consortium Meeting in 1991. Additional sectors in these are Preventing/Abating Pollution and Managing Urban Waste (see Annex 5)

2.4.3 Sarhad Provincial Conservation Strategy

Developing Provincial Conservation Strategies is one of the key mechanisms envisaged by the NCS for its implementation. The Government of NWFP has been the first provincial government to take the initiative in this direction. A Sarhad Provincial Conservation Strategy Planning Workshop was organized in January, 1992 by IUCN with CIDA support. Its recommendations for setting up an Environment Section headed by a Chief in the Planning and Development section and an IUCN Unit to prepare the Sarhad Provincial Conservation Strategy (SPCS) have been followed. The coordinator has been appointed with CIDA support to be followed by Swiss support from November 1992. A Steering Committee to facilitate the development and implementation of priority projects and to approve the work plan of SPCS, and a media unit of Journalist Resource Centre have also been set up.

The SPCS has identified 14 priority areas of activity which include air pollution, water pollution, soil conservation, management and regeneration of renewable resources (forests, watersheds, grazing pastures) and cleaning of Kabul River as a pilot project, among others. It has also identified areas of in-depth studies. Most of these activities are in the process of being designed and need funding and support.

2.5 NON-GOVERNMENT ORGANIZATIONS (NGO'S)

The response from the NGO community in Pakistan is positive even though development and environment NGO's are very young. While some concentrate only on environmental issues there are others that straddle both environment and development. Many of the development NGO's were drawn into the NCS process and added environmental activities to their programmes. This coming together of development-environment concerns should be seen as a positive development for NCS implementation.

Most of the NGO's, however, are concentrated in urban areas (70%) and are relatively small. Their current capacity to deal effectively and professionally with environmental issues is quite limited. However, some among these have the potential to grow in size. Even mid-sized NGO's do not have the requisite skill to write proposals, design projects, or prepare budget documents. Many are very inexperienced and rely mostly on self-mobilized resources (minimal usually) or on project funds and thus cannot afford to take risks or experiment. As donor agencies are unwilling to provide funds for running and managements costs, the NGO's often find themselves unable to support

essential personnel if project funding is delayed, a situation counter-productive to NGO strengthening and independence.

In the last few years a shift has occurred among donors regarding NGO role in project implementation, due to poor performances of government agencies. The NCS, too, defines NGO's as important implementing agents for its strategies. However, the NGO's in Pakistan are not yet strong enough to shoulder the full responsibility that this would entail. The danger is of overburdening them beyond their capacity.

Support for NGO's comes from a number of sources. These include besides self-mobilized funds, embassy administered funds of Canada, Switzerland, Japan, the Netherlands, Australia, etc. Among NGO support mechanisms are Trust for Voluntary Organization, NGO Resource Centre, the South Asia Partnership, and the various UN agencies.

Below is a brief overview of some of the NGO's operating in environment-related fields.

2.5.1. Larger NGO's

- **The Aga Khan Rural Support Programme:** A rural development organization that works on the principle of community organization the AKRSP operates in the Northern Areas. It runs a large Forestry Project besides physical improvement projects (water sources, roads, land reclamation), poultry and vegetable gardening by women among other. This is perhaps the largest NGO which has gradually expanded to different parts of the Northern Areas.
- **The Sarhad Rural Support Corporation** is an NGO established with government initiative in North West Frontier Province (NWFP). A relatively new organization it is patterned on AKRSP and is working in 150 villages in the Districts of Charsadda and Kohat.
- **Orangi Pilot Project** works in the slums of Karachi on the basis of community participation and self management. Its focus has been on sanitation and housing, basic health education and family planning, women work centres, education and promotion of family enterprises. OPP has provided a viable model for working in urban slums.
- **Family Planning Association of Pakistan** has a spread in all four provinces (rural and urban). The FPAP has in recent years included environmental projects in its programmes. It has developed an energy conserving stove developed with user participation.

2.5.2. Mid-Size NGO's

- **Karachi Administrative Women's Welfare Society (KAWSS):** only a few years old KAWWS is a response to urban problems - water supply, waste disposal, improving the neighborhood environment. Their efforts have been in community mobilization, pressurization of authorities and litigation. It has so far raised its own funds.
- **Shehri:** Karachi based organization comprising professionals (architects, lawyers, economists, etc.) committed to raising awareness and campaigning an urban environmental issues through workshops, seminars and publications. It has received some funds from FNF.
- **Shirkat Gah:** a women's documentation and resource centre with offices in Karachi and Lahore, was formed as a women's development NGO has moved into the environment field through active participation and contribution in the NCS process (organized workshops, wrote prescriptive paper on women, contributed sections on women in the NCS document). Shirkat Gah's strength is in research, surveys, and training for community work. It has a substantial library/ reference material on the subject of WID and environment. It is now being developed as the focal point for women and environment in partnership with IUCN.
- **Society for Conservation and Protection of Environment (SCOPE):** is based in Karachi. Its objectives include promotion of environmental awareness among the public, to act as a pressure group, to develop solutions to pollution and to establish an environmental management institution. It has put up simple plants managed by the community for supply of clean drinking water.
- **Sungi Development Foundation:** based in Islamabad, the organization works in partnership with community based organization in rural and urban areas. Beginning as a development NGO, it now focuses equally on environment. It is one of the NGO's involved in organizing Round Tables in the industrial sector with IUCN. It facilitated dialogue between local population, donors and government, in connection with Ghazi-Barotha Hydro-electric Project and its relocation. It also organized local organizations against industrial pollution in Hattar industrial estate.
- **Teacher's Resource Centre:** Karachi-based NGO dedicated to the improvement of school education at all levels in Pakistan. It organizes training workshops, undertakes research, and runs school-focused courses. It has a publication programme under which an Urdu magazine for children around environmental issues and an environmental education newsletter in Urdu for teachers are produced besides a number of other publications. TRC is the collaborating agency with IUCN on the Environmental Awareness and Education Programme.

- **Aurat Foundation:** is an information dissemination service for women with offices in Karachi, Lahore and Islamabad. Aurat's major environment related activity was the organization of a national peasant women's conference followed by a SAARC peasant women's summit as inputs to UNCED. It has also brought out related publications in simple Urdu.

2.5.3. Other NGO's

There are a number of other NGO's also in the environmental field like, Baahnan Beli (rural Sindh), Environmental Protection Society of Pakistan (Lahore), Sindh Rural Workers Cooperative (rural Sindh/women), Pakistan Institute for Labour Education and Research (Karachi), Rural Development Foundation (Islamabad), Pakistan Institute of Environmental Development Action Research (PIEDAR), the Margalla Hill Society, The Gunyar Youth Welfare Society among others.

CHAPTER 3: INTERNATIONAL INSTITUTIONS

The annual multilateral and bilateral aid to Pakistan is in the order of US\$ 2,9 bill. i.e. Rs. 63 bill. (Economic Survey, 1991-92, p.57). This constitutes about 20% of the total request in the Portfolio of the Aid-Worthy projects for the Pakistan Consortium (See Annex 4).

Four donors, the Asian Development Bank, The World Bank, the United States Agency for International Development and Japan International Cooperation Agency have provided the bulk of foreign development resources. Pakistan, statistics indicate, operates with 5 groups of donors. The first group represents more than 70% of the grant assistance and is the Consortium where multilateral and bilateral donors meet yearly for coordination under the leadership of the World Bank. The others are: the non-consortium group mainly East-European and some OECD countries, Muslim countries, refugee assistance and finally the International Monetary Fund (IMF). This report deals only with the most relevant institutions in the first group.

3.1. MULTILATERAL FINANCING INSTITUTIONS

Both the World Bank and the Asian Development Bank have as their principle purpose to promote economic development in the less developed countries. Apart from their ordinary lending, they have both developed institutions which give loans on highly concessional/favorably terms. These are the International Development Association (IDA) and the Asian Development Fund (ADF). These loans are interest-free and carry only a small service fee to cover for administrative costs. The terms of credit are 35 to 40 years maturities, and may have a grace period of 10 years before starting repayment.

3.1.1. The World Bank (WB)

The WB has prepared a proposal for Environmental Protection and Resource Conservation Project (EPRC), estimated at a cost of approximately US\$ 50 mill. The loan was negotiated in April this year and involves an IDA credit that, along with any possible co-financing from bilateral and multilateral donors, would cover 90% of project costs. The federal and provincial governments would finance the remaining costs.

The project (Information based on the un-negotiated aide-memoire from April/may 1991 Appraisal Mission) will consist of two major components. One is a series of actions to strengthen environmental protection institutions and initiate an Environmental Impact Assessment system. The other is a series of sub-projects to rehabilitate, develop, conserve and manage watersheds, rangelands, natural habitats and wildlife.

The first component will consist of:

- a) strengthening the Environmental and Urban Affairs Division (EUAD) and Pakistan Environmental Protection Agency (PEPA) by providing staff, training, technical assistance, equipment and operating funds, (US\$ 2,3 mill.);
- b) establishing capability to review EIA's in the federal Planning Division (US\$ 2,0 mill.) and Punjab's Planning and Development Department (US\$ 0,5 mill.) by means as mentioned above;
- c) strengthening Sindh (US\$ 4,3 mill.) and NWFP's (US\$ 4,6 mill.) Environmental Protection Agencies by means as mentioned above;
- d) assisting development of operation regulations for the 1983 Environment Protection Ordinance by providing technical assistance. (US\$ 0,2 mill.);
- e) establishing a remote sensing and Geographical Information System (GIS) at the department of Environmental Planning and Management, University of Peshawar, to strengthen professional training and research in natural resource management by providing equipment, training, technical assistance and operating funds.(US\$ 1,2 mill.)
- f) initiating mass awareness programmes at the federal level, in Sindh and NWFP to educate decision makers and the public concerning environmental issues. (Costs included in the above mentioned activities).

The second component will consist of eight individual projects and strengthen the office of the Inspector General of Forests, (Ministry of Food, Agriculture and Cooperatives) to enable it to monitor the progress of these sub-projects as well as general forest and rangeland development.

Of special interest for our study is the rehabilitation and replanting of Indus Delta Mangroves. (US\$ 3,5 mill.) This project which will be done in cooperation with bilateral donors, is complementary to the NORAD supported IUCN project which has also been a model for the WB project. In the NWFP there is a project on Kohat-Karak Rangeland Rehabilitation and Development (US\$ 2,5 mill.) In the Northern Areas there is a project on Dir Kohistan Upland Rehabilitation and Development (US\$ 6 mill.) In the Kashmir area there are two projects, one on Alpine Pastures Studies in the Upper Neelum Valley (US\$ 1,5 mill.), and Bhimber Upland Rehabilitation and Development (US\$ 9,7 mill.).

3.1.2. The Asian Development Bank (ADB)

ADB's yearly lending to the governmental sector in Pakistan constitutes about US\$ 700 mill. This is split with 55% from ordinary capital resources and 45% from Asian Development Fund (ADF). A yearly programming mission discusses programmes with the government for a period up to 3 years ahead.

ADB has not established any specific environmental policy for Pakistan, but environmental concerns are integrated into all ADB projects. They have introduced 4 categories in which projects are placed following their anticipated environmental impacts.

The World Commission on Environment and Development (WCED) charged all agencies in the UN system, and especially the multilateral financing institutions, to study its analysis and recommendations and to reformulate their programmes and priorities accordingly. Given Commission's emphasis on relationships between economic policies, environmental degradation and the persistence of poverty, the Bank sought ways of encouraging developing member countries to translate the Commission's recommendations into practical country programmes. Pakistan participated in this endeavor (Economic Policies for Sustainable Development, ADB 1990). These policy recommendations have not been followed up in Pakistan.

ADB initiated in 1989 its first environmental programme in Pakistan which is coming to an end in August 1992. It is a US\$ 600,000 programme for strengthening environmental management. The components are to:

- assist the Federal and Provincial Government in preparing an institutional framework for environmental management;
- assist the Environmental Protection Agencies in Punjab and Sindh in preparing industrial Waste Water Management Programmes;
- prepare a feasibility level analysis and plan for establishing an Institute for Environmental Management and invite a "train-the-trainers" programme for government officials, and
- provision of equipment and materials to support the institutional strengthening of EPA.

This project will be finalized in August this year.

ADB has also, together with UNDP, Canada, Germany and the Netherlands, supported the preparation of a long term (25 years) Forestry Sector Master Plan which is aimed at reversing the deterioration of the natural resource base and meet the future demand for forest and rangeland products. The project period is December 1989 to September 1992.

The Bank is also considering a new US\$ 600,000 loan to contribute to the implementation of the NCS. The proposed scope is to finance technical support team providing advice, technical supervision, training and some logistical support in the following areas:

- Policy approach, data generation and analysis and institutional recommendations dealing with, inter alia, solid waste management, industrial effluent and vehicle emission control;
- Environmental legislation and formulation of environment standards at the provincial level;
- Approaches for financing provincial environment programmes;
- Formulation of a framework for integrated environmental management.

ADB will, however, wait for the Government of Pakistan to show its own commitment to the NCS by allocation of resources, before ADB is willing to commit itself fully to support the implementation efforts.

A forestry sector loan of US\$ 150 mill. is tentatively planned for from 1994. The sector development programme to be supported by the loan will be formulated on the basis of the findings of the ongoing bank-executed Forestry Sector Master Plan Study. The programme will include a range of policy and institutional reforms and investment planning initiatives to assist the Government in revitalizing Pakistan's forestry sector. A community forestry project in NWFP will also be considered in the wake of the Forestry MP Study.

The Bank voiced a mild skepticism for co-financing projects with other donors, mainly because of the problems with the different rules and regulations for reporting and evaluations of various agencies.

3.2. UNITED NATIONS AGENCIES

A great number of UN agencies and institutions are in some ways dealing with environment and development issues. It is UNDP who administers and coordinate the great majority of the technical assistance provided through the UN-system. Its objective is to assist developing countries to accelerate their economic and social development. Most of the projects funded by UNDP are executed by agencies and institutions within the UN-system like FAO, ILO, UNIDO, UNESCO, WHO, WMO, IAEA and IMO to mention a few. UNDP's five-year country programmes coordinate development activities across the whole spectrum of social and economic sector.

ESCAP, the regional Economic and Social Commission for Asia and the Pacific, has no current programmes in Pakistan in the field of environment. UNEP, the United Nations Environment Programme, is not an executing agency and has no representation, nor any known projects in Pakistan.

The most active and relevant in our context are however:

3.2.1. United Nations Development Programme

UNDP's estimated disbursement to Pakistan is US\$24,2 mill. The main sectors are agriculture, natural resources and industry.

The National Conservation Strategy will be an umbrella document for all future UNDP programming. The UNDP Fifth Country Programme document which is synchronized with the GOP five year plans, will be linked to the NCS. UNDP will focus specifically on the strengthening of line ministries, so that they could develop competence and capacity to integrate environmental concerns in their own programmes and activities. UNDP has also introduced an Environmental Impact Assessment (EIA) system with the assistance of IUCN, such that all projects are EIA-reviewed prior to approval.

UNDP has supported the formulation of a Forestry Master Plan, but regrets a serious lack of government support for the plan. It is involved in institution building of the National Energy Conservation Centre (ENERCON), especially

with regards fuel efficiency, watershed management with IFAD and tannery waste in Kasur with UNIDO, NORAD and the Netherlands.

Through the Global Environmental Facility (GEF), UNDP has developed two pilot projects. One is a US\$ 6 mill. wildlife/ bio-diversity project through IUCN, and the other, a US\$ 7 mill. fuel efficiency project through ENERCON.

UNDP is also launching its Asia 2000 project in Pakistan by working in cooperation with urban NGO's to develop a small projects fund. In cooperation with IUCN a Sustainable Development Network is developed with the aim of providing hardware and software equipment to link up environmental NGO's in the Asian region. UNDP will increase its focus on industrialization and problems connected with the deregulation of industry sector.

UNDP raised concern that the Government and the donors might underestimate the requirements for manpower needed for the implementation of the NCS, and wished to look further into this aspect.

3.2.2. United Nations Industrial Development Organization

The mandate of UNIDO is to promote industrialization in developing countries. This implies such activities as technical assistance, training, exchange of information, investment promotion, national and regional planning and transfer of technology. UNIDO has today, also a mandate to pursue industrial solutions which are environmentally sound and takes into account the need for a long term management of the resource base upon which the production relies.

The national UNIDO office has no separate funds and is relying on the UNIDO main office for seed money, but mainly on UNDP and interested bilateral donors.

UNIDO is in the process of making an industrial pollution survey in Pakistan and its effect upon the environmental quality and public health. The objective of the report is to serve both as a driving force for a proposed industry/ environment "round table" and as an indicator of priorities for pollution control investment. This project will be in cooperation with IUCN.

One of the important projects in the area of environment is the Kasur pollution abatement project. UNIDO has together with UNDP, the Netherlands and NORAD sought ways of dealing with this particular project where a whole town south of Lahore is badly polluted by its tanneries industry. UNIDO has also embarked on a regional programme for tanneries in South-East Asia, and is requested by the Pakistani government to initiate a demonstration treatment plant in Karachi which also has a large tannery industry.

UNIDO has started a project with Pakistan Agricultural Research Council in Islamabad on the impact of pesticides and insecticides in ecological systems.

The following projects are in the pipeline:

- one project on building engineering competence in Pakistan to develop and produce national treatment plants for sewage and industrial pollution.
- one project on energy conservation by using coal instead of gas in cement production, where the cement is said to capture the emissions of CO₂. (This project would be in cooperation with ENERCON, but they are skeptical because of the sulphur emissions which will be difficult to control).
- one project on energy saving in metallurgic industries.

3.2.3. Other relevant UN-organizations

The **United Nations Population Fund (UNPF)** is providing a US\$ 0,7 mill. assistance to strengthen Pakistan's efforts towards family planning. The assistance would be used for the availability of contraceptives commodities.

The **United Nations Children's Fund (UNICEF)** has a total financial frame for the Plan of Operations for its Country Programme of US\$ 125, mill. spread over 1992-1996. The focus of UNICEF's interventions are women and children. Of its programme areas of co-operation, the most relevant from over point of view is that of Water and Environmental Sanitation with a total UNICEF input of US\$ 34.2 millions. The programme includes water supply and sanitation facilities to the impoverished communities of barani (rainfed) areas, mountainous areas of AJK, NWFP and Northern Areas, households in barrage areas of the Indus River (alluvial planes) and the urban pool.

The other is the Support to NGO's Project under its Planning and Monitoring Programme. As Pakistani NGO's lack skills in programme planning, financial management and monitoring the projects's objective is to strength NGO's especially community level NGO through training and sharing of experiences. The budget for this is US\$ 305,000 between 1992-1996.

The **United Nations Development Fund For Women (UNIFEM)** works to improve the situation for women in developing countries. Its strategy for Asia-Pacific is to improve the data and statistics on: 1) women in agriculture, 2) women in industry, and 3) awareness raising.

Relatively new in Pakistan is its activity to ensure that peasant women's voices find a place in UNCED. It sponsored a national peasant women's conference in Lahore, followed by a SAARC region peasant women's summit. Nominees from these were then taken to Rio for participation in the Earth Summit. A follow up is now planned. UNIFEM for its funding depends on pledges from the UN General Assembly and has a Voluntary Fund.

The **United Nations Environment Programme (UNEP)** does not have a presence in Pakistan.

3.3. BILATERAL DONORS

3.3.1. Canada

CIDA has played a strong supportive role in the development of the National Conservation Strategy, and has funded the production of the NCS document. On completion of the document, CIDA extended its agreement with IUCN to July 1993 in order to provide a bridging period before CIDA's major environmental projects may begin around August 1993. CIDA has as a tentative figure of some CAN\$ 25 mill. for the NCS programme for the next 4-7 years.

The objective of this "bridge phase" is to assist the Government in designing implementation strategies for the NCS. Seed money for the start up of the Institute for Sustainable Development (SDPI) is also provided, as well as support for the NCS-unit in the Environment and Urban Affairs Division, the unit in the Planning Commission and the NCS-unit in NWFP, the Planning and Development Division. Support has also been given to IUCN to prepare an NGO support strategy, to WID initiatives and to the launching of the NCS.

CIDA is in the process of designing their Phase 3 of environmental support. It is likely to give emphasis to the following areas: NCS-Unit in the Environment and Urban Affairs Division, Environmental Unit in Planning Commission, the Institute for Sustainable Development (SDPI), Environment Unit in NWFP Planning and Development Department and institutional support to Peshawar University. CIDA sees IUCN as its chief partner in the implementation of Phase 3, and as such, plans to give core support to IUCN to strengthen its capacity.

CIDA is also into areas like the building of hydroelectric powerplants, regulatory framework on pricing, production of gas and support to small NGO's. They are leaving sectors like agriculture and education, and have no specific activities for private sector cooperation.

There seemed to be a lack of interest in funding York University's cooperation with Peshawar University, and it was more or less openly suggested that NORAD should keep this proposed project to itself.

Through its major involvement in environmental activities CIDA has also initiated informal coordination between donors in this field. They were concerned that the Government would postpone the donors meeting on the NCS and thus lose important momentum in the process. In supporting organizations/institutions CIDA is not only looking for needs, but also for proof of performance.

3.3.2. Japan

Japan is now the largest bilateral donor in Pakistan after the USA has pulled out. Their grant allocation is nearly US\$ 60 mill. per year, while loans are approximately US\$ 125 mill. They have no particular geographical

concentration, but will keep out of the interior of Sindh because of the present unstable situation.

The main thrust of activities are in the area of basic human needs such as medical service and public health, domestic water supplies, and rural and agricultural development and also in human resource development.

There are two official Japanese institutions working with developing countries. The Japan International Cooperation Agency's (JICA) main function is to extend technical cooperation based on agreement between the Government of Japan and the Government of the partner country. The Overseas Economic Cooperation Fund's (OECF) main function is to promote Japan's development assistance activities, mainly by providing concessional loans.

Traditionally, assistance for basic infrastructure, such as roads and telecommunication facilities, has been provided by Official Development Assistance (ODA) loans. However, Japan has incorporated these projects in the target as grant aid because of the deteriorating fiscal circumstances of some developing countries.

In 1991 Japan presented its new environmental development aid policy which identify priority areas for Japanese aid and provides for an increased emphasis on environmental considerations when aid is implemented. The priority areas for cooperation is :

- conservation of forest and afforestation,
- energy saving and development of clean energy technology,
- pollution control,
- conservation of wildlife,
- conservation of the soil and
- enhancement of the capacity of developing countries to cope with environmental problems.

Further efforts will be made to cooperate with international development and financial organizations. Through increased utilization of existing schemes of subsidies to NGO's and small-scale grant aids, further cooperation at the grass-roots level will be promoted.

The JICA is in the process of compiling environmental data about each developing country, and plans to develop environmental guidelines for each sector of assistance. The OECF started i December 1991 to prepare an environmental profile for Pakistan. In the case of projects financed by OECF loans, final approval is not given until comprehensive studies have been carried out in accordance with OECF environmental guidelines. The JICA has received a proposal (PC II) from EUAD on an Environmental Research and Training Institute. However, the request for US\$ 20 mill. was thought to be to high and they were awaiting a more modest proposal. This proposal will be considered together with a proposed Institute of Environmental Management witch is resting with the ADB.

Ongoing environment related projects are:

- Improvement of environmental conditions in Karachi, US\$ 3,9 mill. in 1991 and -92. Refuse collection and treatment.
- Rehabilitation of the 8 water treatment plants in Islamabad, US\$ 9 mill. in 1991 and US\$ 3,5 mill. in 1992.

There are talks in progress between Japanese and Pakistani authorities on future development assistance programme. The results will be available in August.

3.3.3. The Netherlands

Pakistani-Dutch bilateral policy is directed at poverty alleviation. It is intended to reserve about 40% of the annual budget for project aid for rural development. The NWFP and Balochistan are areas of concentration. The primary aim of programmes in the livestock, agriculture and forestry sector will be to raise the productivity of small enterprises and to create employment. The bilateral allocation for 1992 is Dfl. 57 mill. (about US\$ 33 mill.) Dfl. 10 mill. is earmarked for debt relief under this allocation.

For issues such as Environment, Women in Development, Urban Poverty Alleviation and Research, separate financial provisions are available over and above the bilateral allocation. The Dutch have initiated an environmental checklist for individual project implementation. For the future an EIA has to be carried out for all new project initiatives. The Dutch prefer to work through NGO's, but will also try to strengthen government institutions.

Environmental profiles for NWFP and Balochistan are being prepared and the Dutch environmental programme will attempt to fit in with the plan of action under the NCS. The programme will have the following 6 main elements:

- Forestry, water and land use;
- Institutional strengthening, particularly the Federal Planning and Development Division, the provincial EPA's in NWFP and Punjab, NGO support, establishment of a multi-disciplinary, multi-sectoral Environmental Management Training Institute and a Social Forestry Wing in the Forestry Department;
- Human resources development for the staff of the Federal Environmental and Urban Affairs Division;
- Industrial pollution area such as advise to small enterprises on introduction and use of clean technologies;
- Energy-saving measures and
- Improvement of the living and working conditions of poor population groups in urban and rural areas.

The Dutch are currently involved in individual environmental projects such as soil salinity control, rangeland improvement and reforestation/social forestry. They also participated in the preparation for the environmental

pollution project in Kasur, a similar project in Korangi in Karachi, in watershed management in Dir/Swat with IFAD, support for the Water Management Department at Peshawar University and the Aga Kahn Rural Support Programme. A project on Marine Oil Pollution has been completed.

3.3.4. United States

USAID is in the process of phasing out their development assistance, at least for the time being, due to controversy over access for inspection of the Pakistani nuclear development programme. USAID will not take on new initiatives, although some projects in the area of global warming might be considered.

Most of their current environment related activities are in projects within the agricultural sector, social forestry, irrigation support, pesticide disposal, awareness and review of environmental legislation for the Ministry of Environment. Their programme also include projects within the area of family planning, energy conservation, rural electrification and primary education in NWFP and Balochistan. Some projects have a phase-out in December 1994, but most project activities will cease before that.

3.3.5. United Kingdom

UK has a US\$ 50 million bilateral annual aid budget for Pakistan. So far their involvement has been in engineering works like replacement of Sukkur barrage gates. 10-15% of the aid is for education and scholarships. It has also inputs in health and population programmes and has committed 1/5 to 1/6 of bilateral input for the Eighth Five Year Plan.

The British Overseas Development Assistance (ODA) has been co-financing the WB Family Health Project I in the NWFP to the tune of UK£ 1.2 million and Project II in Punjab/Balochistan to UK£ 6.00 mill. It is also co-financing the Punjab Middle School Project with the WB and WB Sindh Primary Education Project.

There is no specific environment project of ODA in Pakistan although there is involvement in some activities which have an environmental impact. For example it was one of the co-financiers of Left Bank Outfall Drain (LBOD) project and has commissioned the RBOD Master Plan, ODA will be undertaking supply of water to streets of Faisalabad and solid waste management; is involved with WASA Lahore in a sanitation and water project with WB; upgrading of Karachi Water and Sanitation project; and improving efficiency of gas-turbine power generation plants in Indder, Kotri and Sukkur.

Its support to 4 drainage programmes in Punjab is coming to an end. Fisheries and forestry are future areas of support while there is no interest in power generation. An in-country natural resources adviser will soon be joining the High Commission after which more projects in this field may be developed.

3.3.6. Other bilateral donors

The Swiss Development Cooperation (SDC) are planning to take more environmental approaches in all their projects. At present they are involved in the Forestry Master Plan with UNDP and ADB, Sindh Range Management Project, Forestry project in NWFP and Shelter development. They support two NGO's PIEDAR for its water management project and SCOPE for preparing an environmental library. They also support one governmental position in the NCS-cell in the NWFP.

Germany has through its Development Assistance Agency, GTZ, mainly been involved in the areas of energy, water supply and irrigation, health care and education. They have so far not voiced any specific interest for other environmental projects.

The European Community has just mounted a mission to consider funding two components of WB's EPRCP i.e. Dir-Kohistan in NWFP and Murree-Kahuta in Punjab. The implementation period foreseen for the two sub projects is six years.

3.4. INTERNATIONAL NGO'S

Many NGO's have shown their ability to mobilize communities around a common objective. These models has often increased peoples confidence in their own ability to help themselves. Some of the NGO's like the IUCN and the AKF are considered to be effective, by eliciting better performance from public agencies through critical and constructive collaboration. This last part is an area which the team considers to be of utmost importance.

3.4.1. International Union for the Conservation of Nature and Natural Resources

IUCN is an international organization with headquarters in Switzerland and regional and national offices over large parts of the world. Its members are both governments, government agencies, research organizations and national NGO's. In the last few years IUCN has expanded very rapidly, as it has moved from environmental work in the old sense to the environment/development agenda. Norway and Sweden has been the major donors to help IUCN build their present competence and strength.

An IUCN-office was opened in Pakistan in 1985. Its main office is in Karachi, but a small affiliation is also established in Islamabad for the follow-up of the NCS. There are no permanent posts in this country office, and they are not planning for a lager number of staff. The lack of secure core funding is a problem, but it seems like the present project funding with overhead costs manage to keep them above immediate problems. Its work ranges from policy formulation, to training and institution building, public awareness and environment education. IUCN is now working to build expertise in other NGO's in Pakistan on different aspects of sustainable development in order to

spread competence and influence. They have identified focal points in key areas and are now supporting them.

Field programmes have involved coastal zone management programmes, integrated resource management of the Ziarat Juniper forests of Balochistan, social forestry, sustainable forestry development in the Northern Areas (through AKRSP), a population environment programme and support to the Environmental Planning and Management Programme of the University of Peshawar. In addition to IUCN's own inputs, financial support for these programmes and others has been provided by ADB, AKF, CIDA, GTZ, NORAD, SDC, SIDA, UNDP, UNEP, UNFPA and WWF.

IUCN-Pakistan must be regarded as an exceptionally strong country office. It obviously has a strong influence as well as standing with government, donors and NGO's. One of IUCN's largest undertakings in Pakistan has been the National Conservation Strategy. It has taken the lead in most of the significant environmental initiatives in the country. Its role has evolved into that of the facilitator between government agencies, donors and NGO's. Many of the donors rely on IUCN for their environmental projects, as also the large multilateral institutions who refer to IUCN as one of their main partners. In cases of disagreement like the one between UNIDO/UNDP and the Netherlands/NORAD on the Kasur-project, IUCN is called in to "mediate".

NORAD support to IUCN, or vice versa, includes support to Environmental Management and Planning Course at the University of Peshawar, Basic Forestry Course for female workers at the Forestry Institute in Peshawar, Pilot Project for Environmental Management of Mangroves in the costal areas in Sindh and technical assistance to the Sustainable Forestry Project in the Northern Areas.

The Journalist Resource Center within IUCN-Pakistan is supported by CIDA with an allocation of CAN\$. 300.000. A list of active projects for IUCN, Pakistan for 1992 is enclosed as Annex 6.

3.4.2. World Wildlife Foundation

WWF is a registered Pakistan NGO affiliated with WWF International. It started functioning in Pakistan in 1970 and works under the direction of a Board of Governors, headed by a leading member of the corporate sector.

WWF has offices in the capitals of all four provinces (Karachi, Lahore, Peshawar and Quetta) as well as in Islamabad and a representative in Gilgit to cover the Northern Areas. It also has a Conservation Director in Peshawar, and high level of technical expertise within the organization. WWF has a country wide educational programme, both in formal and non-formal education. This includes working with the private and public school systems production of educational materials, publication of books, comics, posters, etc.

The Conservation activities of WWF include a national Wetlands Programme wherein WWF has developed a comprehensive management plan for the wetlands of the country. With the Sindh Wildlife Department, it is involved in collecting management development information on Haleji Lake. It also monitors migratory birds that come into Pakistan.

WWF is also drawing up Management Plans for National Parks in Pakistan (Khunjerab, Hazarganji, Lal Sunhara) in collaboration with the relevant provincial departments. More recently, the organization has turned its attention to monitoring of imports of pesticides and hazardous chemicals and to identify negative impacts from the use of various pesticides.

WWF is often called upon by various government departments for their advisory/review services regarding Environmental Impact Assessments. Funding for most of WWF projects comes from WWF International. Funds are also raised locally from an expanding membership (fees), sale/donations from souvenirs, though licensing trade mark rights (e.g. Panda), and donations from the corporate sector. Its work has attracted attention from donors. The Swiss Development Corporation is funding its education programme, ODA has also shown interest in WWF's education activities and EEC in the project in the Sulaiman Range involving conservation of the markhor (mountain goat) and chilgoza pine trees.

3.4.3. Aga Khan Foundation

AKF is a world-wide institution with an objective of promoting social development. They have their main work in parts of Africa and Asia. Their priority areas are primary health, primary education and rural development. They often look towards other donors for co-financing of their projects. Their yearly budget in Pakistan is about US\$ 11 mill. but is not a fixed allocation and may be adjusted according to needs. The major bilateral donors cooperating with AKF are CIDA, ODA and the Dutch.

Their largest project in Pakistan is the Aga Khan Rural Support Programme (AKRSP) in the Northern Areas, where the population consists of approximately 30% Ismailias ("Aga Kahn followers"). AKF has established a NGO-Resource Center with the aim of identifying and respond to the needs of local NGO's, to help them play a greater role in development. It has provided support to 34 organizations, largely in the Karachi area, and mainly for strengthening their organizations. NORAD is supporting this Center with a total allocation of 1 mill. NOK for the 2 year period of 1992-93.

3.4.4. OXFAM

Oxfam is a charity organization working for poverty relief. Its funds are raised in Ireland and UK through donations from the public, sales from Oxfam shops and grants from other agencies. In Pakistan, Oxfam has a programme of support to community development, welfare and emergency relief. They work in partnership with private Pakistani organizations, not with the government. They have a budget of less than US\$ 200.000 for Pakistan. Less than 10%

comes from donor agencies. They are operating in all provinces, but have most projects in the lower part of interior Sindh.

Oxfam provides support for a wide range of activities within the areas of agriculture, health, education, small scale production, water supply and sanitation and in emergency situations. Within the area of environment, Oxfam will consider assistance for social forestry, control of water logging and salinity, alternative energy and sustainable agriculture.

3.5. COORDINATION BETWEEN DONORS

All the donors visited by the team articulated the need for donor coordination, particularly in the value of the cabinet approval of the NCS and to avoid the danger of overlapping donor support. Implementation of the NCS is likely to entail a vast number of projects and activities with a high potential of duplication. This seems to be the case particularly in the areas of institutional strengthening, both with regard to the government and with NGO's. Some of these activities appear to be more interesting for donors than others, and may lead to competition between some of them.

There is also the danger of too many donors looking towards the same institutions for facilitating implementation of programmes, and may end up over burdening the institutions.

There was, a strong feeling among most donors that the initiative for donor coordination should come from the Government, maybe the NCS-Unit at EUAD. A number of donors also expressed their willingness to assist the government in coordination efforts. UNDP stressed that the sector ministries responsible for implementation must also be involved in the coordination efforts.

The Japanese were eager to have informal donors meetings and felt that the present level of cooperation was quite satisfactory. They claimed that there were informal consultations twice a year for the agricultural and energy sectors, while the ADB said that they only knew about the monthly meetings on energy. The British pointed out that some donor meetings are already held e.g. the annual USAID led Water Sector meetings, the World Bank led Social Action Programme meetings and UNFPA led population related meetings.

There seemed to be some resentment over World Bank's lack of coordination. The WB apparently has gone ahead with its large environment project without consulting any of the other donors.

So far CIDA has taken the lead in coordinating informal meetings of donors to avoid duplication of efforts and will continue to do so. Other donors seem to accept this role of CIDA.

CHAPTER 4: NORAD'S CURRENT ACTIVITIES

4.1. OVERALL STRATEGY FOR DEVELOPMENT COOPERATION

The main objective for Norwegian development cooperation is to assist developing countries towards a sustainable development, i.e. "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" ((WCED, Our Common Future, 1987, p.43). The concept of sustainable development needs to be seen in a wide context.

- It means inter alia a process towards greater equity between and within nations, improved terms of trade, transfer of environmentally sound technology and building of better democratic and participatory structures in the society.
- It means economic growth which is considerate to an ecologically sound management of the natural resources and respects the limits of nature's absorptive capacity to deal with pollution and waste.
- It means a fight against population increase, poverty and against excessive lifestyles, violation of human rights and the suppression of women.
- It means the improvement of health and education, and respect for cultural and religious dimensions.
- It means protection of biological diversity and a change towards utilizing the interests of our capital of resources rather than degrading the capital.

Several reports and documents are referred to as to give a basis for Norwegian development cooperation. In observing the guidance of these documents, NORAD has, in its "Strategies for bilateral development cooperation, part II", laid down a set of principles for "sustainable cooperation". Of the main principles are:

- * All engagements shall be in accordance with the country's own priorities, its national development plans, including national conservation strategies and national environmental action plans where they are adopted.
- * Emphasis shall be given to national financial ability to plan and sustain the initiated activities.
- * Activities shall be entertained with a view to the need to maintain the capital of natural biological resources. Non-renewable resources should be utilized effectively and in a long-term perspective. Pollution and waste disposal should be within the limits of which nature can process.
- * Emphasis shall be given to education and social services, under the precondition that these services can be maintained after initial support.

- * Development assistance shall be adaptive to the administrative and functional systems of the country.
- * Emphasis shall be given to utilize local knowledge, tradition, technology and social organization.
- * In choosing between areas of cooperation, due consideration shall be given to share assistance between various social groups, men and women, adults and children. Involvement of the larger community in projects shall be encouraged.
- * It is also decided that EIA shall be conducted for all ongoing activities.

4.2. STRATEGIES FOR COOPERATION WITH PAKISTAN

Future activities in Pakistan will entail a reduction in the State to State cooperation and a phase-out of the formal country programme. It will, however increase its support on environmental activities and within the commercial sector. To facilitate this change, transfer of technology, research and institutional cooperation will be sought.

This change in profile will be prepared for the next planning period, that is from 1994 onwards. The current programme level of support is approximately US\$ 7 mill. For the coming period, a sum of US\$ 2 mill. might be allocated to environmental activities.

Under the annual development consultations for 1992-93, the Norwegian delegation stated that the main objective would still be to assist partner countries in their efforts to bring about lasting improvements in the economic and social conditions for the entire population within the framework of ecologically sustainable development. To this effect both economic growth and stability as well as alleviation of poverty is important.

It was further stated that emphasis should be given to human resource development and the integration of women into the mainstream of development. The delegation expressed the view that in order to meet the increased financial need within education, primary health care and family welfare, a higher level of local resource mobilization and more strict expenditure priority seemed to be needed.

It was also underlined that the Norwegian Government was increasingly concerned about efficient use of the development aid budget and that it could not be taken for granted that unutilized funds within one budget year would automatically be transferred to the following year.

4.3. NORWEGIAN EXPERTISE IN THE FIELD OF ENVIRONMENT

Norway has developed special competence and experience within a number of areas of environmental and natural resource management. Some of these might be relevant to future donor assistance in Pakistan. This listing does not claim to be exhaustive, but tries to list some major areas:

4.3.1. Geographical and thematic mapping

As a prerequisite for effective planning and management of natural resources, Norway has developed an advanced and internationally recognized expertise in producing and using cartographic information technology. Important institutions are The Norwegian Mapping Authority and the Norwegian Mapping Group.

4.3.2. Environmental surveillance and monitoring

An extensive network for environmental monitoring has been in operation for many years in Norway. New monitoring systems are comprising individual industries, land and rivers as well as oceans and coastal waters. Remote sensing measurements and interpretation represents an area of increasing importance in pollution control and monitoring of natural resources, in which Norway has good expertise. Many governmental and private institutions have competence in this field. Of the governmental are The Directorate for Nature, The State Pollution Agency, the Ocean Research Institute and the institutions mentioned below as 4 Ni.

4.3.3. Natural resource accounting and budgeting

The Norwegian Statistical Bureau is one of the leading institutions in the world in this field, which is of great importance for measurement and planning on utilization of a country's stock of natural resources.

4.3.4. Safeguarding the marine environment

As Norway has experienced a rapid growth in offshore oil and fish farming sectors, there has been a need to develop strategies and technologies to cope with the pollution problems from these activities. These investment are also relevant for pollution control operations in other areas around the world. Norway has also a long standing experience in the area of a sustainable marine resource management. Relevant governmental organizations are again the State Pollution Agency and the Directorate for Fisheries.

4.3.5. Industrial pollution

Increasingly stricter pollution control for the processing industries have laid a basis for the development of new technologies both to reduce energy consumption and adverse environmental impacts. This is especially the case with the metallurgical industry in the aluminum and ferro-alloy sectors and the pulp and paper sector. The State Pollution Agency, 4 Ni and a number of private institutions are dealing with different aspects of industrial pollution.

The Norwegian State Pollution Agency has a well developed experience in institution building of local EPA's of creating legislative framework and standards, as well as development of incentives for industry to reduce pollution.

4.3.6. Small Scale hydroelectric power plants

For many years, Norwegian companies have been planning and constructing small scale hydroelectric powerplants in developing countries. These projects are subject to very strict environmental screening, and is an area where Norwegian expertise is very able. Both governmental institutions and private companies have extensive experience in this area.

4.3.7. Management of biological resources in dryland areas

After many years of development assistance in the Sudano-Sahelian zone, and other areas in Africa, expertise has been developed especially in the area of dryland agriculture, pastoralism, the sustainable utilization of wildlife and other biological resources and social forestry. The most advanced institution in this area might be the Norwegian Agricultural University/NORAGRIC. NORAGRIC has also a Master of Science programme in management of natural resources and sustainable agriculture, whose aim is to educate and train Norwegian and foreign personnel in integrated approaches to natural resources utilization in developing countries.

4.3.8. Policy options to deal with climate change

Norwegian research institutes have over the last few years gained a special competence on the issue of global climate change. This expertise comprises studies on socio-economic impacts and policy both options for limiting greenhouse gases and conservation and expansion of the sinks of greenhouse gases, as well as options for adapting to such changes.

Norway's four largest environmental research institutes have joined forces to set up the 4-Ni association, which covers a broad range of environmental research fields, but focusses particularly on impact assessments of larger development programmes that involve both social and physical aspects. These are the Norwegian Institute for Urban and Regional Research, the Norwegian Institute for Air Research, the Norwegian Institute for Nature Research, and the Norwegian Institute for Water Research.

The latter has extensive experience, also from developing countries in the area of water resource management and engineering aspects of waste and drinking water.

A number of Norwegian consulting companies have also over the last 10 years specialized in environmental protection, pollution control, energy conservation and water resource management.

4.4. NORAD'S CURRENT AND PLANNED PROJECTS

Under the Country Programme, NORAD has three education projects and one project on rural electrification. These are:

PAK 005 Allama Iqbal Open University, which is a training programme for primary teachers on new teaching methodologies. The duration of the project is 4 years (1991-95), with a total allocation of NOK 21,4 mill.

PAK 013 Sindh Primary Education Development Programme, which is trying to improve participation, particularly of girls, in primary education. This project is in cooperation with the World Bank and other donors. The duration of the project is 4 years (1990-93) with a total allocation of NOK 23.7 mill.

PAK 014 Improvement of Teaching Materials, NWFP Textbook Board. The duration of the project is 4 years (1990-93), with a total allocation of NOK 5,8 mill.

Neither of these projects have any specific environmental significance. The team however feels that for PAK 005 in particular, introduction of an environmental component might be considered. That is, of course if the project is considered to perform satisfactorily on other accounts.

PAK 003 Rural Electrification Programme in the Northern Areas, which will assist in building three small scale hydropower plants and a maintenance workshop. The duration of the project is 4 years (1990-93), with a total allocation of NOK 120 mill. This project will be commented upon below.

PAK 004 Environmental Programme. Projects have so far not been identified. The allocations for 1992 and -93 are NOK 3 and 6 mill. respectively.

In addition to the Country Programme, there are also special allocations for environment, NGO and women related activities. A full list of projects is enclosed as Annex 7.

4.5. NORAD'S ENVIRONMENT RELATED PROJECTS

In consultation with the NORAD representation, the team has looked into the following projects:

4.5.1. AKRSP Forestry Programme in the Northern Areas

Due to political/religious unrest in the area where this programme is located, the team was not able to visit the area. Our comments are therefore made on the basis of previous reports and evaluation, meetings with IUCN representatives in Karachi and with the Programme Manager of the Forestry Project, in Islamabad.

Aga Khan Rural Support Programme covers approximately 70,000 sq.km of northern Pakistan with a population of about 1,000,000. The region is a mountainous desert with limited agriculture. Forestry resources are scarce and often are removed from habitations. The rapidly growing population is not only threatening the fragile desert mountain ecosystems, but dwindling forestry resources also add to the work burden of the mostly subsistence based population. A lot of time is spent in collecting fuelwood, and even then many homes are not adequately heated in the bitterly cold winters. In 1987 IUCN, at the request of AKRSP, initiated a two year pilot programme to investigate and organize tree plantations on scientific lines and make it a sustainable activity. The programme was funded by NORAD. This Phase-I lasted till 1990/1991 and total funding from NORAD was of NOK 5.2 million.

After the two years of the pilot phase and about one year of implementation, NORAD undertook a comprehensive evaluation of the programme. Following the NORAD evaluation, IUCN and AKRSP through a major planning exercise developed a comprehensive five year strategy.

The strategy which has distinct roles for IUCN and the AKRSP is being funded for the first two years by NORAD (NOK 4.63 million). Under the agreement, IUCN is to provide technical assistance to AKRSP. The project has been regularly monitored and a Joint Monitoring Mission is scheduled in September - October 1992. It will review a) institutional maturity; b) women in development; c) savings and credit; d) economic enterprises; e) human resource management; and f) natural resource management. This is to be an annual exercise.

The project progressed very successfully in the first year moving beyond targets in several areas. The five year plan's overall goal is to improve the standard of living of the people through economically, environmentally, and socially sustainable forestry development. The aims are 1) to assist Village Organization's (VO) to plant and ensure survival of 7.5 million trees and, 2) to assist VO's to develop productive and profitable enterprises based upon the sustainable use of forest plantations.

The project is based on a comprehensive plan for community afforestation through extension and specialized training, development of nurseries (66 ha) and planting of 7,5 million trees.

The plantations will indirectly help women who spend a lot of time collecting fuel and forage, through increased production of these commodities. However, since women also need cash income of their own, it is planned to undertake a special study to explore the potential of women's participation in forestry activities and provide work opportunities to them. An environmental education programme involving development of training materials, training of teachers, and establishment of nature clubs is also part of the project.

How does the project agree with the priorities of the NCS?

The project meets with NCS priorities of forestation, maintaining soils, developing renewables as well as its prescription of mobilizing local communities.

How does the project agree with NORAD's strategies?

The project is within the framework of Pakistan's strategy for conservation; it is directed towards building the capital of natural biological resources; utilization of social organization is central to it, and has both gender and education perspective integral to it. All are principles that NORAD strategy emphasises.

Does the project build local competence?

A fundamental component of the project is to build local competence through basic training of village level representations (600), advanced training to trainers and forestry experts which will include sending them to local and foreign forestry institutions.

Does the project utilize Norwegian expertise?

While at the moment the project does not utilize Norwegian expertise it has the potential of doing so in the future when training outside the country is required.

4.5.2. IUCN, Mangrove project, Korangi Creek, Sindh

The Indus delta mangroves occupy almost the entire coast of Sindh from Karachi to the Indian border. It is one of the most important and also most vulnerable ecosystems in Pakistan. The IUCN project area is a smaller part of this world's largest of arid land mangroves, close to Karachi, the country's largest and fastest growing urban and industrial area.

This ecological system is under serious threat due to, upstream water diversion, municipal and industrial water pollution, overgrazing, fuelwood cutting and overfishing.

The Korangi Ecosystem Project was set up in 1987, to develop a management plan for Korangi and Phitti Creek, as a model for sustainable management of the Indus delta as whole. Efforts are placed on working with the coastal communities to develop packages for encouraging local management and sustainable use of the mangroves. NORAD has supported Phase I and II.

The greatest direct economic benefit from the mangroves comes from the fisheries which they harbor. The area provides excellent nursery areas for fish and shrimps. Shrimps are a major export from Pakistan making up 68% of the value of nearly US\$ 100 mill. fisheries export income. The mangroves are used directly for collecting fuelwood and fodder. In addition, it is estimated that up to 16,000 camels are herded in the mangroves. The importance of the mangroves in protecting the coast and its infrastructure from the full force of the South-west monsoon can not be quantified.

The most severe environmental stress facing the mangroves is the reduction of freshwater, silt and nutrients from the Indus. While the local species are able to survive without regular freshwater input, it is unlikely that they will thrive indefinitely. Due to the building of dams, barrages and irrigation schemes, the freshwater flow has diminished from an estimated 150 Million

Acre Feet (MAF) to less than 35 MAF. There are proposals which indicate a further reduction to about 10 MAF. It is not unusual to find salinities in the creeks and waters that is well above normal sea water. The reduction in flows of silt is even more serious when sea level rise as a result of global warming is considered. Without significant land discharge the mangroves will have difficulty in maintaining themselves above sea level rise of 1,2 mm per year. Over the last 100 years, the sea level has been rising at a rate of 1.1 mm per year.

The team visited various sites in the project area and discussed the project with IUCN and the Sindh Forestry Department.¹ Some natural regeneration is taking place, but replanting of indigenous species is necessary in some areas and has proved to be successful. The project has through cooperation with the local community managed to set aside different zones for different uses. One area will thus be used for browsing by camels for a certain period before they move to an other site and allow the first area to regenerate. We got an impression of excellent working relationship between IUCN and the representative of the Sindh Forestry Department.

A World Bank Mangrove Rehabilitation Project is expected to start in 1992/93 as a sub-project under the larger project mentioned in Chapter 3. It will model itself after the original IUCN/NORAD project and concentrate on the other parts of the Indus Delta.

How does the project agree with the priorities of the NCS?

The project is for reasons of supporting forests, conserving biological diversity, protecting water bodies and sustaining fisheries and for integrating population and environment programmes firmly on the list of critical and important tasks for NCS implementation.

How does the project agree with NORAD's strategies?

The project will be a model for the coming WB project for the rest of the mangrove forest, and is identified by the Government as an important project qualified for IDA loan.

Does the project build local competence?

The project gives emphasis to utilize Pakistani competence on Mangroves and draws on the insight of the communities on their traditional utilization of the resources. But currently this aspect is weak as only one person from the Forest Department is involved. Only recently has he been given two junior foresters to work with him. Community mobilization has yet to gain momentum.

Does the project utilize norwegian expertise?

The project has an English consultant. Our impression is that he has been doing a good job. The team doubts that Norway has the relevant expertise for this kind of work.

¹ref. also "Sustainable Management of Mangroves in the Indus Delta. The Korangi Ecosystem Project, A "Wise Use" study. P.J. Maynell.

4.5.3. Peshawar University, Environmental education

There are many bottlenecks for a successful implementation of the NCS. One of these is a major lack of trained manpower.

In 1987 the Department of Environmental Planning and Management Program (EPMP) was established at the University of Peshawar. The department is still in its infancy and needs considerable support in terms of curriculum design, and support of professional staff. IUCN has, with funding from Norway, helped the University to design a new course, identify possible links with other Universities, to establish a library and to design a short-term training package for the faculty of EPMP.

NORAD supported a study to look into possibilities for strengthening the University of Peshawar. The report reveals a serious lack of teaching material, laboratory equipment and lack of important topics which should normally be included in the curriculum at this level. The Department has, however a strong support from the University in its efforts to strengthen the EPMP. That the programme is attractive to students is also proved by the three hundred applications for admission, while the capacity only allowed twenty five to be admitted.

The Head of the Department, Dr. Zakirullah is highly respected and dedicated to build the Department. The University is fortunate to be close to a number of institutions which can make a major contribution to the study. These include the Pakistan Forest Institute, the Pakistan Council for Scientific and Industrial Research, the Pakistan Academy for Rural development and the National Institute for Public Administration. In the government of the NWFP, the minister of Industry has been a keen supporter of the establishment of the EPMP. The long term plan (year 2000) for the EPMP involves a full time employment of six, with a dozen adjunct faculty members drawn from other faculties in the university and institutions outside.

Although there seems to be some kind of environmental training at the Engineering University in Karachi, the team's impression was that the more serious attempt is being made in Peshawar.

How does the project agree with the priorities of the NCS?

The project is in accordance with NCS objectives of developing local expertise. Specialists and experts in environmental studies are very few in the country and the University through this project hopes to fill the need.

How does the project coincide with NORAD's strategies?

The NORAD strategy give emphasis to education under the precondition that these services can be maintained after the initial support. This programme is an investment in peoples knowledge. The team has hope for a continued environmental university interaction after the project is concluded.

Does the project build local competence?

The focus of the project is directed solely towards this.

Does the project utilize Norwegian expertise?

A Canadian expert has so far been used for a first exploratory phase. A Norwegian consultant should have been relatively easy to find. Any further support should engage personnel from Norway or from other developing countries.

4.5.4. IUCN, Education for Women in forestry

The first phase of the project was undertaken in March/ April 1989 through IUCN initiative and NORAD support (NOK 264,000), to design a two week course. Once the course was agreed upon by the Pakistan Forest Institute, Peshawar NORAD provided the funds for running the course at PFI (NOK 170,000).

The objective of the course was to develop a curriculum and teaching methods appropriate to social forestry needs for women extension workers, teachers and rural development workers. The regular courses at PFI are for state foresters only, women are not generally involved in forest management and excluded from Forest Service and Forestry education. (In 1991, however, a woman each was supported by USAID for MSc and BSc degrees).

The course was held at PFI between 27 Oct - 9 Nov, 1991, 16 women participated in the course from five major projects; the AKRSP Gilgit, Chitral, and Skardu; Malakand Social Forestry Programme; Mardan Integrated Rural Development Programme; Sarhad Rural Support Corporation, Kohat; Suketar Watershed Management Project, Azad Jammu Kashmir. The course covered general, practical and theoretical knowledge about planting, selection and protection of useful multipurpose trees and horticulture. The objective was to train the participants to be trainers cum extension workers. There was emphasis on practical work and field visit. Designed as preliminary course the recommendation was for follow up courses of 2nd and 3rd level.

The monitoring and evaluation exercise followed in February, 1992 with NORAD support (NOK 100,000). This assessed the appropriateness of the course and suggested modifications.

How does the project agree with the priorities of the NCS?

The project falls within the human resource development for management of natural resources aspects of NCS. That the training given will be utilized is ensured by the fact that all the participants were from on-going forestry projects.

How does the project agree with NORAD's strategies?

It is within the framework of NORAD's strategy for enhancing local expertise and technical skills. It also complies with the gender dimension of NORAD strategy.

Does the project build local competence?

It is directed towards building local competence.

Does the project utilize Norwegian expertise?

It does not, but in the next phase which is being developed as a separate project, Norwegian expertise if available and appropriate should be used.

4.5.5. Pollution abatement in Kasur

The leather industry in Pakistan earns more than US\$ 500 mill. in exports, which makes it the country's second largest foreign exchange earner. The tanneries are, however, also one of the largest polluting industries in Pakistan.

The city of Kasur in Punjab has together with the tanneries in Karachi, grown to be the main leather centers. The city with about 350,000 inhabitants has about 170 tanneries. The level of pollution from this industry is alarming and constitutes, together with the untreated municipal sewage, serious health hazards. The extent of damage has made the Kasur Tanners Association agree that they should contribute, if not fully in accordance with the "polluter pays principle", at least for parts of the establishment costs and together with the municipal authorities, also the operational costs of a treatment plant. It was thought that a pollution abatement programme in Kasur could also prove to be a useful model for other similarly affected areas.

Through an initiative from the Kasur Tanneries Association, UNIDO was asked by the Government if they could assist in this endeavor. A number of government agencies, the Kasur Tanneries Association and donor agencies, among them UNDP, the Dutch and NORAD, became involved in studies of how the pollution should be tackled.

The Dutch opposed the original initiative of UNIDO to build tannery waste water treatment plant only, and advocated the need for an integrated environment management project. This, they claimed, should take care of the supply of clean water and the building of a treatment plant which in turn would take care of both the tannery waste and the municipal sewage.

In the wake of this unfortunate situation of disagreement, mainly between UNIDO, with the support of the Kasur Tanneries Association and UNDP, and the Dutch, with the support of NORAD, on what kind of model should be chosen, each of the parties have called on a number of consultants "to prove that their model is the best."

How does the project agree with the priorities of the NCS?

The NCS gives a high priority to the treatment of pollution from industries. When it comes to the question of advanced treatment of municipal sewage, it calls for construction of oxidation ditches or other biological treatments.

How does the project agree with NORAD's strategies?

The project is in agreement with NORAD's strategy of pollution control and support to national priorities. Emphasis shall be given to national financial ability to plan and sustain the initiated activities. An evaluation of the ability to sustain the different options should give NORAD a guidance for support to the project.

Does the project build local competence?

At the moment the extent of this is not clear, but in running the plant local responsibility is anticipated.

Does the project utilize Norwegian expertise?

So far, a number of experts have been involved in feasibility studies, Yugoslav, French, Pakistani and Norwegian. The Dutch claim to have a successful treatment plant of the same nature in India. As far as we have established, Indian experts have not been consulted.

4.5.6. Rural Electrification Project, Northern Areas

As the team was not able to visit the area where this programme is located, its comments are made on the basis of previous reports and evaluations, discussions with NORPLAN representatives, the NCS and NORAD's strategies.

The Northern Areas are extremely poor due to the marginal environment and limited natural resources. The different local cultures have, however, developed remarkably successful ecological adaptations through extensive terracing, irrigation and utilization of the scarce resources. Provision of electric light is strongly desired by the population.

The national grid does not cover the Northern Areas and many of the small and "isolated" valleys will have to build their own small plants. Pakistan has the very ambiguous goal of providing electricity to 24,000 villages by 1993, through extension of the grid and through building of micro and mini hydro-electric power plants. About 75 small hydro-electric plants will be in operation in the area in the near future. Many of these suffer under the lack of spare parts and proper maintenance. There are no local facilities even for the most simple repair work.

The NORAD supported project, with NWFP Public and Work Department as the local counterparts, will renovate/build 3 small scale hydro-electric power plants (less than 2 MW) and a small repair workshop. The project will also educate personnel in maintenance and repair of power stations. The power plants are built without magazines and designed so that the rivers will not go dry. The objective is to assist in the development of economic and social development, and especially to reach the poor parts of the population. It is anticipated that the supply of electricity will, apart from domestic use, also encourage small scale industry and create job opportunities.

With increased access to electricity, it might in some areas be utilized for cooking and heating purposes as well as illumination. As other energy sources are getting increasingly scarce or expensive (wood, oil and kerosine), a continued electrification based on small hydro-electric powerplants may be the environmentally preferred alternative. Wood must today sometimes be collected several days walk away and contributes to deforestation in ecologically vulnerable areas.

Earlier evaluations of these projects have concluded with only minor negative environmental effects. The water resources are limited in early spring, when the snow melts after the sowing season has started, there might be a conflict

between irrigation and power generation. There is, however, a clear understanding that irrigation has first priority to the water.

How does the project agree with the priorities of the NCS?

The NCS has the building of mini-hydro electric plants like these on its list of critical and important tasks to meet energy needs for its implementation.

How does the project agree with NORAD's strategies?

The project is aiming at the improvement of the livelihood of poor people and provide environmentally sound solutions for provision of energy. The project has been through an environmental screening in NORAD and found acceptable.

Does the project build local expertise?

Running of the plants and maintenance will be done by local personnel trained for the work.

Does the project utilize Norwegian expertise?

Norway has special knowledge in this field of work, and both Norwegian technology and expertise is used. Pakistani industry and entrepreneurs will also be involved.

4.5.7. Citizen's Environment Report

The Journalist Resource Centre in IUCN and the newly created Sustainable Development Policy Institute (SDPI) have the intention of produce a Citizens' Report on environment and development for Pakistan as an annual feature. The objective of this report is to make an environmental statement before the announcement of Pakistan's Budget in June of every year. The Citizens' Report would thus help to present an environmental agenda to the media and economic policy makers before crucial decisions on national development are made.

NORAD supported the production of this report with an allocation of NOK 0.2 mill. for 1992 which was approximately 30% of the estimated costs. Other funding was, however not forthcoming and the project is postponed till 1993. A new application will therefore be presented to NORAD next year.

How does the project agree with the priorities of the NCS?

Awareness building is one of the overall goal of the NCS, and a participatory process of NGO's in decision making is highly warranted.

How does the project agree with NORAD's strategies?

The project not only fits NORAD's strategy of supporting national institutions in policy research and strategy formulation, but also its commitment to non-government organizations.

Does the project build local competence?

It will support development of policy analysis on environment/development issues and also inform policy makers and the public at large in these issues.

Does the project utilize Norwegian expertise?

The project is interesting in developing linkages with Norwegian institutions like the Environment Studies Departement of Oslo University.

4.5.8. Support for participating in UNCED meetings

The Norwegian Ministry of Foreign Affairs allocated NOK 1 mill. for travels for developing country representatives to UNCED related meetings. The allocations were mainly to be channelled through the NORAD representations.

NORAD-Pakistan decided, after consultations with NORAD-Oslo to allocate NOK 0,39 mill. for the following two meetings:

- UNCED Preparatory Committee, New York, Two persons from IUCN and two persons from the Pakistani Government.
- Rio meeting, three persons from IUCN and one person from the Pakistan Government. One of the persons from IUCN was a journalist as requested by NORAD-Oslo.

CHAPTER 5: CONSIDERATIONS & RECOMMENDATIONS

5.1. CONSIDERATIONS

A review of the foregoing chapters indicates that:

- * Pakistan's natural resources like water, soil and forests, are under serious pressure, and are likely to be further degraded as the population pressure increases.
- * The growth as pursued in Pakistan has been unsustainable, as sufficient attention has not been given to maintenance and protection of the resource base.
- * Development has not had adequate impact on people's quality of life and has in fact sharpened inequalities.
- * Pakistan's development experience has been biased towards large-scale capital intensive enterprises/projects.
- * Structural weaknesses adversely affect government run programmes.
- * Pakistan has in the recent years taken cognisance of problems as evident from the NCS formulation exercise.
- * The cabinet approval of the NCS is an expression of commitment to address and rectify these problems.
- * The usual channels of implementation of projects have been government line ministries, departments and agencies with negligible community or NGO participation/involvement.

Important NORAD's considerations for supporting environmental activities in developing countries are:

- * To work in coordination with the national plans of individual countries.
- * To provide support for ecologically responsible management of natural resources.
- * To undertake initiatives to minimize environmental damage and regenerate renewable resources.
- * To provide environmentally oriented institutional support and cooperation.
- * To support environmentally oriented competence and capacity building activities.
- * To support environmental consciousness and information activities.
- * To recognize environmental constraints in development and maintain activities within economically, socially and ecologically viable limits.
- * To give gender issues special attention.
- * To have EIA's conducted prior to starting new projects.

5.2. GUIDING PRINCIPLES

In view of the above mentioned considerations, the team suggests that the following principles could guide NORAD in its future cooperation with Pakistan:

- a) Activities should be within the framework of the NCS recommendations and priority areas; the 14 strategic areas are listed in Annex 3.
- b) Activities should be assessed with a view to their ability to sustain themselves beyond the project period.
- c) Support should be extended to projects that ensure people's/communities participation in project formulation and execution through community based organization (CBO's) and NGO's.
- d) Geographical concentration should be given to the North West Frontier Province (NWFP), the coastal area of Sindh and the Northern Areas. A geographical concentration should however, not be a "strait-jacket". Innovative projects in areas where NORAD feels that Norway might have a comparative advantage in skills and/or technologies may be taken up.
- e) Development strategies should address equity as well as growth and environmental management.
- f) Focus should be on conservation and preventive measures.
- g) Integration of environmental concerns and relevant expertise into development planning and to sectoral ministries and institutions should be supported.
- h) Donor coordination should be actively sought and encouraged, both informally and through the formal governmental channels in order to avoid overlap and resolve contradictions and conflicts in case they emerge.

As to the issue of preventive measures, the team has thought of activities like: the integration of environmental perspectives in the national budgets and development strategies (ref. paragraph 5.3.7) and possibly the integration of Environmental Impact Assessment in this context; supporting sectoral planning for sustainable resource utilization (ref. paragraph 5.3.1 and 5.3.2) increasing environmental education and awareness among people and decision-makers (ref. paragraph 5.3.3, 5.4.5 and 5.4.7); establishing mechanisms of responsibility/accountability of environmental damage in sector ministries/agencies/ provincial institutions/ industry and private organizations for their own actions (ref. paragraph 5.3.5, 5.4.6 and 5.4.10); establishing laws, regulations, standards and enforcement mechanisms for controlling resource utilization and pollution (ref. paragraph 5.4.6 and 5.4.10) and further developing Environmental Impact Assessment for large projects and educate personell to perform such activities (ref. paragraph 5.3.3) .

NORAD should be careful to analyse its activities relative to the issue of equity. As may be read in the last UNDP Human Development Report for Pakistan, the country's score on the human development index is very disappointing. A characteristic for Pakistan is a very unequal distribution of income and very low social expenditure. A change in this pattern is necessary

for moving towards sustainable development. A high per capita income, however, is not a necessity for achieving a better human development. Sri Lanka has achieved a life expectancy of 71 years and an adult literacy rate of 87% with a per capita income of US\$ 400. The team suggests that programmes such as the rural electrification programme, forestry programmes, projects related to regulation and taxation of irrigation water and others should be scrutinized with the aim of assessing their impact on the issue of equity.

5.3. RECOMMENDATIONS ON ONGOING NORAD ACTIVITIES

5.3.1. AKRSP Forestry Project

The AKRSP Forestry Project by all accounts is a successful project which is evolving according to a worked out strategy in meeting its targets of afforestation, improving skills and mobilizing communities. In the team's opinion, the project has launched into its substantive phase and merits support to the end of its Programme period (1995). The support may be given for two year periods at a time conditional on monitoring and evaluation reports.

5.3.2. IUCN, Mangrove Project

The forthcoming activities should consolidate the further involvement of the local communities, to make them even more aware of the potential threat to the resources they depend on, and their increased economic benefits through a good management of the mangroves. The mangroves are state owned land, and security of continued access and utilization of the local community should be cleared. The project is in the process of involving other groups such as the tanneries, the larger industries, the Karachi authorities, the authorities of Port Qasim, to minimize their pollution. They will also engage to cooperate with the authorities responsible for the Indus Water Accord, to secure a continued availability of fresh water, silt and nutrients.

The project seems, however, to be quite vulnerable with regards the training of Pakistani competence in this field. There is today only one person in the Forest Department who has the necessary competence and is dedicated to the objectives of the project. A wider involvement of this institution which is responsible for the mangrove forest must be sought. IUCN would also want to work with the Marine Fisheries Department, and focus on the fisheries as perhaps the most important economic value of the mangroves. This is supported, and might be an area where Norwegian expertise can be sought.

The time available before Phase II ends in December 1992, is too short to consolidate what has already been achieved in the project. The team suggests that a further support should be considered for a period of one to two years at least and that more funds be allocated for community organization. The team considers this to be crucial for a sustainable project where the local authorities and communities realize their gains and sustained economic returns by better management these resources. Coordination with the World Bank should be sought.

5.3.3. Peshawar University

The team considers this programme to be of high importance and would like to recommend further support to Peshawar University. One should, however be cautions not to copy a Norwegian model of environmental training, but rather look to the specific needs and possibilities for Pakistan, perhaps also to environmental education programmes in other developing countries in Asia.

This support might, as recommended in the report of the Canadian consultant, involve one or two advisers from Norway or a developing country to be appointed for a period up to two years and to provide further organizational, managerial, research and training support. In addition, the team suggests an exchange of students and/or teachers for shorter periods. Allocations for teaching material is also recommended. It is our impression that the Agricultural University of Aas/ NORAGRIC would be the most suitable partner institution in Norway. NORAGRIC has also voiced their interest in a cooperation with the University of Peshawar. NORAD should get in touch with the Canadians for confirmation of their interest or lack of interest to participate in this endeavor.

5.3.4. Education for women in Forestry

The project represents a pioneering effort in training women in a field which is not conventionally open to women. It is an important break through and should be supported if next phases are developed.

5.3.5. Pollution abatement in Kasur

A main consideration of the parties should be the costs and abilities of the Tannery Association and the municipal authorities to keep a treatment plant in operation. It should also be considered that treatment of sewage outside the bigger cities will remain a "luxury problem" in many years to come. It should also be kept in mind that the sewage which is discharged in a nearby slowly moving river is giving nutrients for irrigation purposes.

NORAD has, as this report is being prepared, engaged a Norwegian consultant to look into this specific project. He pointed out that a natural biological process is taking place with today's practice, and that a simple solution should be considered. The team feels that it has been difficult to go in depth on this complex issue and that the special consultant might be more qualified to give an advice on how to proceed. We will, however appeal to NORAD that the very lengthy process where all parties have their own consultants to check on each others schemes should come to an end.

5.3.6. Rural Electrification Project

The project has, as far as the team could establish from reports and discussion with project coordinators, a profile which should be supported on the basis of recommendations both in the NCS and NORAD's own strategies. The project seems to have no negative environmental impacts, rather the opposite, as it may reduce the rate of deforestation and burning of fossil fuels.

The objectives of the project is inter alia, to try to reach also the very poor parts of the communities. Although electricity seems to be cheaper than both kerosine and traded fuelwood, many of these people are in a process of changing from a barter society to a money society. In this process, even very cheap electricity might prove to be prohibitive for some of the families in these communities.

There are many sites in Northern Pakistan where the run-off of river flow could be used for hydro-power generation, with minimal or no environmental damage.

5.3.7. Citizen's Environment Report

NORAD support was given for 1992. IUCN/SDPI was however, not able to start the activity this year. They have therefore asked if support could be given next year, when they intend to produce one report before the next Pakistani budget in June. The team agrees that this initiative should be supported, but will suggest that support be given initially for one year, so that the activity can prove its value before further support is considered. As this institute probably will have the support of various donors, communication between them, on their respective expectations and reporting requirements seems necessary.

5.4. POSSIBLE FUTURE AREAS OF COOPERATION

Given Norway's special competence in environment related areas like mapping, environmental surveillance, natural resource accounting, marine and water resource management, pollution control, hydroelectric powerplants and environmentally benign technologies in certain industries, the NCS priorities and NORAD's desire to support activities that are likely to have far-reaching impact or multiplier-effect, the following areas of cooperation are recommended.

5.4.1. Mapping and environmental surveillance

The need for large scale topographic mapping in Pakistan is pressing. The need for mapping has been identified frequently over the last years in development reports and aide-memoirs. The use for which mapping is required are numerous and varied, inter alia in areas like land use planning and management, water supply, land registration and effective property taxation, pollution control, resource management and environmental planning and monitoring.

The World Bank is in the process of preparing a proposal to assist the Survey of Pakistan of expand the capacity and competence in mapping technology. Initial contacts have also been made with NORAD.

As Norway has well developed expertise in mapping technology, NORAD might consider to support parts of such a project, preferably to promote

twinning arrangements between the Norwegian Mapping Authority and the Survey of Pakistan, within the areas which will help in a better planning and management of the environment and natural resources. Contact should be taken to the World Bank, and opportunities for commercial interests might also be explored.

5.4.2. Resource accounting

Natural resource assets are not properly valued or accounted for in the national accounts in Pakistan like in most other countries. Neither do their losses reflect the decrease in potential future production.

Both the existing natural capital of non-renewable and renewable resources as well as the "flow" resources like water and air should be monitored and assessed in the national five year plans. Norway has among the world leading expertise in this field, and the Norwegian Statistical Bureau have been working with funding from the Ministry of Foreign Affairs and the Ministry of Environment, inter alia with the Indonesian government on this issues.

5.4.3. Energy

As Pakistan's economy continues to grow, the energy demands is predicted to double every 7 years. Pakistan cannot afford to continue spending about 21% of its foreign exchange earnings on imported oil and lose 2% of its annual GDP due to load shedding necessitated by 25% gap between peak electricity demand and supply. Under these circumstances, energy conservation measures is the cheapest and most readily available and most abundant energy supply option. Pakistan's conservation resources are estimated to be equal in size to the countries oil resources. Measures within this area have the added advantage of reducing greenhouse gas emissions.

In Norway, there are several institutions who have worked with these issues. The Ministry of Oil and Energy have coordinated this work in Norway. In Pakistan, the newly established institution, ENERCON working only on energy conservation on projects giving high economic returns as described above, would seem to be a natural counterpart in a possible cooperation. They are presently preparing 10 project proposals and will send them to NORAD.

A serious accident in a nuclear power plant, especially in the densely populated Pakistan, will most certainly be an enormous environmental disaster. Pakistan says in its national report to UNCED that its institutional weaknesses tends to exacerbate safety and disposal problems. However, considering Norway's areas of special competence, the team will not recommend that this political sensitive issue of nuclear safety is addressed by NORAD.

5.4.4. Impacts of climate change

While Pakistan is not a contributor to global warming it will certainly be affected by it, notwithstanding the uncertainty associated with the predictions for the greenhouse effect. The team therefore feels that this area might be

addressed, mainly in the context of regional cooperation. There is also a need for formulating national adaptive measures to climate change.

5.4.5. Awareness and Education

The NCS points out that environmental awareness in Pakistan is inadequate and effective communication of sustainable development is required. This can be done both through awareness campaigns and education.

The Government of Pakistan has accepted the need for education initiatives in the area of environmental education and in 1985 accepted the Coordinated Environmental Education Programme (CEEP) funded by UNESCO. The programme has now been closed due to lack of funds. This might be examined for support in the future.

A number other institutions and NGO's are already working in the field e.g. IUCN has developed a comprehensive proposal for Environmental Awareness and Education Programme in Pakistan. IUCN is looking for funds for it. Teachers Resource Centre (TRC) has been in the field of developing teaching materials and organizing environmental activities for school children at all levels. It has, as IUCN's partner in the above project in the past, been supported by NORAD and desperately needs funds support for its projects.

Shirkat-Gah Women's Resource Centre, which is developing itself as a focal point for women and environment is proposing to bring out a wall newspaper in Urdu using a comic strip approach, targeting the lowest income group. It also plans to undertake investigative reports on women and environment in collaboration with JRC. Other NGO's are turning their focus on environmental awareness issues e.g. AURAT Foundation, SCOPE, SHEHRI, etc.

While attention is being focussed on higher education in environmental studies and on primary education, there is an urgent need to produce trained teachers in this field. Private institutions (training and educational) are a new area of expansion where environment/sustainable development has the potential of being developed as a part of the curricula and maybe considered for support. Norwegian expertise in this area could be utilized.

5.4.6. Sarhad Provincial Conservation Strategy

The provincial strategy for the NWFP (SPCS) is in line with the NCS implementation mechanisms. Groundwork for the SPCS has already been done, priority areas have been identified and projects in the process of being designed. The team feels that the SPCS is an important effort that needs to be supported.

The team would suggest that assistance for institutional strengthening might be concentrated to the provincial level. The team believes that the NWFP would be the province with the best prospects of succeeding, at least in a shorter perspective. NORAD should consider assistance in further developing the legal and regulatory framework, pollution standards, monitoring, and

introduction of other mechanisms to protect the environment. There is a need for coordination and cooperation with other donors in these efforts.

5.4.7. Support to NGO's

NGO's are viewed as a key mechanism of outreach by the NCS. It has been widely recognized that reaching people and solving their problems is beyond government and donor capacities. The team therefore concurs with the perception that the NGO's can play a significant role in managing natural resources, carrying the sustainable development message to the widest possible level and acting as pressure group-cum-watchdog on large scale projects.

However, given the young and largely inexperienced nature of Pakistani NGO's, particularly the environment/development ones, the team recommends that NORAD support: those intermediary NGO's who have an outreach/networking capacity with other community-level organizations/groups as well as experience and knowledge of environmental issues. The need is for management and financial strengthening of these NGO's. Support is also needed to consolidate their information/skill base as well as for networking and experience sharing activities.

NORAD has a proposed strategy for NGO's in Pakistan and the team is in agreement with its recommendations. It however feels that specific follow-up will be needed.

5.4.8. Support for Women

Both NORAD and NCS give special attention to the need of addressing women. In Pakistan's context women being a disadvantaged section of society require specific programmes and projects so that women's social status is enhanced, and they are able to play their role as active and equal partners in development.

NORAD already has a Strategy for Integration of Gender Perspectives in Norway's development assistance to Pakistan. While the team is in general agreement with its recommendations it would like to emphasize the following:

- ensure women's inclusion in students/teachers exchange programmes (through university or institutional cooperation);
- facilitate opening of environment related fields/opportunities for women's employment (forestry, community development, fisheries, etc.);
- support women's training programmes as extension workers in various fields of resource management, technical training, etc.;
- support women's NGO's in the field of women and environment/development;
- basic research on women and environment interface and documentation of their traditional knowledge systems is negligible in the country. These need to be undertaken in order to strengthened and in turn empower women.

5.4.9. Sustainable Development Policy Institute (SDPI)

The establishment of an independent Sustainable Development Policy Institute forms an important part of the implementation policy of the NCS. This institute, located in Islamabad with a staff of five to eight people, would serve as a source of expertise and advisory service to government, private industry and NGO's in support of the NCS. It is envisaged that the institution would operate as an independent, non-profit organization. It is hoped that this "centre of excellence" would be supported by multiple donors.

The institute will be set up with an Advisory Board of Directors consisting of several individuals from senior government levels, NGO's, the community and the private sector. The team believes that the institute could constitute a driving force in the implementation of the NCS and recommends that NORAD support be considered. Institutional cooperation might also be interesting for Norwegian research institutions, and also for NORAD as the process for the NCS implementation might provide valuable experience for work in other partner countries. SDPI has indicated that it would like to establish links with Norwegian research institutions particularly the Environment Studies Department of Oslo University.

5.4.10. Support to Federal Institutions

The key institutions in the Federal structure relating to environmental policy-making, planning and implementation (EUAD, NCS-implementation unit, Planning Division in Policy Planning unit, EPA's and PEPA) are already being given extensive support (WB, ADB, CIDA, etc.) NORAD's support at this level can be made only in the development of capacity of resource related ministries to review major policies and large projects for environmental impacts. EIA capability and concomitant capacity to undertake policy revision/project re-design in such ministries (agriculture, fisheries, forest, water, oil, petroleum, etc) is an NCS recommendation. In the team's view, NORAD can support EIA capacity in such ministries particularly in fields where Norway has the expertise.

5.5. ENVIRONMENT RELATED COMMERCIAL COOPERATION

It is the policy of Norway (Norwegian Policy regarding Global Sustainable Development, Ministry of Foreign Affairs, 1988) to encourage industrial growth in developing countries which makes more efficient use of resource and causes less pollution. Experience from industrialized countries has shown that use of pollution control technology reduces the costs to society, and is often economically profitable for the industry concerned.

It is also the policy of Norway to ensure that industry established in developing countries with government support gives adequate consideration to sustainable development.

In Pakistan, industrial growth is still in its infancy, and energy and pollution control measures are weak. A Norwegian Pakistani commercial collaboration has potential both in introducing economically viable as well environmentally sound technologies. Areas in which projects might be feasible are increased efficiency of energy utilization especially within the oil and gas sector, but also within areas of industrial waste recovery, recycling and process control.

Within the area of improved natural resource utilization where Pakistan has a further potential and where Norway has special experience, one might consider a continued cooperation for building small scale hydroelectric powerplants, introduction of small scale solar power systems, introduction of fresh - and salt-water aquaculture production, trout hatcheries, improved fish catch within the limits of maximum sustainable yield, and improvement in the efficiency of production and distribution of gas.

As a separate report on commercial collaboration is being prepared, this team has not tried to identify further possibilities in depth.

5.6. SOUTH-SOUTH COOPERATION

Cooperation in the area of environment among SAARC countries especially has a mutually beneficial potential. Some of the other countries of the region (India, Nepal) have expertise in many environmental disciplines that Pakistan does not have. India also has active environmental NGO's that are much advanced in developing alternative technologies, awareness campaigns, raising issues, mobilizing support and litigation. Apparently Bangladesh has innovative biological solutions to water treatment to offer, it also has managed to control its population growth rate, similar experiences when shared would be beneficial.

Requests for both governmental and non-governmental initiatives for cooperation should be considered with interest. A follow-up of the bilateral conference in 1990, arranged by IUCN could be one possibility. A report from this conference is expected to come this autumn.

REFERENCES

1. AKRSP, Ninth Annual Review, 1991. Gilgit: AKRSP. March, 1992.
2. AKRSP, Sustainable Forestry Development Programme, 1991-95. Gilgit: AKRSP, March, 1991.
3. EUAD/IUCN, EIA Guidelines: The Energy Sector, Pakistan. Karachi: IUCN/EUAD. November, 1991
4. EUAD/IUCN, Workshops on Environmental Impact Assessment. Karachi: JRC - IUCN. 1989.
5. GOP Economic Survey, 1991-92: Islamabad: Finance Division. May, 1992.
6. GOP. Eighth Five - Year Plan (1993-98) Approach Paper. Islamabad: Planning Commission. May, 1991.
6. GOP, A Special Report for the Consortium Meeting. Islamabad: EUAD. May, 1991.
7. GOP, Pakistan National Report to UNCED 1992. Islamabad: EUAD. August, 1991.
8. GOP/IUCN, National Conservation Strategy. Islamabad, 1991.
9. IIED/ODA, Environmental Synopsis of Pakistan. London: IIED. April, 1992.
10. IUCN, Sarhad Conservation Strategy: Planning Workshop. Karachi: IUCN. 1992.
11. Meynell, P.J. & M. Tahir Qureshi, Sustainable Management of Mangrove in the Indus Delta: the Korangi Ecosystem Project. Mimeo. May, 1992.
12. Mumtaz, Khawar, Pakistan's Environment: A Historical Perspective. Karachi: IUCN. December, 1989.
13. Mumtaz, Khawar, Saneeya Hussain & Dr. Junaid Ahmed, The Pakistan National Conservation Strategy: Special Focus Sector Workshops. Karachi: EUAD/UNDP/IUCN. 1990.
14. Schwass, Dr. Rodger, Report of the University of Peshawar EPMP Linkage Project. Mimeo. June, 1991.
15. Schwass, Dr. Rodger, Visit to Norway for the Peshawar University Project. Mimeo. n.d.
16. Schwass, Dr. Rodger, Implementation Design for the NCS for Pakistan. Karachi: IUCN - EUAD. January, 1992.
17. Smillie, Ian, NGOs and Pakistan's National Conservation Strategy.

Karachi: IUCN. June, 1992.

18. UNDP, Balanced Development: An Approach to Social Action in Pakistan, (Summary Report). Islamabad, 1992.
19. The World Commission on Environment and Development (WCED), Our Common Future. Oxford: University Press. 1987.

In addition, a number of policy documents from NORAD, World Bank and other donors were made available to the team. The NGOs visited by the team (See Annex 2), also provided literature about themselves and their activities.

Terms of Reference

Scope of work

1. Describe briefly the principal environmental issues and concerns in Pakistan.
2. Give a brief outline of ongoing and planned environmental activities by various Governmental institutions, NGO's and donor agencies. Describe the roles, strengths, weaknesses, possibilities and limitations of these institutions, NGO's and donors. Describe the current degree of coordination between donors.
3. List all NORAD's current and planned support activities in Pakistan, and briefly indicate areas of environmental concern connected to these with a view to the fact that Environmental Impact Analysis (EIA) will be carried out on all these.
4. On the basis of the above description of the environmental situation and needs in Pakistan and with due consideration of NORAD's expertise and resources, the team shall suggest fields of interest for NORAD's continued and future involvement within environmental conservation and management in Pakistan. Give recommendations on priorities and channels for implementation.

Among these recommendations, the team shall assess:

- possibilities of institutional building and support to the Pakistani Government, NGO's universities and other institutions in environmental matters;
- means and possibilities of safeguarding environmental concerns in commercial collaboration between Norway and Pakistan;
- potential for concentration and/or focus on provincial level with respect to support for National Conservation Strategy development and implementation;
- opportunities for increasing awareness of environmental officials, scientists and the general public through the media, seminars, workshops and fellowships;
- possible areas of South-South collaboration in the field of environment.

PERSONS CONTACTED

Date	Name	City
17 May, 1992	Mr. R. Dahl and Officials, NORAD,	Islamabad.
18 May, 1992	Mr. Sulaiman Ghani, Secretary Industries, N.W.F.P.	Peshawar.
18 May, 1992	Dr. Mahmood A. Khawaja, PSCIR Labs.	Peshawar.
18 May, 1992,	Mr. Farooq Azam, Director General, E.P.A. & Mr. Hamid Hassan, Deputy Director, E.P.A.	Peshawar. Peshawar.
19 May, 1992	Dr. Zakirullah, Chairman, Dept., Of Environmental, Planning & Management, Peshawar University.	Peshawar.
	Parveen Sanaullah, Shahida Zakir, Faculty Members (EPMP).	Peshawar.
19 May, 1992	Mr. Mumtaz Akbar, Chairman Textbook Board.	Peshawar.
20 May, 1992	Ms. Chandni Joshi, Resident Representative, UNIFEM.	Islamabad.
20 May, 1992	Mr. Omar Asghar Khan, Director, SUNGI Development, Foundation.	Islamabad.
20 May, 1992	Mr. Hans Von Sponeck, Resident Representative, UNDP.	Islamabad.
21 May, 1992	Dr. Khattak, Coordinator, Sarhad Provincial Conservation, Strategy (NWFP).	Islamabad.

21 May, 1992	Mr. Philippe Nouvel, World Bank Chief de Mission.	Islamabad.
21 May, 1992,	Dr. Parvez Tahir, Chief Policy Planning, Environment Wing in Planning & Dev. Division. Government Of Pakistan.	Islamabad.
24 May, 1992	Mian Shafique Passari, President, Tanner's Association.	Kasur.
24 May, 1992	Dr. G. Suderlund, (UNIDO Consultant).	Kasur
25 May, 1992	Mr. Holten, Resident Representative, UNIDO.	Islamabad
25 May, 1992	Mr. Tomesen, First Secretary, Royal Netherlands Embassy.	Islamabad
26 May, 1992	Ms. Yameema Mitha, OXFAM.	Islamabad.
27 May, 1992	Mr. Shams Ul Haq, Joint Secretary, Environment Div., Urban & Environment Affairs, Division.	Islamabad.
27 May, 1992	Mr. Kamran Aslam, Joint Secretary, NCS Implementation Unit, EUAD GOP.	Islamabad
30 May, 92	Ms. Aban M. Kabraji, Pak. Country Representation, IUCN.	Karachi.
	Mr. Peter-John Meynell, Programme Coordinator, Coastal Ecosystem Unit, IUCN.	Karachi.
	Ms. Dhanmai Cowasji, Journalist Resource, Centre.	Karachi.
	Ms. Sabiha Dawoodi, IUCN.	Karachi.

	Shirkat Gah	Karachi
31 May, 1992	Mr. Peter-John Meynell, Mr. Tahir Qureshi, DFO Sindh Forest, Deptt.	Karachi.
1 June, 1992	Ms. Seema Malik, Teacher's Resource Centre, (TRC).	Karachi.
1 June, 1992	Mr. Hakim Feerasta, Chief Executive Officer, Aga Khan Foundation.	Karachi.
	Mr. Qadeer Baig, Project Coordinator, NGO Resource Centre, Aga Khan Foundation.	Karachi.
	Ms. Sadiqa Salahuddin, Dr. Asif Ali Zaidi, Aga Khan Foundation.	Karachi.
1 June 1992	Ms. Safina Siddiqui, President, Karachi Administrative Women's Welfare Society (KAWWS).	Karachi.
	Ms. Nasreen Yahya, Vice President, KAWWS.	Karachi.
2 June, 1992	Ms. Mahtab Rashdi, Director General, EPA Sindh.	Karachi.
2 June, 1992	Ms. Shama Munawar Qureshi, Technical Coordinator, SCOPE.	Karachi.
2 June, 1992	Dr. Junaid Ahmad, M.D. National Management Consultants.	Karachi.
3 June, 1992	Mr. Mark R. Brown, Human Settlements Sector- Advisor, K.D.A.	Karachi.
3 June, 1992	Ms. Humaira Rehman, Mr. Khateeb Ahmad, SHEHRI.	Karachi.
9 June, 1992	Mr. Javed ur Rehman, Asian Development Bank.	Islamabad.

9 June, 1992	Mr. Farooqui, Embassy of Japan.	Islamabad.
15 June, 1992	Dr. Javed Ahmed, Programme Manager Forestry, AKRSP Forestry Project.	Islamabad.
16 June, 1992	Dr. Arif Alauddin, MD, ENERCON.	Islamabad.
16 June, 1992	Mr. Brian Glover and, Mr. Olav Vallevik, Rural Electrification, Hydel Project.	Islamabad.
17 June, 1992	Mr. Bob Marshall, Aid Secretary, British High Commission.	Islamabad.

Critical Task
 Important Task

	FEDERAL PROVINCIAL LEADERSHIP						DEPARTMENTAL RESPONSIBILITY				DISTRICT COORDINATION			COMMUNITY PARTICIPATION			INDIVIDUAL ACTION		CORPORATE TASKS		GOVERNMENT/NGO SUPPORT							
	Policy Review	Increased Resource Allocation	Conservation Pricing of Resources	Rational Resource Sharing	Improving Inter-Agency Collaboration	Improving Departmental Capacities	Applied Research & Development	Extension/Outreach/Facilitation	Project Implementation	Project Operation/Maintenance	Project Selection from Menus	Sectoral/Spatial Coordination	Land Use Regulation/Revenue Settlement	Resource Management	Community Self-Management	Project Implementation	Project Operation/Maintenance	Involving Women in Development	Capital Investment	Labour Input	Improved Management Practices	Enhanced Production/Improved Products	Change of Technology	Establishing More Efficient Markets	Regulatory Instruments	Economic Instruments	Facilitating Grassroots Organizations	Defining Common Property Rights
10. PREVENTING/ABBATING POLLUTION																												
1. Shifting industry composition towards environmentally benign processes and products	<input checked="" type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>														<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Integrating clean, low waste technology in new large manufacturing	<input type="checkbox"/>							<input type="checkbox"/>														<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
3. Retrofitting of pollution abatement equipment in existing formal industry	<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>														<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4. Collection & treatment of wastes of urban small industries		<input type="checkbox"/>						<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>										<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
5. Refineries upgrading programme	<input type="checkbox"/>	<input checked="" type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>													<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
6. Vehicle tune-up and related programmes	<input type="checkbox"/>	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>														<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7. Setting up compressed natural gas stations		<input type="checkbox"/>					<input type="checkbox"/>												<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	

**List of Environment Oriented Projects
Currently Under Implementation**

(SUMMARY)

S.No.	Programme Sector	Total Cost (Rs. Million)
1.	Maintaining Soils in Croplands	711.582
2.	Increasing Irrigation Efficiency	761.633
3.	Protecting Watersheds	1,625.371
4.	Supporting Forests and Plantations	664.794
5.	Sustaining Fisheries	1,053.03
6.	Conserving Biodiversity	46.935
7.	Deploying Renewables	88.11
8.	Preserving the Cultural Heritage	202.774
9.	Others	78.690
GRAND TOTAL:-		5,232,919

I-Maintaining Soils in Croplands

1.	Transfer of Soil Technology to Agriculture Department (Phase-II) Lahore	4.216
2.	Procurement and Distribution of Gypsum for Improvement of Saline Sodic Soils in Punjab, Sind and NWFP.	63.000
3.	Transfer of Soil Technology to Agriculture Department (Ph-III) Lahore	5.400
4.	Establishment of Pesticide Registration Cell, Karachi	6.000
5.	Barani (Rainfed) Agriculture Research and Development Project (CIDA)	183.282

6.	Soil Conservation Work on sub-catchment Basis	9.975
7.	Alternative Project Development for Drainage of Irrigated Lands (DRIP)	9.730
8.	Lower Indus Water Management and Reclamation Research Project	29.776
9.	International Water logging and Salinity Institute in Pakistan	70.000
10.	Monitoring of Salinity Control and Reclamation Project	159.951
11.	Anti Water Logging Measures	170.252
TOTAL:-		711.582

DETAILS

2-INCREASING IRRIGATION EFFICIENCY

1.	Water Management Research and Training Programme for rural Development Phase-II	8.800
2.	Comman Water Management	
3.	On-farm Water Management Project Phase-II (Strengthening of Water Mangement Cell IDA Assisted)	124.274
4.	ADB Assisted on farm water management Project Phase-II	513.000
5.	Strengthening of Federal On Farm Water Management Cell Phase-III (FATA/NA and Federal Cell)	-
6.	Strengthening of On farm Water Management Cell (Punjab, Sindh Baluchistan and NWFP)	-
7.	Irrigation System Management	
	(a) Competitive Grants Programme	29.877
	(b) Surface Drainage (ISM) Encouraging Water users	10.750
	(c) Documentation and Information Centre LDIC-ISM (NADLIN)	24.580
8.	Establishment of Water Research Centres.	35.850

9.	Pakistan Water Ice and Snow Balance of Upper Indus Basin	14.502
----	--	--------

TOTAL:-		761.633
---------	--	---------

3-PROTECTING WATERSHEDS

1.	Development of Watersheds Management Research and Education at PFI Peshawar	33.758
2.	Tarbella Watershed Management	412.088
3.	Mangla Watershed Management	61.997
4.	Bulk water supply (Phase-II) i/e. Watershed Management	643.443
5.	Tarbella Watershed	412.088
6.	Mangla Watershed	61.997

TOTAL:-		1,625.371
---------	--	-----------

4-SUPPORTING FORESTS AND PLANTATIONS

1.	Forestry Planning and Development Project, Islamabad	536.000
2.	Development of Sericulture PFI Peshawar	18.070
3.	Development of Forestry Education and Training in PFI Peshawar	13.921
4.	Forestry Master Plan	57.078
5.	Special Purpose Afforestation in Azad Kashmir	15.912
6.	Special Purpose Roadside Afforestation in Sindh	14.520
7.	Raising of Plantation in Pishin and Gulistan, Baluchistan	1.623
8.	Landscaping and Afforestation of PAF Base Mirpur Khas Sindh	3.180

9.	National wood Resource Inventory Phase-I	4.490
----	--	-------

	TOTAL:-	664.790
--	---------	---------

5-SUSTAINING FISHERIES

1.	Korangi Fisheries Harbour Project Korangi Creek Karachi	428.949
2.	Fisheries Training Centre, Karachi	48.036
3.	Agriculture Ghora Bari and stations on Pak Coast for Prolonged Oceanographic observations	5.556
4.	UNDP Assistance to NIO	1.900
5.	Pakistan US Cooperative Programme in Oceanography of the Arabian Sea	52.660
6.	Food web dynamics of mangrove habitat in Pakistan.	5.510
7.	Oceanography Research Vessel for NIO (CC)	461.250
8.	Geological and Geophysical Mapping and Natural Resource Exploration in Pak Marine Areas	14.360
9.	National Oceanographic Commission	2.892
10.	Oceanographic Research Substation Gwadar	7.886
11.	Training workshop for Transfer of technology in specilized Marine Areas from US Institutes	4.571
12.	Strengthening of NIO (UNDP Assistance)	19.460

	TOTAL:-	1,053.03
--	---------	----------

6-CONSERVING BIODIVERSITY

1.	Public Education in Nature and Natural Resource Conservation with Emphasis on Wildlife and its Habitats, Islamabad	3.000
2.	Survey and Study of the Fauna of Arid Zone of Pakistan, Multan	5.099
3.	Survey and Study of the Fauna of Mountaneous Regions of Pakistan, Peshawar	5.543
4.	Survey and Study of the Fauna of Palaectric Region of Pakistan, Quetta	3.330
5.	Improvement/Development of Wildlife and its Habitabts in Khunjrab National Park, N. Areas	0.550
6.	Conservation of Wildlife in Shigar Areas of N. Areas	4.993
7.	Inventory of Wildlife Resource of Sindh with Special Emphasis on the Present Day Survival Status of Threatend Species	1.755
8.	Education and research in Wild life management at PFI, Peshawar	2.342
9.	Strengthening of National Herbarium	5.609
10.	Introduction and Development of Wildlife at Margallah Hills	2.700
11.	Lal Sohanra National Park Bahawalpur	3.990
12.	Development of Kirthar National Park, Dadu	8.024

TOTAL:-

46.935

7-DEPLOYING RENEWABLES

1.	Evaluation and Initiation of Thick and Thin Film Solar Cells	6.000
2.	Reshum hydro-electric project, District Chitral	

3.	Development of Mini/small Hydel Power Resource for Rural Electrification of Remote Areas of NWFP	40.750
4.	Construction of Hydel Power Schemes at Ashura District Swat	21.220
5.	Construciton of Hydel Power Schemes at Upper Thal District Dir.	20.140

TOTAL:-	88.11
---------	-------

8-PRESERVING THE CULTURAL HERITAGE

1.	Expansion of National Museum of Pakistan, Karachi	5.010
2.	Development of Museum and Conservation of Fort at Umer Kot	8.085
3.	Master Plan for Preservation of Moenjodaro (Revised)	168.369
4.	Restoration and preservation of perimetre wall of Jahangir's tomb, Lahore	13.460
5.	Restoration of Wazir Khan Baradri	4.0
6.	Development of Hiran Minar, Sheikhpura	3.850

TOTAL:-	202.774
---------	---------

9-OTHERS

1.	Pakistan Museum of Natural History, Islamabad	78.690
----	---	--------

Source: EUAD/GOP, A Special Report for the Consortium Meeting, 1991.
May, 1991. pp.9-13

**List of Environmental Oriented Project included
in the portfolio of Aid-Worthy Projects**

(SUMMARY)

S.No.	Program Sector	Total Cost (Rs. Million)
1.	Maintaining Soils in Croplands	3,400.80
2.	Increasing Irrigation Efficiency	10,249.70
3.	Protecting Watersheds	1,558.60
4.	Supporting Forests and Plantations	1,538.20
5.	Sustaining Rangelands and Improving Livestock Quality	521.10
6.	Sustaining Fisheries	273.60
7.	Conserving Biodiversity	96.40
8.	Deploying Renewables	319.30
9.	Preventing/Abating Pollution	110.50
10.	Managing Urban Waste	1,386.20
11.	Preserving the Cultural Heritage	628.50
12.	Others	824.98
GRAND TOTAL:-		20,907.88

Source: EUAD/GOP, A Special Report for the Consortium Meeting, 1991.
May 1991. p.15

IUCN PAKISTAN'S ACTIVE PROJECTS 1992

Project Name	Donor
1. National Conservation Strategy Phase III	CIDA
2. Environmental Education (Formal)	WWF UK
3. Citizen's Report on the Environment	NORAD
4. Population Study	UNRISD
5. Community Based Environmental Projects	FNF
6. Rehabilitation of Mangrove Ecosystem	NORAD
7. Women in Forestry Training	NORAD
8. Women in Forestry Evaluation	NORAD
9. Environmental Education through Theatres (Changa Manga)	IUCN-HQ
10. Sustainable Forestry Development in Northern Areas	NORAD
11. Wastes Discharged from Korangi Tanneries	DUTCH
12. Margalla Hills National Park Management Plan	UNDP/UNCHS
13. Environmental Review of SASC	IUCN-HQ/EIA Services
14. Environmental Review of Port Qasim	IUCN-HQ/EIA Services
15. National Report for UNCED	IIED/UNDP
16. Ziarat Juniper Forest Project Development	IUCN-HQ/Project Development Fund
17. Environmental Planning & Management Programme Peshawar University	NORAD
18. Community Development through Sustainable Use of Wildlife	FINNIDA/GEF-UNDP
19. Membership	Various
20. UNCED Participation	NORAD
21. Gunyar Pilot Project	CIDA/MAF
22. Media Training	FNF
23. Kasur Environmental Study	UNIDO
24. Law Services	IUCN-HQ Law Centre

NORAD's Country programme: Pakistan

Education

Planning figures 92/93/94

PAK	005 Allama Iqbal Open University	3,0/3,9/x mill. NOK
PAK	013 Sindh Primary Education	4,3/5,5/x mill. NOK
PAK	014 Text Book Board, NWFP	0,6/0,5/x mill. NOK

Electrification

PAK	003 Rural Electrification, Northern Areas	41/35/30 mill. NOK
-----	--	--------------------

Environmental Cooperation

PAK	004 Environmental Programme	x/3,0/6,0 mill. NOK
-----	-----------------------------	---------------------

Environmental Grant

200	Unallocated	0,201/0,5/0,5 mill. NOK
201	UNIDO Kasur	0,3/x/x mill. NOK
202	IUCN, Women in Forestry	0,06/x/x mill. NOK
204	IUCN, Forestry project, Northern Areas	0,376/0,8/0,8 mill. NOK
205	? Drainage Workshop	0,023/x/x mill. NOK
206	JRC/SDPI, Citizen's Environment Report	0,2/x/x mill. NOK
207	IUCN, UNCED	0,39/x/x mill. NOK
401	IUCN, Korangi Creek, Mangrove Project	1/0,5/0,5 mill. NOK
402	Aga Kahn Foundation, Hunza forestry	?
405	Peshawar University, Environmental Planning Course	0,25/x/x mill. NOK

NGO Grant

200	Unallocated	0,403/1,569/2,8 mill. NOK
201	AGHS/LAC Legal Aid for Children	0,120/x/x mill. NOK
203	AFK/AKES Self help schools	0,1/1,7/1,8 mill. NOK
204	Aga Kahn Foundation,	

207	Model schools FGA/BMAP	0,097/x/x mill. NOK
208	Medical help TRC	0,094/x/x mill. NOK
209	Early Childhood Education SRWCO	0,168/x/x mill. NOK
211	Women employment and organization HRCP	0,2/x/x mill. NOK
	Institutional support	0,585/0,5/0,5 mill. NOK
216	RSAEC	
	Transport	0,01/x/x mill. NOK
220	Aga Khan Foundation, Hunza forestry	2,475/3,4/3,2 mill. NOK
222	AKF	
	NGO Resource Center	0,5/0,5/x mill. NOK
224	PFP	
	Publishing	0,053/x/x mill. NOK
226	PNIDCRA,	
	Hearing and Teaching Aid	0,150/x/x mill. NOK
227	NZ,	
	Drug treatment	0,227/0,127/x mill. NOK
230	SCOPE, Env. Management, Resource and Info-center	0,186/x/x mill. NOK
231	AGH-LAC	
	Legal aid to women	0,502/0,45/0,5 mill. NOK
232	Hamara Gar Center	
	Defenseless women	0,2/0,2/0,2 mill. NOK
233	St. Vincent School, Orangi	
	Furniture	0,03/x/x mill. NOK
234	Sind Teachers Foundation	
	Computer	0,025/x/x mill. NOK
235	LHRLA,	
	Lawyers for H R	0,1/x/x mill. NOK
236	AGNS/LAC	
	Employment	0,275/0,054/x mill. NOK

Women related activities

200	Unallocated	x/0,5/0,92 mill. NOK
205	ASR	
	Research and publishing	0,03/x/x mill. NOK
211	Shirkat Gah, Lahore	
	Workshop	0,340/0,3/0,08 mill. NOK
212	PVHNA,	
	Training FC workers	0,15/x/x mill. NOK
213	AURAT,	
	Video on Textbooks	0,01/x/x mill. NOK
217	Women Entrepreneurship, Trainers training	0,15/x/x mill. NOK
218	AGHS/LAC,	
	Extension Project	0,055/x/x mill. NOK
221	Bedari women Centre,	

223

Pilot Project
SRWCO,
Project Review

0,13/0,2/x mill. NOK

0,047/x/x mill. NOK