

Pakistan: Looking to the Future A National Progression in Thought and Actions for Sustainable Development

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(RIO+10)



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CONTENTS

Acronyms & Abbreviations	iii
Background	1
1.1 Important Milestones and Trends, 1972 – 2002	1
1.2 About the National Progression Report	3
Strategic Approaches	5
2.1 The National Conservation Strategy and Environmental Programmes	5
2.2 The NCS in a Broader Perspective: An Assessment of Orientation	6
2.3 Strategies for Development and Poverty Alleviation	7
Accomplishments in Sustainable Development	9
3.1 A National Progression in Thought and Actions	9
3.2 Impacts Related to National Strategies	10
3.3 Illustrations of the Spreading Message of Sustainable Development	11
3.4 Achievements Related to Global Environmental Issues	13
Main Constraints and Deficiencies	15
4.1 Sustainable Development in a Context of Crisis	15
4.2 Lack of Political Commitment, Broad Support and Policy Direction	16
4.3 Weak Fiscal Management and Resource Mobilisation	17
4.4 Problems of Institutional Capacity	17
Current Environment and Development Challenges	19
5.1 Old Problems: The Biophysical Environment	19
5.2 The Increasing Cost of Old Problems	20
5.3 Challenges in Confronting a Changing World	20
5.4 Challenges in Strategy Formulation	22
Course Corrections Needed	23
6.1 A Three-Pronged Strategy for Addressing Priority Areas	23
6.2 A Six-Point Agenda for Generating Ownership and Resources	24
6.3 Three Macro-Functions for Sustainable Societal Development	26
References	28
Annexes	29
Annex 1: Pakistan's International Commitments	29
Annex 2: Public Consultations held in Pakistan for the WSSD	30

ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
AJK	Azad Jammu & Kashmir
AKRSP	Aga Khan Rural Support Programme
BAP	Biodiversity Action Plan
BNRMP	Balochistan Natural Resources Management Project
CAR	Country Assessment Report
CBD	Convention on Biological Diversity
CBO	Community Based Organisation
CHIP	Civil Society Human and Institutional Development Programme
CIDA	Canadian International Development Agency
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CNG	Compressed Natural Gas
DALYs	Disability-Adjusted Life-Years
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EPRCP	Environmental Protection and Resource Conservation Project
ETPI	Environmental Technology Programme for Industry
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gases
GOP	Government of Pakistan
IEE	Initial Environmental Examinations
IUCN	The World Conservation Union
IUCNP	The World Conservation Union Pakistan
LIFE	Local Initiative Facility for the Urban Environment
LPP	Lodhran Pilot Project
MELGRD	Ministry of Environment, Local Government and Rural Development
MoE	Ministry of Environment
MTR	Mid-Term Review
NCS	National Conservation Strategy
NEAP	National Environmental Action Plan
NEQS	National Environment Quality Standards
NGO	Non-governmental Organisation
NPR	National Progression Report
NSDP	National Sustainable Development Programme
NWFP	North West Frontier Province
ODS	Ozone-Depleting Substances

OFWM	On-Farm Water Management
OPP	Orangi Pilot Project
PEP	Pakistan Environmental Programme
PEPA	Pakistan Environmental Protection Act
PEPC	Pakistan Environmental Protection Council
POPs	Persistent Organic Pollutants
PRSP	Poverty Reduction Strategy Paper
SAP	Social Action Programme
SDPI	Sustainable Development Policy Institute
SGP	Small Grants Programme
SPCS	Sarhad Provincial Conservation Strategy
TEMS	Total Environmental Management System
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organisation
WCS	World Conservation Strategy
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature

BACKGROUND

1.1 IMPORTANT MILESTONES AND TRENDS, 1972 – 2002

The World Summit on Sustainable Development (WSSD) 2002 is a continuation of international co-operation that has been taking place for at least thirty years to conserve natural resources, protect the environment and promote sustainable development. The 1972 UN Conference on Human Environment was the first important milestone along this path, while major international agreements to which Pakistan has subsequently become a party are listed in Box 1 (and a comprehensive list of the country's international commitments is given at Annex I). International events such as these, and the dialogue and agreements they generate, have also had a bearing on the pace of change in Pakistan. For example, the Constitution that was enacted in Pakistan in 1973, and is still in place, introduced environment as a legislative subject for the first time and placed it under the concurrent jurisdiction of the Federal and Provincial Governments.

Over time, the impulse for international co-operation and activism also found its way

Box 1

Major International Agreements Signed by Pakistan

- ❑ Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)—signed 1976
- ❑ United Nations Framework Convention on Climate Change (UNFCCC)—signed 1992, ratified 1994
- ❑ Convention on Biological Diversity (CBD)—signed 1992, ratified 1994
- ❑ United Nations Convention to Combat Desertification (UNCCD)—signed 1994, ratified 1997

into the non-government sector. In 1980, IUCN–The World Conservation Union, in collaboration with the United Nations Environment Programme (UNEP) and the World Wide Fund for Nature (WWF), launched the World Conservation Strategy (WCS), and in 1992 it helped Pakistan launch its National Conservation Strategy (NCS). Along the way, IUCN Pakistan (IUCNP) lobbied with the Government, non-governmental organisations (NGOs), members of the media, technical experts and many others not only to create awareness but also to find allies for a common cause. Except for the Government's request for IUCNP assistance in 1983, much of this effort remained behind the scenes, until IUCNP and the Government organised a widely-attended workshop in Islamabad in August 1986, called Towards a National Conservation Strategy for Pakistan, the proceedings of which have been published in IUCNP 1987.

Prior to the Islamabad Workshop, environment was viewed largely as a fad or, worse, a nuisance, by many of those engaged in the field of development. One effect of the Islamabad Workshop was that it began to encourage and legitimise the inclusion of environmental issues in the discourse on development. Another five years passed, however, before the NCS was launched¹, the Pakistan report for the United Nations Conference on Environment and Development (UNCED '92) prepared and donor-assisted environmental projects approved. The NCS itself was the result of a highly participatory and consultative planning process leading to its approval by the Federal Cabinet in March 1992 and its acceptance by the World Bank in place of a National Environmental Action Plan (NEAP). It was with a measure of pride in these

1. The Canadian International Development Agency (CIDA) and the United Nations Development Programme (UNDP) were the main donors who assisted with the preparation of the NCS.

achievements that Pakistan attended the Rio Earth Summit with the NCS and country report in hand, and as Chair of the G77.

During much of the 1990s, the CIDA-assisted Pakistan Environmental Programme (PEP), the World Bank-assisted Environmental Protection and Resource Conservation Project (EPRCP) and its adjunct project in Balochistan invested heavily in building the capacity of Federal and Provincial institutions, particularly the Environmental Protection Agencies (EPAs). In all four provinces and the State of Azad Jammu and Kashmir (AJK), the EPAs, line agencies and Planning and Development Departments received assistance for environment-related projects from a wide range of donors. The Asian Development Bank (ADB), United Nations Development Programme, United Nations Industrial Development Organisation (UNIDO), and the bilateral development agencies of Canada, Germany, Japan, the Netherlands, Norway and Switzerland were particularly active in this regard. The number and activity of NGOs focusing on the environment also increased during the 1990s, and the Sustainable Development Policy Institute (SDPI) was set up as an independent think tank as a result of the NCS.

Media coverage of environmental issues became sharper and more frequent during much of the 1990s, and a certain degree of judicial activism, including suo moto proceedings, in support of the environment came to the fore. The Pakistan Environmental Protection Act (PEPA) was passed in 1997 and led to the reorganisation of the Pakistan Environmental Protection Council (PEPC) with enhanced powers, the establishment of environmental tribunals and formal recognition of the right of citizens to seek recourse for their collective environmental rights through the judicial system. Regulatory advances included agreement among stakeholders on revising the National Environment Quality Standards (NEQS) in 1995 (and again in 1999), and imposition of a pollution charge on industry in furtherance of the "polluter pays" principle. Financial incentives for promoting innovation in industry, and environmental and wildlife conservation, were also introduced in selected organisations during the second half of the 1990s.

The North West Frontier Province (NWFP) appeared as a pioneer among the provinces, AJK and the Federally Administered Northern Areas in devising a provincial conservation strategy. The Sarhad Provincial Conservation Strategy (SPCS) was finalised by NWFP in 1996 and is well into implementation. NWFP has also prepared District Conservation Strategies (DCSs) in two districts, namely, Chitral and Abbottabad. Balochistan prepared its provincial conservation strategy in 2001, and work has started on a conservation strategy for the Northern Areas.

The NCS and the provincial and district conservation strategies it spawned were evaluated through an independent Mid-Term Review (MTR) of the NCS in 1999 and 2000 (Hanson et al. 2000). The NCS MTR and a number of other assessments undertaken around that time (including Banuri and Khan 2000, Miles 2000 and SDPI 2001) also took stock of what has been happening to the biophysical environment of Pakistan in recent years. These assessments agree that the NCS and the various environmental programmes that were initiated in the 1990s generated awareness, introduced legal and regulatory frameworks, and helped strengthen environmental institutions throughout the country. They also point out, however, that Pakistan has been experiencing years of decline in its biophysical environment.

The environment sector is not the only one in which the situation has worsened in recent years. Pakistan's long-term economic growth rate of six percent per annum declined to five percent in the early-1990s and fell further to four percent subsequently (Zehra 2001). The incidence of poverty, using a calorie based indicator, increased from 17.4 percent in 1987 to 32.6 percent in 1998, while a poverty-of-opportunities indicator, reflecting opportunities to improve health, education and income, declined appreciably between 1970 and 1995 (Miles 2000). The country's development budget shrank from a high of 7.5 percent to about 2.5 percent of the Gross Domestic Product (GDP) (Banuri and Khan 2000). Institutional decay became more pronounced during the 1990s, social polarisation and violence increased, and the state failed in significant ways to establish its writ. Trends such as these have led some to remark

that the 1990s were Pakistan's lost decade, and what happened in terms of the environment appears, to a degree, to be part of a larger picture.

1.2 ABOUT THE NATIONAL PROGRESSION REPORT

This report aims to develop a holistic picture of the environment and how it relates to development, poverty and other aspects of sustainable development in Pakistan. It is based on two main building blocks, namely, assessments of the environment sector, particularly those prepared since 2000 (listed in the References), and reports of nine consultative workshops (listed in Box 2) organised by IUCNP and the Ministry of Environment (MoE)

Box 2

Consultative Workshops held in Pakistan for Rio+10

- ❑ Linking People with Coastal Ecosystems
- ❑ Security Implications of a Fragile Environment
- ❑ Shrinking Land – Expanding Cities
- ❑ Financing Sustainable Development – Towards New Alliances
- ❑ Fresh Water and Watersheds
- ❑ Local Governance for Sustainable Development
- ❑ Sustainable Energy for Cleaner Production
- ❑ Poverty Environment Nexus
- ❑ Integrating Biodiversity and Development

with UNDP assistance. The consultative workshops, on which basic information is summarised in Annex II, brought together key stakeholders from government, civil society and the private sector to discuss specific themes in sustainable development. The themes emerged from regional and sub-regional consultations and roundtables (covering Asia-Pacific and South Asia) and also

represent the key issues in sustainable development that Pakistan is facing.

The National Progression Report (NPR) is designed and intended as a critical building block of the Country Assessment Report (CAR) that the Government of Pakistan is presenting at the WSSD. Thus, the NPR is built around guidelines that were formulated for the CAR. More specifically, the NPR reviews the following aspects of sustainable development in Pakistan:

- ❑ Brief historic perspective on strategies for sustainable development and their context.
- ❑ The strategic approaches adopted and the changes that have been brought about by country's strategic approaches.
- ❑ Accomplishments in achieving sustainable development and the factors that contributed to these accomplishments.
- ❑ The main constraints or deficiencies encountered in implementing sustainable development objectives, and measures taken or planned to overcome such constraints or deficiencies.
- ❑ Current environment and development challenges and emerging issues, based on the findings of nation wide public consultations and studies on the Rio Conventions.

In terms of its forward-looking orientation, the NPR discusses the kind of course corrections that are thought to be important from various points of view. One point of view takes the need to reverse the degradation of natural resources as the point of departure, while another focuses on ownership of environmental issues, governance and some other cross-cutting themes. A third perspective explains what is required to steer the three groups of players—namely, the public, private and popular sectors—who manage the environment to a greater or lesser degree, whether directly or indirectly. In this report, all three perspectives are considered important for the future.

STRATEGIC APPROACHES

2.1 THE NATIONAL CONSERVATION STRATEGY AND ENVIRONMENTAL PROGRAMMES

Pakistan's NCS was initiated in 1988, at a time when the country had returned to a fully democratic system after eleven years, and expectations of people's involvement in governance and development were high. Influenced by the national context as well as the international environment movement, the NCS represented a break from the pattern of planning that revolves exclusively around expert committees and commissions. Unlike plans and proposals formulated by the Planning Commission of Pakistan, the provincial Planning and Development Departments and special mandates such as the National Commission on Agriculture (1985–1986), the NCS incorporates a significant element of public consultation and community perspec-

Box 3

Core Areas of the Pakistan NCS

- ❑ 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 waste
- ❑ Supporting institutions for common resources
- ❑ Integrating population and environment programmes
- ❑ Preserving the cultural heritage

tives. Although prepared under the supervision of a high-level Steering Committee chaired by the Deputy Chairman of the Planning Commission, one of the country's most influential bureaucrats, the NCS process involved over 3,000 people in government, civil society and the private sector in debate, discussion and analysis.

The NCS is not, however, a complete break from the tradition of central planning that has prevailed in Pakistan since the 1950s. Though focused on the environment, it is as comprehensive in scope—in terms of the number of sectors, cross-cutting themes, policies, investment programmes and outcomes—as the Five-Year and perspective plans made in the past. Instead of aiming at higher economic and social indicators, however, the NCS visualised a "transformation of attitudes and practices and the influencing of consumption patterns" in favour of sustainable development (Banuri and Khan 2000). But, like central planning in general, the NCS held that a society's investment choices "are more flexible than consumption patterns." The strategy focused, therefore, on a proposed "investment programme of Rs 150 billion over 10 years, equivalent to a doubling of the environmental component of gross domestic investment from its then current level of four percent" (Banuri and Khan 2000).

The three major objectives at which the NCS aimed this proposal are conservation of natural resources, sustainable development and improved efficiency in the use and management of these resources. The proposed investment programme extends to 14 core areas, listed in Box 3, and the NCS identified 68 programmes and 60 clusters of outcomes in these areas. In addition, the 1993 – 1998 Plan of Action prepared in furtherance of the NCS and submitted by the Government to the donors, identified three cross-cutting areas for immediate action, namely:

- ❑ institutional strengthening (technical, regulatory and participatory);
- ❑ supportive framework of regulations and economic incentives; and,
- ❑ broad-based communications for public awareness.

For implementation the NCS depended on four partnerships, and these are outlined by Hanson et al. 2000 as follows:

- ❑ Government and NGOs (for NGO capacity building);
- ❑ Government and the private sector (regulations and incentives);
- ❑ within the Government (among agencies and federal-provincial for institution building); and,
- ❑ a mass awareness campaign to link Government and the public at large.

Based on the NCS, but with more realistic expectations, the Government proposed a Plan of Action for co-ordinated donor assistance in support of its five-year priorities for 1993 – 1998. The plan was costed at Rs 19.2 billion, exclusive of on-going water management, forest management, sewage and several other environmental programmes, out of which, according to Hanson et al. 2000:

- ❑ 38 percent was for pollution prevention and control including urban waste management;
- ❑ 10 percent was for forestry and plantations and 10 percent for watershed protection;
- ❑ nine percent was for biodiversity conservation; and,
- ❑ 33 percent was shared among the other nine core areas of the NCS.

This plan became the main implementation document for the core areas of the NCS and was not updated. Investment in institutional development, including legal and regulatory frameworks, was channelled, in the main, through two donor-assisted initiatives. The first of these was the World Bank-assisted EPRCP, negotiated in 1992, which catered to the Federal Government, AJK and the provinces of NWFP, Punjab and Sindh, and

its adjunct project, the Balochistan Natural Resources Management Project (BNRMP)². The second one was the PEP, launched in 1994 to build the capacity of IUCNP and three institutions in Islamabad, namely, the NCS Unit of the Ministry of Environment, Local Government and Rural Development (MELGRD), the Environment Section of the Planning and Development Division and SDPI. Funded by CIDA, the PEP, according to Hanson et al. 2000, has been "the essential, albeit imperfect mechanism, for NCS co-ordination."

2.2 THE NCS IN A BROADER PERSPECTIVE: AN ASSESSMENT OF ORIENTATION

A number of imperfections in the NCS have been noted in recent years, some with the benefit of hindsight and others in line with the way the global community has been approaching sustainable development. For example, the inadequacy of central planning and its command and control orientation has also been brought out in the context of the NCS. And the growing recognition that environmental considerations are closely tied up with poverty and economic development has influenced almost all the recent assessments of the NCS, including its MTR. A view of the NCS from the broader perspective led the NCS MTR (Hanson et al. 2000) to the following observations:

Examination of the NCS through a lens focusing on the triple needs of the environment, the poor and of economic development clearly shows that the NCS:

- ❑ was largely focused on achieving environmental outcomes (centred around ecosystem integrity);
- ❑ policy focus was geared towards environmental institutions and very weak on macro-economic and sectoral policies;
- ❑ 'incentives' focus was mainly on regulation and 'command and control' type

2. These projects also aimed at the rehabilitation of selected forests, watersheds and rangelands.

approaches, and very weak on economic instruments;

- ❑ lacked prioritisation, as evidenced by the absence of any form of evaluation of costs and benefits and fiscal implications, except in the most general terms; and,
- ❑ clearly did not address poverty reduction—the most fundamental of the core development issues—as directly as it might have.

The NCS is not the only plan or strategy of its time to suffer from imperfections such as these, particularly as they relate to poverty eradication. For example, the Eighth Five-Year Plan (1983 – 1988) sets no quantitative target for poverty reduction in its macro-economic policy statements, nor does it contain an explicit statement regarding the macro-economic instruments to be used for poverty eradication. The objective of poverty eradication either by the year 2002 ("the SAARC deadline"³) or by 2008 (the end point for the Fifteen-Year Perspective Plan 1983 – 2008) is not stated as such in the Eighth Plan. Though the document contains an overall employment strategy, that strategy does not specify policy targets or instruments for the poor. A focus on poverty is also missing from the framework for agricultural development, so much so that even the words "poverty" and "the poor" do not appear in the chapter on agriculture. Shortcomings such as these, and the ones mentioned earlier in relation to the NCS, are snapshots of a document, and these snapshots show unambiguously that even the most important of national plans and strategies have been afflicted by inadequate groundwork, regardless of how participatory the planning process was.

2.3 STRATEGIES FOR DEVELOPMENT AND POVERTY ALLEVIATION

There is another perspective, however, and that is to look at a national plan or strategy as a trigger for change. Viewed in these terms,

Box 4

National Strategies and Plans, 1992-2002

- ❑ Social Action Programme, 1993 – 2002
- ❑ Fifteen-Year Perspective Plan, 1993 – 2008
- ❑ Eighth Five-Year Plan, 1993 – 1998
- ❑ Ninth Five-Year Plan, 1998 – 2003 (not completed)
- ❑ Ten-Year Perspective Development Plan, 2001 – 2010
- ❑ Current Three-Year Rolling Plan, 2000 – 2003
- ❑ National Environmental Action Plan (NEAP)
- ❑ National Sustainable Development Programme (NSDP), 2001 – 2006
- ❑ Pakistan Poverty Reduction Strategy Paper (PRSP)
- ❑ Devolution Plan, 2001

the NCS appears to have triggered off two-way linkages between conservation and other national strategies and plans (listed in Box 4) as far back as 1992 and this process has continued. For example, "The Eighth Five-Year Plan (1993 – 1998) borrowed heavily from the NCS in terms of greening its development objectives. Subsequently, the Ninth Five-Year Plan, which never saw completion, also attempted to fill in the gaps in the environmental sector from the list of programmes provided by the NCS" (Zehra 2001). Although the NCS and the Government's plans of that vintage did not emphasise poverty-environment interactions, as is done now, the thinking began to change by the late-1990s when the Ninth Five-Year Plan was drafted and the NCS MTR launched.

The context in which this transition began to take place was and is one of significant change, wide-ranging reform and increasing sensitivity to neglected aspects of national development. Part of the change comes from the opening up of world trade, and of the country's own economy, and imposes a new and sometimes harsh discipline on the political, economic and environmental management of the country. Growing political instability in the country and insecurity in its neighbourhood have been particularly disturbing

3. The Heads of State and Government of the South Asian Association for Regional Co-operation (SAARC), meeting at the Dhaka Summit in 1993, set the goal of eradicating poverty in the region by the year 2002.

elements of the changing context since the early-1990s. These challenges have arisen at a time when Pakistan's economic debts have been mounting, social liabilities (particularly those arising from poverty) multiplying, and natural resources and infrastructure showing urgent need of protection and rehabilitation. Policy responses launched during this period have included:

- ❑ A structural adjustment process that has been underway (with breaks) since 1988 with the objective of achieving a stable macroeconomic environment with high GDP growth, low inflation, low fiscal and current account deficits, and adequate foreign exchange reserves.
- ❑ The multi-billion dollar Social Action Programme (SAP), initiated during the Eighth Five-Year Plan, to invest in the long-neglected areas of health, education, drinking water and sanitation, with particular emphasis on rectifying gender, urban-rural and income class disparities.
- ❑ The Poverty Reduction Strategy Paper (PRSP) that renews a commitment to macro-economic policies that promote growth especially in labour-intensive activities, and to poverty reduction through micro-credit and skills improvement, in conjunction with grassroots organisations such as local councils, NGOs, CBOs and Village Organisations.
- ❑ The Devolution Plan of 2001 that seeks the genuine empowerment of citizens, and the devolution of administrative and political authority from provincial to local levels.

With particular reference to environment and sustainable development:

- ❑ The analyses and recommendations that are seen in the NCS MTR (Hanson et al. 2000), Banuri and Khan 2000, Miles 2000 and SDPI 2001 represent holistic approaches in which environmental concerns are articulated in relation to economic development, the quality of life and particular attention to poverty alleviation. To a greater or lesser degree (Zehra 2001), this kind of thinking is also reflected in:
 - ❑ The current three-year rolling plan, the environment component of which borrows heavily from the recommendations of the NCS MTR.
 - ❑ The National Environmental Action Plan (NEAP), which builds on the NCS MTR recommendations and focuses on clean air, clean water, disposal of solid wastes and the ecosystem as priority areas.
 - ❑ The National Sustainable Development Plan (NSDP), which uses the recommendations of the NCS MTR as principal reference points and aims to consolidate capacity building efforts for environmental conservation, sustainable development and improved efficiency in the use and management of resources, covering the environment as well as the water sector.

As indicated in Annex III, however, the PRSP, which could strongly complement the integrated strategic framework for sustainable development recommended by the NCS MTR, falls short of the expectations of the environment community. It does not adequately address key considerations for reducing the cost of environmental inaction, involving grass-roots and environmental institutions, and addressing the environment as an integrated springboard.

ACCOMPLISHMENTS IN SUSTAINABLE DEVELOPMENT

3.1 A NATIONAL PROGRESSION IN THOUGHT AND ACTIONS

As the previous chapter shows, there is clearly a progression in effect in the way decision-makers in Government and their partners, observers and the actors concerned view sustainable development. Identifying the imperfections and inadequacies of efforts made in the past is one part of this progression, and acknowledging challenges and responding to them is another. Regarding the future, there is broad agreement on taking a more holistic and pro poor view of sustainable development than in the past, though focusing on environmental institutions and outcomes is considered a priority by most. There is even less disagreement, however, on assessments of the past⁴. Perhaps the clearest statement in this regard comes from a review of 15 years of CIDA involvement in the environment sector (Miles 2000), which concludes as follows: "Has the condition of the biophysical environment improved? No. Has there been progress in the environment sector? Yes."

Some of the progress that has taken place is in the nature of milestones that have been mentioned in chapter 1, while other achievements are mentioned later in this chapter. The directions in which change for the better has taken root can be summed up as follows:

- ❑ Devising strategies and plans that seek, increasingly, to place environmental concerns in the context of national development and poverty alleviation.

- ❑ Formulating laws, regulations and standards that aim to define rights and responsibilities for managing the environment.
- ❑ Introducing policies and procedures for complying with the country's legal framework and international obligations.
- ❑ Establishing and strengthening public sector institutions for managing the environment with public consultation and due regard to the law.
- ❑ Engaging the private sector in dialogue and motivating it to respond to domestic and international concerns with the environment.
- ❑ Rallying the NGOs and CBOs to environmental causes and bringing about greater convergence between "environment first" and "development first" approaches.
- ❑ Initiating the media, particularly the print media but also radio and television, in environmental journalism.
- ❑ Investing in formal training in environmental disciplines and sensitising managers and policy makers to environmental issues.
- ❑ Implementing projects for protecting the environment from pollution and rehabilitating natural resources and wildlife habitats.
- ❑ Pursuing international co-operation with more vocal advocacy of Pakistan's needs for sustainable development and its common causes with developing countries.

These achievements represent a combination of advances in preparing the people and institutions of the country to work for sustainable development, and with each other⁵. It

4. This is true even though the major assessments—by Banuri and Khan 2000, Hanson et al. 2000, Miles 2000 and SDPI 2001—use quite different analytical approaches.

5. Hanson et al. 2000 observe: "In the absence of strong institutions, GOP's role in the past had been rather weak: marked by incoherent and sporadic efforts with very little impact. The role of the private sector in addressing environmental issues was dismal, and very few NGOs had the wherewithal to play an effective role in this area. The weak institutional base in Pakistan posed innumerable obstacles in the way of promoting sustainable development."

has also been noted, however, that promising changes such as these have not yet translated into tangible environmental improvements on a significant scale. Thus, the point can be made—and, indeed, has been made in different ways—that what has been achieved so far is necessary but not sufficient for improving the biophysical environment. This is not, in hindsight, a surprising conclusion, considering that preparing the people and institutions that matter is a pre-requisite for successful change, and this pre-requisite was not in place when the process of change started circa 1986⁶.

3.2 IMPACTS RELATED TO NATIONAL STRATEGIES

The NCS process has been central to many if not most of the changes that have been observed since then. Many diverse institutions supported that process but "the drive towards [partnership that made the difference] came from the independent sector and not the government" (Banuri and Khan 2000). Strong support for the launching of the NCS came from influential civilian leaders between the late-1980s and "the official approval of the NCS by the Cabinet in March 1992. Sometime thereafter, however, political will to implement the NCS began to waver" (Miles 2000). The NCS process per se began to lose its centrality and the process of change became more diffuse, with donors managing much of the impetus for change and local initiative providing additional points of departure all over the country.

Taken together, the NCS and other environmental programmes of the 1990s had a top-down effect as well as a scatter effect. The top-down effect was instrumental in bringing about organisational change within the Government and non-government institutions concerned, while the scatter effect augmented that with a measure of social change. Impacts related to both effects are in evidence today; some of these have been attributed to the

NCS and others to a variety of other driving forces. The independent assessment of the NCS conducted by the MTR mission (Hanson et al. 2000) attributes the following main impacts to the NCS:

- The NCS has contributed very significantly to the political economy of conservation and sustainable development in Pakistan, primarily through creating awareness and by beginning to develop the key integrative institutions required for sustainable development, but also through some of the resulting field and capacity building projects.
- The NCS has improved awareness about environmental protection and management problems and needs, and to a lesser extent, about the ways in which environment and economy link, and about social impacts of environmental damage. Although the NCS was not alone in raising this awareness, it was the principal catalytic activity in Pakistan.
- The NCS project portfolio led to a large number of natural resource management projects. The actual impacts of these on the ground have been difficult to ascertain, because of a lack of routine monitoring of environmental and social indicators. Although pollution and waste was less emphasised in the NCS, certain institutional developments have shown to be promising in relation to controlling pollution and waste.
- At the governmental level, the NCS has led directly to the development of key institutions and processes that will lead to better environmental planning and control (although the tasks of integrating environmental, social and economic concerns are not fully covered by these). These developments have been mentioned in chapter 1.
- The NCS process helped achieve greater recognition of the value of civil society perspectives and institutions. It also led directly to the development of certain key institutions, notably SDPI and IUCNP, their utilisation in pioneering on-ground NCS projects, and their influence on sustainable development decisions.

6. An evaluation by the World Bank (1987) notes that rural development plans run into similar situations: "there is often frustration as institutions are established and essential infrastructure is constructed, but production targets are missed."

- ❑ The NCS recognised that many sustainable development trade-offs and integration needs are best addressed at more local levels. Its recommendation for detailed debate, planning and implementation at provincial and district levels through participatory strategies resulted in the provincial and district strategies mentioned in chapter 1.
- ❑ A subjective assessment of whether the NCS targets are likely to be met by 2001 showed possible achievement for only three of the 60 targets assessed and progress for another 25 (Table 1). In relative terms, watershed and forestry targets show the greatest achievement, and biodiversity also fares well. Soils, energy efficiency, renewables, pollution and waste management had received considerable emphasis in terms of the number of targets but showed little progress.

The large World Bank-assisted twin initiatives based around the EPRCP and BNRMP also contributed significantly in three areas, namely, institutional development, legal framework development and environmental awareness (Banuri and Khan 2000). Support provided by CIDA had a major impact through the NCS and, subsequently, on institutional development and environmental dialogue through the PEP. The scatter effect of these and other environmental programmes, though small in relation to the country context, is observable

Table 1

Progress in Achieving NCS Outputs Originally Anticipated by 2001.

NCS Core Areas	Number of Outputs		
	Assessed	Achieved	Progress
Soil	7		1
Irrigation	4		3
Watersheds	2		2
Forests	3		3
Rangelands	4		2
Water/Fish	4		2
Biodiversity	10		7
Energy Efficiency	5		2
Renewables	5		2
Pollution	7	1	
Waste	4		
Commons	1	1	
Population	2	1	
Heritage	2		1
Totals	60	3	25

in a fairly large number of locations and sectors and illustrated with the help of diverse examples. Considering the geographical spread of these examples, it would not be incorrect to say that efforts aimed at improving the environment can now be found in all corners of the country, where there was little 10 or 15 years ago.

3.3 ILLUSTRATIONS OF THE SPREADING MESSAGE OF SUSTAINABLE DEVELOPMENT

For example, during much of the 1980s the most notable community-based initiatives were the Orangi Pilot Project (OPP) in Karachi and the Aga Khan Rural Support Programme (AKRSP) in the Northern Areas. The OPP earned recognition initially for its work in sanitation and subsequently in other fields, including livelihoods and environments with which the poor have to contend. AKRSP emphasised village infrastructure, land development and credit in the beginning but subsequently developed conservation programmes in collaboration with other NGOs. Although both initiatives have had a profound impact on sustainable development throughout the country, many smaller and sometimes less well-known initiatives have also come up with indigenous and donor support. For example:

- ❑ The Escorts Foundation, established by a Pakistani group of companies, promotes fuel-efficient stoves in and around the threatened Changa Manga forest near Lahore. Instead of subsidising the villagers, this project has simplified the technology and the training that goes with it, and achieved adoption rates of 70 – 80 percent in most of the villages. The project is supported by UNDP through the Small

- Grants Programme (SGP) of the Global Environment Facility (GEF) and is influencing several other NGOs.
- Inspired and assisted by the OPP and facilitated by the UNDP Local Initiative Facility for the Urban Environment (LIFE), the Lodhran Pilot Project (LPP) brings together the communities and local government of this small rural town in Southern Punjab to build and revamp the sanitation system. Here, cost sharing is approached through the transparent concept of component sharing, with the communities paying for household and lane-level improvements and local government responsible for the main sewers and disposal stations. A local landowner-cum-industrialist is financing the LPP organisation.
 - Markhor trophy hunting in accordance with the CITES is the mainstay of wildlife conservation and an international success story associated with the Society for Torghar Environmental Protection. Organised by the chiefs of Pakhtun tribes living in Balochistan near the Afghan border, this project has involved the United States Fish and Wildlife Service and other international experts in technical assistance, monitoring and social surveys. The project is supported by UNDP through a GEF small grant.
 - In the Federally Administered Tribal Area of Khyber Agency, a small group of Pakhtun tribesmen features as a CBO striving for a clean environment in one locality of Jamrud Town, near the Afghan border. This project aims to remove mountains of filth, topped by thousands of polythene bags, but it has no donors and no local government support to speak of. There is only support for Human and Institutional Development (HID) under the auspices of the Swiss-funded Civil Society HID Programme (CHIP).
 - A different kind of struggle is in evidence in the Juhi Taluka of Dadu District in Sindh. Here, a small CBO is talking to an Australian oil company working in the area and issues of pollution, drinking water, schooling and employment for the local people form the agenda. It seems like a daunting dialogue, and may be one for both parties, for the small local

CBO has been coached by Oxfam, Action Aid and the Indus Resource Centre, an offshoot of the national NGO movement supported by the Swiss-funded CHIP.

Finally, a number of innovative approaches with particular relevance to industrial and urban settings have also been observed, and these include the following:

- The Environmental Technology Programme for Industry (ETPI) is a joint project of the Federation of Pakistan Chambers of Commerce and Industry and the Government of the Netherlands. It has conducted environmental audits of selected industrial units to identify their environmental problems, and designed and implemented solutions using cleaner production technologies, in-house improvements and end-of-pipe treatments. The programme aims to comply with the NEQS and ISO 14000.
- Several promising initiatives, driven by various government units, are underway to convert more vehicles to compressed natural gas (CNG), a clean fuel source that is abundant within Pakistan. These include the provision of a network of CNG refuelling stations and pilot projects for equipping motorised rickshaws with conversion kits so that the engines can run on CNG. This is one of the few themes within the NCS where an established target (network of filling stations) was exceeded by 2001.
- The Kasur Tanneries Pollution Control Project in Punjab is an industry-led initiative for the development of pre-treatment and treatment facilities for the tannery wastes going into adjacent artificial lagoons. In addition, a chromium recycling facility is being built within the tannery site. And the contaminated lagoon sites are being drained, rehabilitated and eventually may be returned to agricultural use. The project is being implemented through UNIDO.

3.4 ACHIEVEMENTS RELATED TO GLOBAL ENVIRONMENTAL ISSUES

IUCNP has commissioned three reviews of how Pakistan has fared in relation to the CBD, the UNCCD and UNFCCC. Based on IUCNP 2002a, the country's achievements as they relate to the CBD have been assessed in the following terms:

- ❑ As a comprehensive response to Article 6 of the CBD, the formulation of the National Biodiversity Action Plan (BAP) based on a participatory approach, its formal approval by the federal cabinet, and its final distribution among the various stakeholders.
- ❑ The publication of a Protected Areas System Review and Action Plan in 2000 as a first step towards the "development of an effective and comprehensive system of protected areas to safeguard the nation's biodiversity."
- ❑ The introduction of trophy hunting practices across selected biologically sensitive areas in the country, wherein a system of disincentives and incentives is created by regulating the killing of species via the imposition of hunting fees, the proceeds from which are given to local communities for better protected area management.
- ❑ The implementation of the Maintaining Biodiversity in Pakistan with Rural Community Development, and Mountain Areas Conservancy Project programs, which have been successful in generating awareness, while providing sound proof for the need for community participation in the management of protected areas
- ❑ The introduction of the GEF Small Grants Programme that has funded a number of CBO/NGO-managed projects around the country, totalling US\$ 460,000 for a total of 35 projects so far.
- ❑ The 1997 Environment Protection Act, which makes Initial Environmental Examinations (IEE) and Environmental Impact Assessment (EIA) mandatory for all development projects in protected areas and further strengthens its relevance to biodiversity conservation by

including damage to biodiversity in its definition of adverse environmental effect. This requirement conforms to Section C of Article 7 in the Convention and has been actively applied in the EIAs of development projects conducted in all the protected areas of Pakistan over the last few years (e.g., Dureji Game Reserve and Kirthar National Park).

Progress in areas directly related to UNCCD in Pakistan has been modest (IUCNP 2002b) and has been assessed as follows:

- ❑ Promoting efficiency in the use and distribution of water has been achieved to some extent through the On-Farm Water Management (OFWM) Programme, which has been operating in Pakistan since 1976. So far, 21,000 watercourses have been brought under OFWM; another 86,000 remain to be attended to.
- ❑ Other water management initiatives have included the construction of water storage tanks in mountainous regions, hydra ram water lifting devices, and sprinkler irrigation.
- ❑ The Mangla Watershed Management Project by the Water and Power Development Authority (WAPDA) built silt traps and masonry check dams, and planted five percent of the watershed with grasses and long-rooted trees. The project reduced siltation from 30 to 7 tons per acre foot of run-off and prolonged the life of the Mangla Dam to 70 years.

In the context of UNFCCC, Pakistan's preparedness on climate change has been summarised as follows (IUCNP 2002c):

- ❑ The most comprehensive climate change research undertaken so far has been in estimating the national greenhouse gases (GHG) inventory. Preliminary estimates were extensively refined for the 1990 base year, and updated to 1994 during the preparation of the draft National Communication.
- ❑ Important work has also been completed in identifying, prioritising and developing GHG mitigation options. A broad consultative process has been used to arrive at low-cost options and project portfolios have been prepared.

- Some vulnerability and adaptation studies have been completed, but further investigation in these areas is required.

Under the Montreal Protocol, which aims to phase out most ozone-depleting substances (ODSs) completely by 2010, Pakistan has committed to a rigorous phase-out schedule for ODSs. SDPI 2001 reviews compliance and reports that Pakistan consumed an average of 2,464 tonnes of ODS between 1995 and 1998 and is required to reduce this by 50 percent by 2005. In compliance with the Protocol targets, Pakistan has phased out 400 tonnes of ODS and frozen its consumption of CFCs at the average consumption level of 1995–1997.

Pakistan supports the total elimination of persistent organic pollutants (POPs) as enshrined in the Stockholm Declaration, which bans POP production and use and commits governments to identifying and cleaning up stockpiles of pesticides (SDPI 2001). Pakistan is likely to sign the treaty soon. Linkages between trade and environment, however, remain weak in Pakistan, as the very basis for trade-driven environment policies is neither well known in industry nor considered financially attractive by most of the producers. North-South differences in perceptions and interests, particularly as they relate to trade restrictive measures such as emission, technology and product standards, also weaken the will for compliance with what are often seen as discriminatory standards.

MAIN CONSTRAINTS AND DEFICIENCIES

4.1 SUSTAINABLE DEVELOPMENT IN A CONTEXT OF CRISIS

There are groups of people in Pakistan, as the previous chapter suggests, who see environmentally sustainable development as integral to the way they live and work. There are also, however, pockets of ignorance, apathy and arrogance in which any talk about the future is considered irrelevant. Movement towards sustainable development depends on the strength of the many factors that mediate the dynamic between the two extremes. The fact that Pakistan's environment—its natural capital—has improved little if at all in the last 10 – 15 years shows that support for sustainable development has been weak. Put differently, lack of tangible progress confirms the presence of a number of problem areas, some of them specific to the environment sector and others with broader relevance, in the way the country's resources have been managed.

The Government's fiscal crisis is one problem that has become more acute in the last 10 years as a result of internal weaknesses and adverse external developments, and the development budget has shrunk to one-third of its earlier proportion in the GDP (Banuri and Khan 2000). New mechanisms for mobilising resources have not yet made up the difference, and institutions across the country have been starved of finances and losing talent, with the best leaving the country in numbers never seen before. Political instability and continuing social tensions have not only disrupted reform but also created more problems that demand the attention of the powers that be. Under the circumstances, it is not surprising that individuals and institutions,

"kings" and "commoners" and even the donors have been preoccupied more with survival and crisis management than long-term reform and development⁷.

Few have been recognised as reformers in this hour of need and hardly any as a champion for sustainable development beyond the confines of their institution. There are local champions to be sure and local partnerships for sustainable development, but others in the country that could have followed have drawn little inspiration or operational insight from these. External assistance has also largely bypassed the promising but small initiatives, as little has changed in the "aid industry" to turn its attention from size to significance, and from disbursement to development. This, despite the twin-recognition that "Providing significant amounts of money has not made much of a dent in poverty in countries with weak management. It is possible to assist development in countries with weak institutions and policies, but the focus needs to be on supporting reformers rather than disbursing money" (quoted in Banuri and Khan 2000)⁸.

But most of the factors that weaken the resolve for sustainable development are rooted in the debilitating crisis of governance that has worsened in Pakistan over the decade—a point noted repeatedly in the public consultations held for the WSSD—and the deteriorating external environment it has faced. Among these, according to Hanson et al. 2000, "The extent of environment and sustainability neglect, and continued poor performance of environmental institutions can be attributed to four major constraints," namely:

- ❑ lack of political commitment and weak governance;

7. Participants in "Shrinking Land – Expanding Cities," a public consultation held for the WSSD, noted that even city-level planning has been weak or absent in recent memory.

8. From *Assessing Aid: What Works, What Doesn't and Why*. Washington, DC: World Bank, 1999.

- ❑ weak policy framework;
- ❑ weak institutional capacity; and,
- ❑ weak fiscal management and resource mobilisation.

4.2 LACK OF POLITICAL COMMITMENT, BROAD SUPPORT AND POLICY DIRECTION

Most observers agree that lack of political commitment and weak governance is reflected, to a greater or lesser degree, in all the major constraints indicated. It is also reflected in—and has resulted from—the lack of ownership of sustainable development in the following ways:

- ❑ Environmental considerations are not effectively integrated into the country's economic growth and poverty reduction plans. This means, as observed by Hanson et al. 2000, that environmental programmes do not speak adequately to the agendas of many of the powerful networks of the country⁹. It is understandable, therefore, that support for environmental issues has remained weak among the elite who constitute these networks and the people they lead and influence.
- ❑ Sindh and Punjab, the largest provinces, have not initiated participatory provincial strategies, which the NCS had recommended for the detailed debate, planning and implementation of NCS recommendations. This means that the environmental movement, such as it is, has insufficiently engaged the leaders of about 80

percent of the people of Pakistan and the sectoral programmes of the provinces they lead (that is to say, all the sectors that are relevant to sustainable development).

- ❑ Like many others, Hanson et al. 2000 have concluded that community development and environmental NGOs and CBOs, which form the backbone of the sustainable development network, have been incidental to the objectives of planned approaches to sustainable development¹⁰. This means that the most important source of organised grassroots support for sustainable development has not been engaged thoughtfully so far and decision makers at the top left more or less to their own devices.
- ❑ The omissions of stake and ownership mentioned above add up to a little less than what is there in terms of the population, sectors, decision makers and change agents of significance to sustainable development. It is not surprising, therefore, that these deficiencies have translated so decisively into lack of resolve in mediating in favour of a future that now depends so critically on the environment, and lack of resources, public or private, that have been committed to sustainable development. These important consequences are discussed below in some detail.
- ❑ Weak policy framework which, according to Hanson et al. 2000 and other reviewers, is reflected in:
 - inadequate valuation of resources (e.g., water and energy);
 - little or no influence on international trade and sectoral policies (e.g., energy, urban, transport, agriculture, irrigation, forestry, health, and education);

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9. "These networks include: (i) economic and trade liberalisation networks consisting of economists and business interests promoting market solutions; (ii) the poverty eradication network, united around community empowerment, development and institution building; (iii) the agriculture network which consists of agronomists united by the green revolution's promise of dramatic yield increases; (iv) the energy network, united around the unrealised potential of hydro power; (v) the urban agenda network, united almost exclusively by the vision of real estate development; and (vi) the international NGOs and donor networks which combine a multitude of visions, ranging from pure conservation, social transformation, development effectiveness, and opening up markets and business opportunities" (Hanson et al. 2000).
 10. This observation has been made in the context of the NCS as well as the EPRCP, for which the Implementation Completion Report, quoted in Miles 2000, could identify only one sub-project "which involved social participation."

- weak understanding of linkages between environment and poverty outcomes and the influence of property rights and tenure on sustainable development; and,
- little transparency and limited forums and processes for debate, learning and action on sustainable development.

4.3 WEAK FISCAL MANAGEMENT AND RESOURCE MOBILISATION

Aspects of financing that had adverse consequences for environmental programmes have been pointed out by all concerned. On the basis of the NCS MTR (Hanson et al. 2000) and other reviews of the sector, these may be summarised as follows:

- The overall investment plan for the NCS was based on a contribution of about 40 percent from the public sector and 60 percent from the private sector. Private sector and community contributions in most other environmental initiatives, including the EPRCP, were considerably lower, or nil. Given the extent of private ownership over natural resources in Pakistan, the relatively high contribution expected from the public sector is a further indication of the weak focus by the NCS and other initiatives on policies and incentives to internalise the social cost of natural resource degradation.
- During the Eighth Five-Year Plan (1993-1998), Planning and Development data show that out of an overall planned financial commitment of Rs 21 billion for the 14 core areas of the NCS, only 18 percent of the funds were released and even less were actually disbursed. Clearly, funding availability in the public sector is a major problem.
- In terms of provincial allocation and use of resources, the Federal Government had by far the highest priority, followed by Punjab, NWFP, Sindh, Balochistan, AJK and the Northern Areas.

- From a rough analysis of financial information collected by the NCS unit, the following tentative conclusions can be drawn over the 10-year planning horizon:

- In terms of both provisional and allocated budget (over a 10-year horizon), the NCS clearly focused, and by far, on land conservation and irrigation efficiency as the top priority. Second-tier priorities included forestry and institutional development, closely followed by watershed protection, water resources and fisheries, and energy efficiency.
- The top priority programmes (land conservation and irrigation efficiency) were allocated less than half of the budgeted amounts, but all other core areas had a relatively even match between planned budgets, allocations and use.
- Full data on donor contributions to financing the NCS agenda were not available. However, if the planned foreign exchange component is used as a proxy, it appears that:
 - rangeland/livestock, energy efficiency, and institutional development may have been targeted primarily for donor grant and loan financing;
 - energy efficiency and preservation of cultural heritage would have been financed mostly from local resources; and,
 - the institutional infrastructure related to environmental policy and capacity building needs has depended very much on donor support.

4.4 PROBLEMS OF INSTITUTIONAL CAPACITY

Problems of institutional capacity for pursuing the objectives of sustainable development exist both within and outside the Government. These have been analysed systematically by Hanson et al. 2000 as part of the NCS MTR. The major findings relating to ownership and leadership within the Government may be summarised as follows:

- ❑ The original mechanism depended on the leadership of several ministers and the active involvement of the Prime Minister/Chief Executive as chair of PEPC. PEPC, as an apex body, has a legal mandate to formulate environmental policy and also to monitor it. It was to provide guidance on the NCS, but it has not met regularly enough and seems to have abdicated responsibility to the NCS Unit.
- ❑ The NCS Unit within MELGRD was to act as a focal point for co-ordination, catalysing action and monitoring the NCS. It is seen as the principal agent in the management of the NCS implementation process. It appears to have long forgotten its mandate and its position within the Ministry is weak. The Unit today stands as a weak tier in the NCS implementation process.
- ❑ The Environment Sections in the Federal Planning and Development (P&D) Division and the Provincial P&D Departments have made uncertain contributions to NCS implementation. Stakeholders including Federal and Provincial Departments view these as blocking progress. The Planning Commission could have played an integrative role in ensuring that the three key elements of environment, economy and social matters are brought together, but this has not happened.
- ❑ The Federal and Provincial EPAs have all been engaged in the implementation process for the NCS and other environmental programmes, included most of those supported by donor assistance. The provincial EPAs suffer from staff shortages and competence issues, and lack of a consistent linkage with a department. The

Pak EPA, however, seems to have engaged itself more as a "technical arm" of MELGRD than an implementation arm of PEPC.

- ❑ These observations on management cannot be directly extrapolated to implementation at provincial levels, since there is much variability in terms of the different stages of implementation and commitment. The general problem of ownership exists in all cases, however. In virtually every province there is a serious gap in the link with the Federal Government on the management of environmental protection and NCS implementation.

In terms of ownership and leadership outside of the Government, institutions that have mattered the most so far are IUCNP and SDPI:

- ❑ IUCNP has been the most important contributor outside Government assisting in the implementation of NCS, and its leadership has been strong. IUCNP has assisted the Government and other stakeholders and played an active role in institutional development and capacity building. For all its strengths, IUCNP has expanded rapidly and faces its own internal managerial and capacity-building needs.
- ❑ SDPI is a credible organisation conducting quality research on sustainable development, rendering advice and support to the Government, and promoting policy dialogue between the Government, NGOs and other institutions. It has not, however, taken a particularly active role in addressing issues related to the management of policy formulation and implementation, or other managerial issues affecting environmentally sustainable development.

CURRENT ENVIRONMENT AND DEVELOPMENT CHALLENGES

5.1 OLD PROBLEMS: THE BIOPHYSICAL ENVIRONMENT

It is well known, as some of the previous chapters suggest, that the challenges that Pakistan is facing—in environment, development, governance and the international arena—are formidable. It is also acknowledged that some of these are new challenges but most of them represent the effects of years of neglect and mismanagement. Problems relating to the biophysical environment of the country are not new, but they have become more severe and perhaps more costly in terms of their impacts. An environment sector review by Miles 2000 analysed seven component parts of the biophysical environment in terms of their changing condition and concluded that despite the high dependency of the country on its natural resources¹¹, "the management of all natural resources is in dire need of major improvements." He summed up the condition of natural resources in words that are reproduced below, in combination with the main findings from Bass and Zehra 2001:

- The productivity of fresh water is being reduced due to losses in the movement of the water from the canal heads to the croplands and due to pollution from industrial and agricultural chemicals and human and chemical wastes. In addition, "water availability has declined from 5,300 cubic meters per capita in 1951 to a borderline 1,200 today (barely above 1000 m³ per capita, the indicator of water scarcity)" (Bass and Zehra 2001).
- The productivity of soils is being lost due to waterlogging, salinisation and sodicity (this last phenomenon being the creation of an impermeable layer in the upper few centimetres of soil). Bass and Zehra 2001 report: "About 38 percent of Pakistan's irrigated land is waterlogged and 14 percent is saline. The application of agricultural chemicals has increased by almost a factor of ten since 1980."
- Forests are being lost at an annual rate of about three percent for forest cover and four percent for woody biomass. This is "the second highest rate in the world," according to Bass and Zehra 2001, who also point out that "Balochistan's juniper forests, unique in the world, continue to be cut beyond their capacity to regenerate."
- Air pollution is increasing with industrialisation and exceeds World Health Organisation (WHO) guidelines in almost all samples taken by the provincial environment departments.
- Overfishing and polluted waters are reducing the productivity of the marine and inshore fisheries. Bass and Zehra 2001 highlight, in particular, the precarious condition of "mangroves in the coastal zone" and "the even more precarious status of certain aquatic wildlife, such as the Indus freshwater dolphin."
- All of these activities are contributing to the destruction of habitats and, more generally, to a loss of biodiversity. Bass and Zehra 2001 add that "In the mountainous regions of Balochistan, the NWFP, the Northern Areas and AJK, the wild populations of goat and sheep, including the Markhor, have declined to a point where they have been extirpated from many valleys."

11. For example, agriculture supports about 65 percent of the population and accounts for 70 percent of export revenues and 25 percent of the GDP. Furthermore, the 79 percent of the cropped land that is irrigated accounts for 90 percent of agricultural output.

- And energy transmission losses are extremely high in a country that cannot afford the high cost of its imported oil. Additionally, as Bass and Zehra 2001 observe, "Energy use continues to be very inefficient and commercial fuels are not accessible to rural households and the poor."

5.2 THE INCREASING COST OF OLD PROBLEMS

Reviewers such as Banuri and Khan 2000, Bass and Zehra 2001, Miles 2000 and SDPI 2001 have catalogued these problems with a level of detail and analysis that was not seen previously in Pakistan. Based on recent work by other experts, they have also highlighted the impact of adverse environmental developments in ways that are new to most in the country. Miles 2000 sums up three kinds of impact on the quality of life in the following words:

- Ill-health, as measured in disability-adjusted life-years (DALYs)—that is, years of healthy life either foregone due to a disability or lost due to premature death—is at 47.45 DALYs or 36,500 per 100,000 population in Pakistan. This loss of human capital obviously affects productivity. It is estimated that 45 percent of the losses were due to environmental factors.
- A loss of livelihoods and economic growth opportunities accompanies the shrinking forest base, the desertification of rangelands, the silting up of dams (that reduces the supply of water for irrigation) and the degradation of agricultural soils, among other phenomena.
- No precise linkage between the deterioration of the environment and the increase in the number of people in poverty has been established in numerical terms. However, the various indicators used for measuring poverty from the narrowest definition (of caloric intake) to the broader ones that include, say, health, are affected by conditions in the

biophysical environment. And the broader the definition of poverty, the greater the increase in poverty in Pakistan in recent years.

Bass and Zehra 2001 comment on the costs of inaction as follows:

From a macro-economic perspective, when human development and natural resource depletion are taken into account, the genuine domestic saving¹² of the country is in reality much smaller than the National Accounts' indication of gross or net domestic saving rates. [In this way], genuine domestic savings are estimated to be 2.5 percent of GDP, or less than a quarter of gross domestic savings; this is clearly indicative of Pakistan's declining natural asset base.

And they highlight the social cost of environmental degradation in the following words:

This [cost] is likely to be enormous and will continue to increase. The direct health and productivity impacts have been conservatively estimated at US\$ 1.5 – 3.0 billion annually, or 2.3 – 4.6 percent of GDP, almost half of which are attributable to water pollution and two-thirds constitute the toll on human health from premature mortality, morbidity and reduced economic activity. This cost is almost doubled if the impact of indoor air pollution—an important neglected issue given the heavy reliance of households and particularly the poor on solid fuels—is included. The cost is so high that it offsets much of the annual economic growth and the effectiveness of the Social Action Programme, for which the government has set a target of two percent of GDP.

5.3 CHALLENGES IN CONFRONTING A CHANGING WORLD

While the negative dynamic generated in the biophysical environment continues without relief, tolerance levels for costly neglect and

12. An indicator of the true savings of a country after taking into account investments in or depletion of human, physical, and natural capital.

mistakes are going down rapidly the world over. The challenge is to identify areas of national and global concern, almost all of which are well known, and articulate the country's national interest pro actively. A sector review by Miles 2000 provides some insight and advice to this end in the following words:

- ❑ The exacerbation of poverty. Poverty has been increasing in Pakistan and this suggests that the pressure from poverty on Pakistan's environment will be significant. The national interest would appear to be to minimise such pressures on the biophysical and other environments. Further, solutions must recognise that the improved management of the environment will contribute to the reduction of poverty.
- ❑ Population growth. Population growth is perhaps the force of change of greatest concern: Pakistan's population is expanding at the rate of 2.7 percent per annum. The national interest would appear to be to minimise the pressures arising from the future population on the environment as a resource and as an amenity.
- ❑ Changing needs, values and demands. Traditional values in Pakistan, e.g., tolerance for unsustainable growth, inequality and corruption, have had a noticeable impact on the management of the environment. Efforts to encourage people to attach greater value to the environment will have to make clear its importance for their survival as individuals, groups and society.
- ❑ Urbanisation. The urban population in Pakistan has been growing at a rate of about 4.3 percent per annum since 1970. Urban planning and service provision are in a very sorry state in Pakistan, and there are growing pressures on the cities that serve to perpetuate both the high level of individual poverty and collective poverty (in the form of poor tax capacity). The national interest would appear to be to enhance the management of urban growth in ways that minimise its adverse effects on the biophysical and other environments.
- ❑ Technological developments. The deployment of old generation technolo-

gies associated with ozone depletion, "nitrogen loading," pesticide and herbicide overuse, toxic and hazardous wastes, and so on explain a large number of environmental problems. The national interest would appear to be threefold:

- to effect a transition from the old to the new generation technologies as swiftly as can be borne by society;
- to minimise the impact of any future developments of old generation technologies on the biophysical and social environments in the country; and,
- to minimise the impact of any future developments of old generation technologies on the productive capacities of the global commons.
- International political developments. There are many international agreements (including conventions) that already make demands on the country to live up to certain specific commitments. The national interest would appear to be:
 - to regulate the extraction of non-renewables in a manner that minimises environmental and social costs and maximises their value as natural capital for future generations;
 - to optimise global production and consumption patterns of the renewable resources that loom large in Pakistan's exports; and,
 - to minimise pressures on the global commons.
- ❑ Changes in the distribution and structure of economic activity. The biophysical environment is vulnerable to changes in the global economy, e.g., the relocation of dirty production processes and increased demands on unsustainable production processes in agriculture. The national interest would be:
 - to facilitate the adjustment of its economic and social structures to the world's economic system in ways that respect the tolerances of the biophysical and social systems; and,
 - to minimise the undesirable impacts of future developments in the world's economic system on the global commons.

5.4 CHALLENGES IN STRATEGY FORMULATION

The broad implications for a sustainable development strategy that can address the challenges indicated have been discussed in all recent reviews of this subject. The following conclusions of an exhaustive assessment of the NCS by Hanson et al. 2000 reflect the current thinking of many:

A successful sustainable development strategy will have to address three key needs, [namely]:

- It will have to mainstream the environment in a way that achieves widespread acceptance and brings conservation into traditional policy making areas such as economic growth

based on industrial and agricultural development.

- It will have to focus much more on quality of life and human development, including the links to health and education.
- And it will have to demonstrate that by addressing sustainability concerns poverty will be reduced, for example, by providing and safeguarding livelihood opportunities.

All of this is highly dependent on capacity building and institutional development started over the past decade, and on more general issues of governance and priority setting. It will have to be supported in a variety of ways including re-alignment of institutions and budgets, better knowledge and monitoring, and a search for non-conventional sources of funding.

COURSE CORRECTIONS NEEDED

6.1 A THREE-PRONGED STRATEGY FOR ADDRESSING PRIORITY AREAS

An environmental strategy report by Banuri and Khan 2000 has elaborated one set of proposals for meeting the challenge of strategy formulation outlined in the previous chapter. They recommend that the next strategy should be divided into three main components, namely:

- ❑ Sustainable Industrial Development. This is intended to interact effectively with the main economic strategy of rapid industrialisation and export growth. This is the high-growth, dynamic sector of the economy. The goal of the programme is to make the export-led growth process sustainable and, conversely, to make sustainability acceptable to the policy community around the growth agenda. This requires the creation of strong regulatory institutions, which need to be hooked into the one-window operation of industrial approval. This plank would have two sub-programmes: clean production (i.e., pollution abatement) and clean energy (including emissions abatement, switch to renewables and energy conservation).
- ❑ Sustainable Livelihoods. The programme builds upon the recognition that natural resources and biological diversity of the country is largely in the rural areas, which are also the areas of greatest poverty and institutional weakness. The goal of the programme should be, therefore, to ensure that the environmental agenda is integrated into the poverty eradication agenda, and that natural resource conservation is combined with participation, social mobilisation and community development. This plank

should attract resources through official development assistance (ODA) and technical assistance windows. Its sub-programmes would be clean drinking water, effective sewerage disposal and clean air. These programmes need to recognise the importance of the informal sector.

- ❑ Environmental Health. This focuses on the health impacts on the population because of water and air pollution. The goals would be to provide clean water, sewage disposal and clean air. Since these are the traditional responsibilities of municipal agencies, and have often involved small point sources and informal sector services, it has been difficult to make headway. This plank would link up with urban management programmes and programmes of preventive health. It will entail strengthening of national and provincial regulatory institutions as well as municipal institutions to enable them to implement programmes for clean drinking water, sewerage disposal and clean air in partnership with the informal sector, the transportation industry and the petroleum industry.

Banuri and Khan 2000 also recommend that the above programme should be supported in a number of different ways, including the following:

- ❑ Strengthening of the environmental policy community.
- ❑ Regular and periodic assessment of the environmental impact of economic and sectoral policies, with results to be placed at the service of the broader policy community. Ideally, this research should be conducted in the autumn and its results made available in January to enable them to be incorporated into the budget making exercise.
- ❑ Investment in collaborative projects involving the environmental policy community and other policy communities.

- ❑ Collection of data on environmental variables in order to facilitate assessments.

Participants in the nine public consultations held in Pakistan for the WSSD showed a keen awareness of the human, economic and environmental basis for protecting natural resources (especially water) and keeping them free of pollution, and some even felt that natural resources should have primacy in the development process. The NCS MTR by Hanson et al. 2000 also supports the three-pronged approach by noting that, "As other countries are discovering, the challenges of sustainable development go right to the heart of economic and social concerns. Thus it will be helpful in Pakistan to consider a three-pronged approach in which the needs of people are kept front and centre in all efforts to improve the environment and sustainability." The main thrust of the NCS MTR recommendations, however, is not so much on specific sectors or priorities as on cross-cutting and systemic measures for an updated NCS or sustainable development strategy.

6.2 A SIX-POINT AGENDA FOR GENERATING OWNERSHIP AND RESOURCES

Generating full ownership among the stakeholders is the thrust of the NCS MTR recommendations, with benefits perceived to include an enabling framework and resource mobilisation for sustainable development. The six main recommendations formulated by Hanson et al. 2000 are reproduced below, with additional insights, where appropriate, from the public consultations held for the WSSD:

- ❑ Recommendation 1: Ensure that the NCS is fully owned by government, the key partners and stakeholders, and by building on the concerns and needs of the people of Pakistan.
 - Revitalise and recommit to the NCS at the highest levels of the federal government with a focused, strategic approach that can lead to demonstrable environmental improvements in the coming years.
- Ensure that overall planning for devolution and for NCS district-level initiatives proceed together, with recognition of the need to incorporate a sustainable development approach within local level governance. Participants at the public consultation on local governance emphasised, in particular, that formal mechanisms and laws at the local level need to be strengthened.
- Key NCS stakeholders should take stock of what they have individually and collectively accomplished under NCS and engage in a joint process to redefine and strengthen strategies that work. Public consultations highlighted, in particular, the continuing neglect of the poor that needs to be reversed.
- Revitalise and expand strategies for individual and community-level awareness-building about NCS objectives, a point also brought up in some of the public consultations.
- Focus much greater attention on incorporating the views and needs of poor people and communities, and on their direct participation in sustainable development goal setting and implementation.
- Establish a multi-stakeholder forum and strengthen partnerships among government, civil society, and the private sector.
- ❑ Recommendation 2: Switch the NCS from top-down and supply-driven to a bottom-up demand-driven approach.
 - Draw upon the existing NCS and provincial experience with local level planning and projects for application to the government's devolution plans, and for application in future activities under the NCS and provincial conservation strategies. This bottom-up approach needs to be complemented by stronger abilities to deal with truly national and international issues (and also by a credible co-ordination mechanism at the local level, as highlighted in the public consultation on local governance).

- Refocus NCS processes towards a demand-driven approach, with appropriate changes in priorities and how they are set, and with acceptance of adaptive management. Increasing the level of community participation in environmental initiatives featured in almost all the public consultations held in Pakistan.
- Recommendation 3: Prepare the NCS update to serve as Pakistan's sustainable development strategy for 2002-2012, with a greater emphasis on poverty reduction and economic development in addition to environmental sustainability.
 - Establish a transition team to design a revised National Conservation Strategy for sustainable development, reporting to the Chief Executive and Cabinet no more than 10 to 12 months after its establishment.
 - Gender integration should be given a much more prominent role within all NCS activities, with achievable objectives that can be monitored and reported on. While this is a matter that should be acted upon within activities already underway or planned under the NCS and other strategies, it is vitally important that gender integration be featured within NCS update.
- Recommendation 4: Make government institutions work towards an "enabling framework" for sustainable development.
 - Revamp the "macrostructure" for NCS administration and management to improve policy, planning and implementation capacity, to increase effectiveness in working with the provinces and special areas, and to facilitate activities not directly under the control of government. The need for stakeholders to work together in better ways was highlighted in the public consultations with reference to partnership, co-ordination and integration.
 - Ensure that reforms planned for the civil service are well-instituted within the NCS management system, with particular attention to capacity development.
 - An effective framework for monitoring, reporting and evaluation (MRE)
- of the NCS should be put in place using the results of the MTR as a starting point. It should report to a Cabinet Committee, and be supported by a NCS steering committee in the MELGRD, comprising key stakeholders, with PEPA acting as its Secretariat since the NCS Unit has failed to perform this function.
- Clarify rights, responsibilities, relationships and accountability for results on the part of each agency charged with implementing components of the NCS.
- Recommendation 5: Expand the range and scale of financial mechanisms for meeting NCS objectives, a theme echoed in most the public consultations.
 - Expand internal resource mobilisation in support of the NCS and provincial conservation strategy initiatives.
 - Develop innovative sources for funding and investment in environment and sustainable development. These would have the added benefit of acting as economic incentives for sustainable development by 'green business' and by progressive NGO and community organisations.
- Recommendation 6: For donors, demonstrate commitment to a renewed NCS through consistent and co-ordinated support.
 - The Government of Pakistan should take the lead in establishing a donor co-ordination forum for the NCS, covering the existing and proposed range of initiatives in environment, natural resource management, and sustainable development, and, as appropriate, linkages of these areas to other key donor themes, especially those for health and social action.
 - Donors should seek ways of assisting both government and non-government implementers of the NCS as they develop a demand-driven approach for the NCS update.
 - In addition to these points, the Keynote Address made by the Finance Minister of Sindh at the public consultation on "Financing Sustainable Development" pointed out that "The challenge that our gov-

ernment faces is the issue of credibility in the transparent and accountable usage of donor funds."

Unlike the NCS, the thinking behind these recommendations transcends the central planner's pre-occupation with capital budgeting for the Government-led parts of the environment sector. The thinking, according to Hanson et al. 2000, is that "Since conservation cannot succeed without political will and strong stakeholder support, the NCS process should continue its effort to generate strong political support. This would happen only if the environmental programmes speak to the socio-economic agendas of the country—which are represented by many powerful networks."

6.3 THREE MACRO-FUNCTIONS FOR SUSTAINABLE SOCIETAL DEVELOPMENT

An environment sector review by Miles 2000 has elaborated another "big picture" approach and this one revolves around "the capacity (especially within Government) to steer all groups involved in the management of the environment." The premise is that to be successful the public sector has to:

- ❑ exhibit political will; and,
- ❑ have the capacity to steer all groups involved in resolving the problem at hand towards new modes of behaviour.

One prescription is that building the political will to increase environmental programming will require continuing strengthening of the NGO and CBO community to make the general body politic aware of the need to halt the depletion of natural capital and to build pressure on government at all levels. Another one is that a clear conceptualisation in strategic terms is required for steering all the players involved in what Miles 2000 calls the Total Environmental Management System (TEMS).

The players—all of whom manage the environment to a greater or lesser degree, whether directly or indirectly—fall into three groups, namely, the public, private and popular sectors¹³. The "TEMS matrix" consists of columns representing these three sectors and rows that expand upon three macro-functions. The three macro-functions are those of:

- ❑ ensuring that the public, private and popular sectors assume responsibilities for implementing sustainable development;
- ❑ ensuring that the public, private and popular sectors have the ability to live up to their responsibilities; and,
- ❑ ensuring that the public, private and popular sectors do indeed live up to their responsibilities.

Miles 2000 notes "the clear distinction between the assumption of responsibility, the ability to live up to an assumed responsibility and the actual fact of having lived up to that responsibility. The first macro-function has to rely heavily on regulatory instruments. The second can rely more on the economic instruments, while the third is more dependent on procedural instruments." He explains that "the concept of the TEMS has been developed and well tested in a number of countries. It has proven useful for assessing a country's progress in enhancing its management of the environment. It becomes a more effective system for promoting sustainability to the extent that it exhibits values of conservation. This requires an element of enlightened steering. This steering is dependent on the ability of [the Government] and closely-related bodies, as are found in IUCNP and the SDPI, to perform [the] three macro-functions effectively."

In the TEMS matrix, the effective performance of the three macro-functions is broken down into 11 supportive functions and instruments and mechanisms. Each cell of the matrix would contain activities aimed at enhancing the performance of one of the three sectors—the public, private and popular—in sustainable development. The three macro-functions and their supportive functions are elaborated below:

12. Here, the popular sector includes the not-for-profit bodies and institutions such as universities, even though the latter are largely funded by the public sector.

- Ensuring that the public, private and popular sectors assume responsibilities for implementing sustainable development. The supportive functions and instruments and mechanisms for this function are:
 - Development and use of systems for policy making, strategic planning and corporate planning.
 - Development and use of legislative framework.
 - Environmental education, awareness and participation programmes.
- Ensuring that the public, private and popular sectors have the ability to live up to their responsibilities. The supportive functions and instruments and mechanisms are:
 - Mobilisation of human resources.
 - Mobilisation of information and advisory services.
 - Mobilisation of appropriate technologies.
- Mobilisation of financial resources.
- Development and use of economic instruments.
- Development and use of environmental planning instruments.
- Ensuring that the public, private and popular sectors do indeed live up to their responsibilities. The supportive functions and instruments and mechanisms are:
 - Development and use of monitoring and evaluation systems.
 - Development and use of compliance and enforcement systems.

According to Miles 2000, "It is the capacity to perform these supportive functions that is at the heart of Pakistan's needs, now and in the future, if it is to manage its biophysical environment in support of sustainable societal development. Currently, no one of these needs is being met satisfactorily."

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PAKISTAN'S INTERNATIONAL COMMITMENTS

- ❑ International Plant Protection Convention, Rome 1951.
- ❑ Plant Protection Agreement for the South-East Asia and Pacific Region (as amended), Rome, 1956.
- ❑ Agreement for the Establishment of a Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in South-West Asia (As amended), Rome, 1963.
- ❑ Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar, 1971 and its amending Protocol, Paris, 1982.
- ❑ Convention Concerning the Protection of World Culture and Natural Heritage (World Heritage Convention), Paris, 1972.
- ❑ Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Washington, 1973.
- ❑ Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 1979.
- ❑ Convention on the Law of the Sea, Montego Bay, 1982.
- ❑ Convention on the Conservation of Migratory Species of Wild Animals (CMS).
- ❑ Convention on Persistent Organic Pollutants (POPs) - in the process of signing.
- ❑ Vienna Convention for the Protection of the Ozone layer, Vienna, 1985.
- ❑ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1987 and amendments thereto.
- ❑ Agreement on the Network of Aquaculture Centres in Asia and the Pacific, Bangkok, 1988.
- ❑ Convention on the Control of Transboundary Movement of Hazardous Waste and Their Disposal, Basel, 1989.
- ❑ Convention on Biological Diversity, Rio de Janeiro, 1992.
- ❑ United Nations Framework on Climate Change, Rio de Janeiro, 1992.

PUBLIC CONSULTATIONS HELD IN PAKISTAN FOR THE WSSD

1. LINKING PEOPLE WITH COASTAL ECOSYSTEMS

Venue and Date

Civil Secretariat, Quetta, February 12, 2002

Chairperson

Additional Chief Secretary (Development), Planning and Development Division, Government of Balochistan, Quetta

Keynote Speaker(s)

Dr. Shahid Amjad, Director General, Institute of Oceanography

Main Points

Dr Shahid Amjad discussed short, medium and long-term issues, as well as a broad range of cross sectoral concerns that need to be tackled if the full potential of Pakistan's rich coastal and marine resources is to be realised. He explained the existing situation with regard to jurisdiction over marine resources at the national and international level: at present the exclusive economic zone (EEZ) of the country extends over 240,000 square miles and up to 200 nautical miles from the coast. Pakistan could stake a claim to resources that originate in this area and extend beyond it if it acts by the year 2007. According to the law in Pakistan the area 12 nautical miles from the coast is in provincial jurisdiction, while the area beyond that falls within the jurisdiction of the federal government.

The marine and coastal ecosystem of Pakistan is rich but subject to swift depletion due to poor management at several levels. Six hundred and seventy kilometres of the 990-kilometre coastline of Pakistan are in Balochistan. Unlike the coast of Sindh, the coast of Balochistan is dynamic, yielding gas hydrates (frozen gas), that surface from time to time in the form of islands in the country's EEZ and have unique fauna.

Pollution is a problem. The coastal area is rich in resources but sedimentation and a decline in the flow of water from rivers has made groundwater too saline for traditional coastal agriculture and has also caused erosion. Mangrove plantations have also been adversely affected. Traffic in the North Arabian Sea, through the Strait of Hormuz, has increased. Each year 2,500 tankers carrying 33 million tons of oil use this route. Their bilge is excreted into the coastal areas of Pakistan affecting marine resources as well as coastal wildlife and human settlements dependent on it. These are just a few examples that illustrate the need for co-ordinating strategy in order to manage complex ecosystems for each link in the chain is important from the point of view of conservation.

The coastal economy is derived from several sources. It needs to be judiciously exploited and judiciously nurtured in order to realise its full potential. There is direct revenue generation from sea resources, through activities such as fishing. The by-products of fishing also generate income. Coast dependent activities, coast-linked activities and coastal services are equally important parts of the local economy. As the population of coastal areas increases, over-exploitation threatens to deplete resources by inhibiting natural regeneration. Concerned agencies need to collect statistics about available marine life and coastal resources and then put a price tag on them. This will create awareness of the magnitude of the loss in case marine and coastal resources are not judiciously managed.

The population of coastal areas cannot be deprived of opportunities to earn a livelihood from the sea, therefore modern methods of replenishing sea resources, through fish farming and alternative economic activities must be created through institutional intervention and private sector involvement. The exploitation of non-traditional sea resources such as jellyfish, seaweed and algae, is

another option. Community based non-governmental organisations; district government and the private sector must be informed about such possibilities and provided with the necessary capital, technical assistance as well as identification of marketing opportunities to exploit them.

Recent experience in the management of complex issues related to the degradation of the marine environment and the fragility of coastal ecosystems suggests that a traditional mono-sectoral and single resource based approach is not likely to succeed. A cross-sectoral approach is now widely accepted as the only way to tackle the development of marine resources in order to achieve multiple objectives, including economic, social and environmental objectives. The use of modern technology for exploration and the sustainable exploitation of all marine and coastal resources need to be facilitated. The successful implementation of such an approach requires formal, vertical co-ordination between the federal, provincial and local administration, as well as the private sector through policy guidelines and instruments as well as legislation, where necessary. Horizontal integration of efforts of all those involved in the use of the sea and adjacent land must also be ensured. Institutions that can promote such policies must be strengthened through systematic capacity building and training at the professional and institutional level. Institutional arrangements between collaborating agencies must be streamlined and strengthened through appropriate legislation.

Profile of Participants

The participants of the workshop included representatives from relevant departments of the Government of Balochistan, non-governmental agencies, media, academia, private sector agencies and IUCN.

Invitees included the Provincial Minister for Agriculture, Food, Fisheries and Co-operatives Department, Government of Balochistan, as well as the Provincial Minister for Finance, Environment, Forest and Livestock Department, Government of Balochistan. All the concerned Secretaries were also invited. The Additional Chief Secretary (Development), Planning and Development

Division was the senior-most government official to participate.

2. SECURITY IMPLICATIONS OF A FRAGILE ENVIRONMENT

Venue and Date

Pakistan Academy for Rural Development, Peshawar, February 19, 2002

Chairperson

Mr. Shamsul Mulk, Minister for Irrigation, Government of NWFP, Peshawar

Keynote Speaker(s)

Mr. Yusuf Khan, Director General, Community Infrastructure Project (CIP) Peshawar

Main Points

The presentation forming the basis of subsequent discussions was based upon a study called "In the Balance: Environment and Security in North West Frontier Province (NWFP) of Pakistan" carried out in 1998 to explain the correlation between environment and security. The main hypothesis of the research revolved around the belief that environmental degradation could potentially trigger violent conflict, by fuelling the already fierce competition between local users to exploit natural resources. Environmental degradation would in all probability imply a depletion of these natural resources, resulting in a situation where the same number of users in any given locality/region would be bound to fulfil their requirements from within the depleted resources. In many cases, such a situation would invariably lead to local conflicts, and potentially create law and order situations. Hence, environmental degradation would (and does) heighten insecurity and promote lawlessness. As a consequence, transboundary pollution could accentuate the enforcement of international environmental law by force. To avoid such catastrophes, traditional institutions should seek to support environment. A model advocating this relationship was also demonstrated in the presentation to show how micro and macro stresses on the environment can have adverse socio-economic effects on communities.

Moreover, the weight of vulnerability factors relative to the capacity factors is likely to determine the path towards conflict or resolution. These micro and macro stresses identified in the model were also located in Pakistan, particularly in the NWFP region.

The presentation concluded with the formulation and announcement of key recommendations for both provincial and national institutions along with international donors and development agencies. The majority of the recommendations emphasised capacity building of institutions in order to adequately implement policies and to strengthen co-operation between the military institutions, government sector and civil society. Donors and development agencies were advised to incorporate environment and security assessments in all of their projects and to continue investments in humanitarian, rural and urban development with a special focus on environmental preservation issues.

Profile of Participants

The workshop was attended by representatives from all relevant government departments such as Power and Irrigation Department, Sarhad Chamber of Agriculture, Forest Department and Environmental Protection Agency, NWFP. Although the government sector dominated the workshop, other participants from diverse origins attended the seminar including non-government organisations, the majority of whom were members of IUCNP like SUNGI, WWF, SPO and AKRSP. Within the academic sphere, professors from the University of Peshawar and NWFP Agriculture University attended. The private sector and media representatives from Dawn newspaper and Radio Pakistan were also present at the workshop.

3. SHRINKING LAND – EXPANDING CITIES

Venue and Date

Aiwan-e-Iqbal, Lahore, March 5, 2002

Chairperson

Mian Amir Mehmood, District Nazim, Lahore.

Keynote Speaker(s)

Prof. Kausar Bashir Ahmad, Director, Pakistan Academy of Rural and Urban Studies, Karachi

Main Points

The presentation forming the basis of subsequent discussions gave an insight into the phenomenon of "Mega Cities," becoming an evident feature of contemporary Less Developed Countries (LDCs). In a world-wide study on 23 Mega Cities, 16 were located in the Third World nations including Pakistan, with the urban population increasing from 17 percent in 1947 to 40 percent in 1998. This process of continuous population growth within large cities is placing an ever-increasing pressure on land resources, creating competition and conflicts and resulting in sub-optimal use of both land and land resources. The adverse effects of the continued growth process combined with shrinking of land are stated as follows:

- ❑ Rural to urban process has reached small towns as well as large cities;
- ❑ The number of squatter settlements have increased tremendously;
- ❑ Most cities are growing without existence of an adequate Master plan;
- ❑ Waste water is not channelled and untreated;
- ❑ Inner cities face stagnation; and
- ❑ Public transport is being controlled by informal sector.

Furthermore, the main obstacles facing policy makers with regards to achievement of sustainable economic growth consists of prevailing sense of hopelessness, isolation among different segments of the community, counter-productive incentives and resistance to change.

Dr. K. B. Ahmad referred to the case study on Karachi, which experienced huge influx of population from India during and after the Partition (1947-51). In addition since 1981, the population of Karachi has risen from 5.4 million to 10 million in 1998. Such a high rate of population coupled with absence of a sound Master Plan and overall mismanagement by the planner has caused havoc in the city. Projects such as The 'Greater Karachi Resettlement Plan,' to create satellite towns for

the bottom half of the social strata were not only poorly planned but have managed to create a distinct divide between the rich and the poor, eventually leading to creation of "self-imposed ghettos" for the rich and the poor.

Consequently, in order to make the rural to urban process successful and achieve sustainable economic growth, a number of challenges must be tackled. These include re-allocation of existing resources to benefit the poor, attainment of sustainable economic growth without compromising environment, innovations in the urban infrastructure to serve the entire city population and finally, a decrease in time lag between ideas and their implementation. The presentation highlighted that with implementation of a new devolution plan, certain considerations have to be taken into account, among which the need for policies that directly benefit the poor were prioritised and formulation of a proper planning mechanism for each and every town, with 'socially responsive mode of evolving' was stressed. It was also pointed out that the devolution plan needed to address the Cantonment areas, which directly affect the physical development pattern of the cities.

To summarise the presentation, Mr. K. B. Ahmad asserted that the phenomenon of shrinking land is an outcome of ad hoc policies purely to satisfy self-interest and achieve short-term gains, whereas, the resultant 'expanding cities' issue is the ultimate problem we face, which requires concrete measures.

Profile of Participants

The workshop was attended by representatives from all relevant government departments such as Communications and Works Department, NESPAK, Planning and Development Department and Lahore Development Authority. Although the government sector dominated the workshop, other participants from diverse origins attended the seminar including non-government organisations, academia and media. These included WWF, University of Engineering and Technology (UET), Lahore College for Women, Kinnaird College for Women, and The Friday Times, The Nation and The News from the press.

4. FINANCING SUSTAINABLE DEVELOPMENT – TOWARDS NEW ALLIANCES

Venue and Date

Beach Luxury Hotel, Karachi, March 13, 2002

Chairperson

Mr Ghulam Mustafa Abro, Senior Chief, Environment & Poverty Alleviation Section, Planning & Development Department, Government of Sindh

Keynote Speaker(s)

Dr. Abdul Hafeez Sheikh, Finance Minister, Government of Sindh

Main Points

Dr. Abdul Hafeez Sheikh began his speech by noting that we need to review our achievements in the area of sustainable development. He said that the world as a whole has seen rapid rates of economic progress alongside an increase in massive inequalities among countries. At the same time, the world's natural resources have been depleting at an alarming rate. He said that a lot that was hoped for at the Rio convention has not been achieved, yet the pursuit of economic growth makes it imperative that globalisation be continued. The challenge here is to ensure that the core interests of all countries are protected.

According to Dr. Sheikh, Pakistan has not managed to fulfil its potential in the three areas of sustainable development, governance and building of institutions in the 10 years since the Rio Convention. And he noted that the country now faces an opportunity to improve its performance and participate in the upcoming summit with a well thought out agenda for its future course of development. First of all, it has to stay on the path of progress and improve the in the areas of governance, poverty alleviation and maintain fiscal discipline. Another challenge, which he highlighted, was the issue of building implementation capacity. And for all these efforts, Dr. Sheikh emphasised that it is most important

to ensure community participation. This is particularly true of development efforts for Sindh.

With regard to the financing of development efforts, Dr. Sheikh highlighted the role that government-to-government support has played in the past and hopefully will continue to play in the future. The challenge that our government faces is the issue of credibility in the transparent and accountable usage of donor funds. In Sindh, Dr. Sheikh noted the recent achievement of inviting back funding from the World Bank and the Asian Development Bank. The most stark statistic on Sindh's inability to attract funds was provided by the example of a donor who had in the last seven years made 112 grants in Pakistan. Of these, only two had been given to Sindh. Now the situation has been somewhat reversed and donors are interested in projects in Sindh as well. Dr. Sheikh said that the basic issue in obtaining financing was for the people to show dedication and sincerity in their efforts. After that financing is possible to obtain.

The private sector provides another opportunity to acquire financing for sustainable development. The prerequisite for this is the existence of a vibrant economy with an active private sector. Development is required for sustainable development issues to surface. Therefore there is a need to ensure that an enabling environment is available for private sector activity. A legal framework and a community framework is needed to support such activity. With increasing dialogue between different sectors of the community, development can be channelled to also protect the environment, the heritage and the poor people of our country.

Dr. Hafeez said that both the government sector as well as the private sector in need to participate in the country's development efforts. The private sector was encouraged to participate in development activity particularly in areas where stark examples of successful corporate entities stand amidst grinding poverty. He referred to the village of Gotki in rural Sindh, as an example of this kind of disparity. Dr. Sheikh concluded his speech by adding that his government was working towards achieving sustainable development in the province. He referred to the Sindh Development Forum, which had taken place

recently, as an example of his government's efforts in this area. Finally, he mentioned that this workshop format was a good means of having a healthy participatory discussion on relevant issues.

Profile of Participants

The workshop was attended by representatives from relevant government departments such as the Government of Sindh Planning and Development Department, Forest, Wildlife & Environment Department, and the Ministry of Finance. The Finance Minister of Sindh participated as the Keynote Speaker for the event. Representatives from the private sector, non-governmental organisations, academia and media also attended. Participants included Premier Kufpek, Shell Pakistan, Khushali Bank, National Rural Support Programme, Lyari Community Development Project, PICIC Karachi, Sindh Development Foundation, WWF, the AERC department of Karachi University, and Business Recorder and the daily Awami Awaz from the press.

5. FRESHWATER AND WATERSHEDS

Venue and Date

Sangam Hotel, Muzaffarabad, March 16, 2002

Chairperson

Mr. Shah Ghulam Qadir, Minister of Finance, Government of AJK

Keynote Speaker(s)

Dr. Javed Afzal, Senior Engineer, National Engineering Service Pakistan (NESPAK)

Main Points

Dr. Javed Afzal's presentation highlighted the main problems and issues regarding 'Fresh Water and Watersheds.' The presentation paid particular attention to the policy challenges facing water issues in Pakistan. In specific terms, concerns about capacity building, governance structure and decision-making were highlighted. The final part of the presentation focused on the main achievements and failures of Pakistan in the past

decade regarding water management and conservation.

Profile of Participants

The workshop was attended by representatives from all relevant government departments such as Forest Department, Ministry of Environment, Department for Agriculture, National Engineering Services Pakistan (NESPAK) and Wildlife, Fisheries and Tourism Department. Although the government sector largely dominated the Workshop, many non-governmental organisations were also in attendance. These included representatives from IUCNP, WWF, NRSP, TVO and NGO Resource Centre. From the academic sphere, professors from AJK University attended the workshop. Other private sector and media representatives, including those from Dawn and The Nation newspapers and Pakistan Television (PTV), were also present at the workshop.

6. LOCAL GOVERNANCE FOR SUSTAINABLE DEVELOPMENT

Venue and Date

Abbott Garden Hotel, Abottabad, March 27, 2002

Chairperson

Mr. Mohammad Abbas Khan, Minister for Environment, NWFP

Keynote Speaker(s)

Mr. Musharraf Rasool Cyan, Consultant, IUCNP.

Main Points

Mr. M. R. Cyan provided a brief account of the economic and political situation of the past decade and its impact on the evolution of the Devolution Process. He went on to highlight various gains and pitfalls of a decentralised political system. In particular, attention was paid to issues concerning the role of civil society and the structure of the regulatory framework within a local governance system. In this regard, attainment of sustainable development within the current governance structure was also discussed.

Profile of Participants

The workshop was attended by representatives from all relevant government departments such as District Nazim and Naib Nazims, District Coordination Officers, Forest Department and the Environmental Protection Agency, NWFP. Although the government sector dominated the workshop, other participants from diverse institutions also attended including non-government organisations such as IUCNP, SUNGI, Save the Children (US) and Sarhad Rural Support Programme. From the academic sphere, the principals of Fauji Foundation Model School and Pakistan Grammar School participated in the workshop. Private sector representatives from the Bank of Khyber and International Corporation also attended the workshop.

7. SUSTAINABLE ENERGY FOR CLEANER PRODUCTION

Venue and Date

WAPDA Engineering Academy, Faisalabad, March 29, 2002

Chairperson

Mr. Khalid Javed, Principal/Chief Engineer, WAPDA Engineering Academy, Faisalabad

Keynote Speaker(s)

Mr. K. M. Zubair, Chief, National Energy Conservation Centre, ENERCON.

Main Points

Mr. Zubair began his speech by discussing the issues of sustainable energy and clean production. In particular he addressed the views held in some developing countries that environmental concerns are an issue of foremost concern to the developed world and are of lesser concern to the developing world. He provided examples from the Quran citing injunctions that waste should be avoided. He added that the international conventions/protocols provide new opportunities to conserve natural capital. This has the potential to allow cost savings to the developing world, which is in particular need of such measures given the limitations it faces with regards to the utilisation of natural resources.

With regard to sustainability issues, Mr. Zubair noted that in Pakistan fossil fuel resources are limited. Moreover, oil reserves in Pakistan would be fully depleted in two years if used to meet all local requirements. And forty percent of proven gas reserves have already been used. Using these hard facts, he emphasised that Pakistan should be alert to the issues of sustainability and work to conserve existing resources, while looking for more economic and renewable alternatives.

The Keynote Speaker also addressed another common misconception that development comes at the cost of pollution. He noted that the challenge that most developing countries, including Pakistan face is to ensure that growing demand for energy does not prove hazardous to environment concerns. Long-term security of habitat requires that this compromise not be made.

Turning to the issue of Clean Production, Mr. Zubair noted that pollution was a form of waste in the processing cycle. It is essentially an imbalance between inputs and outputs. Seen in this perspective, cleaning the environment and treating waste are not the costs of avoiding pollution, rather these result in more economic usage of existing resources. Therefore clean production works in tandem with increased productivity and eco-friendly goods and services create new market opportunities.

Mr. Zubair cited the example of Japan as a leader in energy conservation measures. Pakistan's own potential saving from energy conservation lie in the area of US \$850 million a year. With these kinds of savings, new energy conservation legislation with attached implementation mechanisms is needed. There is an opportunity for Pakistan to take advantage of the emerging mechanisms on climate control to aid its own economic and environmental health. A lack of effort on establishing baselines by Pakistan on new instruments like CDM is a key reason for its being left out of the mainstream. In this regard, Mr. Zubair noted that the National Conservation Centre, in particular, could fit into the role of a focal agency in Pakistan.

Profile of Participants

The workshop was attended by representatives from government departments including

the Environmental Protection Agency. Participants also included representatives from the media and civil society.

8. THE POVERTY-ENVIRONMENT NEXUS

Venue and Date

Sindhi Language Authority, Hyderabad, April 10, 2002

Chairperson

Mr. Ghalib Nishtar, President Khushali Bank Pakistan

Keynote Speaker(s)

Dr. Shaheen Rafi Khan from the SDPI, Islamabad

Main Points

Dr. Shaheen Rafi summarised one of the three poverty papers that were commissioned by the UNDP in 1999 to examine the nature, causes and impact of poverty in Pakistan. The presentation included the environmental security conflict dimension, as well as to examine the impact of globalisation briefly, and have updated relevant portions. Following were the main contents of Dr Shaheem Rafi's presentation:

- ❑ Causes of Environmental Degradation
- ❑ Increased Vulnerability of the Poor
- ❑ Do the Poor Degrade the Environment
- ❑ Environment Insecurity and Conflict
- ❑ The Impact of Globalisation on Poverty
- ❑ Policy Recommendations

Profile of Participants

The workshop was attended by representatives from relevant government departments such as the Government of Sindh Planning and Development Department, Agriculture, and the Wildlife Department. Representatives from the non-government organisation, academia and media also attended. Participants included Premier Kufpek, Khushali Bank, National Rural Support Programme, Institute of Environment Management, Sindh Graduates Association, Thar Aid Control, SDSC Department of University of Sindh, Jamshoro, and repre-

representatives of the Jang Group of Newspapers and the daily Kawish.

9. INTEGRATING BIODIVERSITY AND DEVELOPMENT

Venue and Date

Serena Hotel, Gilgit, Northern Areas, May 3, 2002

Chairperson

Maj. (Rtd.) Mohammad Fazil Durrani, Chief Secretary, Northern Areas

Keynote Speaker(s)

Mr. Abdul Latif Rao, Head, IUCNP, Northern Areas and Mr. Usman Iftikhar, Environmental Economist, IUCNP, Karachi.

Main Points

There were two parts to the keynote presentation, made by two different presenters. The first part of the presentation presented by Mr.

Abdul Latif Rao focused on highlighting the definition of biodiversity and identifies all the possible forms or variety of biodiversity. The presentation then went on to mention the issues, which are posing problems for biodiversity to expand at a natural rate. At the end, a number of suggestions were noted, which may prevent degradation of biodiversity in future. The second presentation by Mr. Usman Iftikhar complemented the first presentation by linking biodiversity with development.

Profile of Participants

The workshop was attended by representatives from all relevant government departments such as Planning and Development Department, Forest Department, Food and Agriculture Department, Population and Welfare Department and Local Bodies & Rural Development Department. Although the government sector dominated the workshop, many non-governmental organisations were also attended. These included representatives from IUCNP, WWF and AKRSP. The government's Press Information Department also participated in the workshop.



IUCN-The World Conservation Union

IUCN-The World Conservation Union was founded in 1948 and brings together 79 states, 113 government agencies, 754 NGOs, 36 affiliates, and some 10,000 scientists and experts from 140 countries in a unique worldwide partnership. Its mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. Within the framework of global conventions IUCN has helped over 75 countries to prepare and implement national conservation and biodiversity strategies. IUCN has approximately 1000 staff, most of whom are located in its 42 regional and country offices while 100 work at its Headquarters in Gland, Switzerland.

In Pakistan, the Union seeks to fulfill this mission by supporting the empowerment of civil society, institutions and facilitating the government to implement the National Conservation Strategy as well as other national and sub-national plans on sustainable development.