SIGNATURE PAGE

Country:	**Islamic Republic of Pakistan**
UNDAF Outcome(s)/Indicator(s): **CC-3/A-3/III.I:**	Improved living conditions through sustainable land management for sustainable development.
PA/A-2/1.3:	Improved water and NR Management and sustainable utilization
Expected CP Outcome(s)/Indicator (s):	A comprehensive approach integrating sustainable land management, global environmental concerns and commitments in national development planning, with emphasis on poverty reduction and with quality gender analysis.
Expected Output(s)/Indicator(s):	Commitments under the United Nations Convention to Combat Desertification (UNCCD) and National Action Programme to Combat Desertification and Mitigate Impacts of Drought being implemented.
Implementing Partner:	Ministry of Environment Government of Pakistan
Other Partners:	Relevant Federal Ministries; Provincial Planning and Development Departments, Line Agencies, National and Provincial Research Institutions, National and Local NGOs, and Local Communities

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GoP: US$ 1,250,000*
In kind contribution (if any):

*Includes US$600,000 of on-going projects

	Signature	Name and Title	Date
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OFFICE OF THE RESIDENT REPRESENTATIVE OF THE UNITED NATIONS DEVELOPMENT PROGRAMME

UNDP Project Document

Government of Pakistan

Economic Affairs Division
Ministry of Environment
United Nations Development Programme

Title of Project

Sustainable Land Management to Combat Desertification in Pakistan

Brief Description

The overall goal of the project is to combat land degradation and desertification in Pakistan in order to protect and restore ecosystems and essential ecosystem services that are key to reducing poverty. The principal objectives are to strengthen institutional capacity, create an enabling environment, and demonstrate good practices – all in an effort to help remove key barriers to Sustainable Land Management (SLM). The project will depend on the strong commitment of the Government of Pakistan and the involvement of key stakeholders, in particular those at the community level. The project will be implemented in two phases, with the first phase focused on creating an enabling environment for SLM and piloting innovations, and the second phase drawing on lessons learned to deepen the policy and institutional commitment to SLM and completing demonstration projects that can later be scaled up and replicated.

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LIST OF ACRONYMS

AKRSP.....Aga Khan Rural Support Programme
ADB.....Asian Development Bank
ADP.....Annual Development Programme
APR.....Annual Project Report
AWP.....Annual Work Plan
BAP.....Biodiversity Action Plan
CBD.....Convention on Biological Diversity
CBOs.....Community-based Organisations
CCBs.....Citizen Community Boards
C&I.....Criteria and Indicators
DERA.....Drought Emergency Relief Assistance
DFIDDepartment for International Development (UK)
DI Khan.....Dera Ismail Khan
EAD.....Economic Affairs Division
ENERCON.....Energy Conservation Agency
EU.....European Union
FAO.....Food & Agriculture Organization
GEF.....Global Environment Facility
GHGs.....Green House Gases
GIS.....Geographic Information System
GoP.....Government of Pakistan
GPS.....Global Positioning System
IGF.....Inspector General of Forests
IUCN.....Intl. Union for Conservation of Nature
IFAD.....Intl. Fund for Agri. Development
IRSA.....Indus River System Authority
LFA.....Logical Framework Analysis
MACP.....Mountain Areas Conservancy Project
MDGs.....Millennium Development Goals
MINFAL.....Ministry of Food, Agri. & Livestock
MOE.....Ministry of Environment
M&E.....Monitoring & Evaluation
MTDF.....Medium-Term Development Framework
NAP.....National Action Programme
NARC.....National Agriculture Research Council
NCIW.....National Commission Indus Water
NCU.....National Coordination Unit
NCCCD.....National Coordination Committee to Combat Desertification
NCCW National Council for Conservation of Wildlife
NDCF.....National Desertification Control Fund
NCS.....National Conservation Strategy
NEAP.....National Environmental Action Plan
NEAP-SP.....National Environmental Action Plan – Support Programme
NGO.....Non-Governmental Organization
NPC.....National Project Coordinator
NPD.....National Project Director
NRM.....Natural Resource Management
NRSP.....National Rural Support Programme
NTFP.....Non-Timber Forest Products
NWFP.....North West Frontier Province
PAMP.....Protected Areas Management Project
PARC.....Pakistan Agriculture Research Council
P&D.....Planning & Development
PDF-(B)....Project Development Facility - Category B
PCOM.....Project Cycle Operations Manual (UNDP-Pakistan)
PCRWR.....Pakistan Council of Research on Water Resources
PCUs.....Provincial Coordination Units
PEPC.....Pakistan Environment Protection Council
PFI.....Pakistan Forest Institute
PIRs.....Project Implementation Reviews
PPAF.....Pakistan Poverty Alleviation Fund
PPU.....Project Preparation Unit
PRSP.....Poverty Reduction Strategy Paper
PSC.....Project Steering Committee
PSDP.....Public Sector Development Programme
PTC.....Project Technical Committee
PWP.....Pakistan Wetlands Project
PY.....Project Year
QPR.....Quarterly Progress Report
RC.....Regional Coordinator
RCU.....Regional Coordinating Unit
RNE.....Royal Netherlands Embassy
RS.....Remote Sensing
SCOPE.....Society for Conservation & Protection of Environment
SLM.....Sustainable Land Management
SLMP.....Sustainable Land Management Project
SPO.....Strengthening Participatory Organization
SUPARCO....Space and Upper Atmosphere Research Commission
TPR.....Tripartite Review
TVO.....Trust for Volunteer Organizations
UNCCD.....United Nations Convention to Combat Desertification and Drought
UNDAF.....UN Development Assistance Frame Work
UNDP.....United Nations Development Programme
UNFCCC.....United Nations Framework Convention on Climate Change
UNEP.....United Nations Environmental Programme
WAPDA.....Water and Power Development Authority
WWF.....World Wide Fund for Nature

EXECUTIVE SUMMARY

Pakistan is predominantly a dryland country where 80 % of its land area is arid or semi-arid and majority of its people depend on drylands to support their livelihood mainly through agro-pastoral activities. However, like many other developing countries drylands in Pakistan are severely affected by land degradation and desertification due to unsustainable land management practices and increasing demand of natural resources. These are causing enormous environmental problems, including degradation of dryland ecosystems, loss of soil fertility, flash floods, loss of biodiversity, reduction in land productivity, soil erosion, water logging, salinity, and many other associated problems. The situation is further aggravated by scarcity of water, frequent droughts and miss-management of land resources, contributing to expansion of deserts, reduced land productivity and consequently increased rural poverty. There is also limited knowledge of consequences of land degradation, information gaps, and limited institutional capacity to address land degradation and desertification problems.

In order to address these problems and remove barriers to Sustainable Land Management (SLM), the Ministry of Environment, Government of Pakistan has taken an initiative and designed a full-scale project on **"Sustainable Land Management to Combat Desertification in Pakistan"** for GEF-UNDP funding. The project will help in improving ecosystem resilience and land productivity through promoting sustainable management of natural resources, mainstreaming SLM principles in overall land use planning, enhancing knowledge and awareness, protecting habitat of globally important species, maintaining hydrological cycles, mitigating effects of drought, and reducing poverty from the project areas. The overall objective of the project is *"to combat desertification in Pakistan by strengthening institutional capacity and creating an enabling environment and demonstrating sustainable land management practices for restoration of degraded ecosystem with the aim of reducing poverty from the rural landscape"*. The project will also facilitate implementation of United Nations Convention to Combat Desertification (UNCCD), National Action Programme (NAP) to Combat Desertification and Mitigate Impacts of Drought, Poverty Reduction Strategy Paper (PRSP) and the Medium-Term Development Framework 2005-10 (MTDF 2005-10).

The project follows an integrated, cross-sectoral and participatory approach to combat desertification and alleviate poverty among rural communities. This requires a long-term commitment to ensure cross-sectoral integration and sustain the project benefits. Therefore, the project will be implemented in two Phases. The Phase-I will focus on creating enabling environment, institutional strengthening, mainstreaming SLM principles in land use planning and implementation of 9 pilot projects for promoting SLM practices for improving local livelihood, while Phase-II will focus on demonstration of SLM practices at larger landscape building on the lessons learnt and best practices tested under the Phase-I. The project will be implemented in dryland regions of all the four provinces of Pakistan, including Sindh, Balochistan, NWFP and Punjab.

The project outputs and activities have been grouped into the following five broad-based components:

a. *Creation of Enabling Environment for Mainstreaming SLM Principles:* It aims at creating an enabling environment by removing policy, institutional, socio-economic and financial barriers; developing criteria and indicators for SLM; and mainstreaming NAP into sectoral policies, strategies, and action plans. The major output of this component will be

the integration of NAP and SLM principles into the sectoral policies, development plans, and the PRSP.

b. *Building Capacities for SLM:* This component focuses on institutional strengthening by enhancing capabilities of line agencies and research institutes, NGOs, and community groups through trainings, workshops and seminars on sustainable land use planning, rehabilitation of degraded ecosystem, integrated management of watersheds and rangelands. It also involves creating awareness and strengthening information management services and promoting public-private partnerships for combating land degradation.

c. *Mainstreaming SLM into Land Use Planning:* This component is for mainstreaming and harmonizing SLM principles with national developmental priorities, particularly in land use planning. It includes mapping and monitoring the extent of desertification in Pakistan as well as assessing the sustainability of SLM interventions. This will also involve strengthening of GIS and Remote Sensing to measure the incremental impacts of SLM activities.

d. *Participatory Pilot Projects for Demonstration of SLM Practices:* This is the major component and serves as the primary mechanism for addressing the problem of land degradation and related rural poverty. It involves development and implementation of innovative approaches to SLM by launching 9 pilot projects at 10 different sites in all the four provinces of Pakistan. The pilot projects will be for adoption of appropriate technologies and management practices for integrated Natural Resources Management (NRM), including testing and selection of drought resistant crop varieties, adoption of appropriate improved livestock production systems, soil and water conservation measures, dry-afforestation, developing cost-effective agronomic practices, and integrated pest management. The pilot projects will be implemented through provincial line departments, federal and provincial research institutions and reputed NGOs active in management of land resources with involvement of local communities. The pilot interventions identified through a consultative process are listed below:

- Integrated management of water resources and rangelands in Chakwal & Attock districts of Punjab.
- Poverty alleviation through soil conservation measures in District Bhakkar.
- Integrated natural resource management with the involvement of pastoralist communities in Rakhshan Valley District Kharan, Balochistan.
- Sustainable use of Mazri Palm and NTFP with the involvement of local communities and private sector in District Awaran, Balochistan.
- Sustainable land management by introduction of low delta and high commercial value crops with micro irrigation in Surkhab, District Pishin in Balochistan.
- Conservation of water and soil with the involvement of local communities in Shaikh Haider Zam, District D. I. Khan in NWFP.

- Strengthening of traditional land use practices in low productive lands in District Lakki Marwat in NWFP.

- Water harvesting and agriculture development in Kacho Area, Taluka Johi, District Dadu in Sindh.

- Participatory NRM for drought mitigation and food security in District Tharparkar in Sindh.

e. *Adaptive Management and Documentation of Lessons Learnt & Best Practices:* The focus of this component is to create an effective management structure for implementation and monitoring of the project activities. This involves creation of federal and provincial desertification control units as envisaged under the NAP. It also includes documentation and dissemination of lessons learnt and best practices tested under the Phase-I and their replication under the Phase-II.

The main beneficiaries of the project will be the local communities. The participatory nature of the project will ensure their involvement in decision making and deriving benefits from on-the-ground interventions. Investments in social-infrastructure development and integrated management of land resources will help in providing sustainable livelihoods and reducing poverty, particularly increasing household incomes. Many provincial and national line agencies will benefit from strengthening institutional capacities. More importantly, the project will help in meeting Pakistan's obligations under the international conventions like UNCCD, Convention on Biological Diversity (CBD), and United Nations Framework Convention on Climate Change (UNFCCC). The global community will benefit from improved carbon sequestration and conservation of plant and animal species of global significance.

The project will be implemented over a period of seven years. The Phase-I is for two years with a total budget of US$4.6 million. Of this amount US$2.0 will be provided by the Global Environment Facility (GEF), while UNDP will provide US$1.35 million and Government of Pakistan US$1.25 million (including US$600,000 from on-going projects). The PC-I for the GoP share has already been approved by the CDWP in its meeting held on May 17, 2007. The estimated budget needed for the Phase II will be US$ 12.5 million: US$5.5 million will be requested from the GEF, while co-financing for US$7.0 million will be mobilized during implementation of Phase I from multilateral and bilateral donors and the GoP, making the total cost of the project US$17.44 million.

SECTION I: ELABORATION OF THE NARRATIVE

PART I: Situation Analysis

Context

1. Pakistan occupies a land area of over 880,000 square km on the South Asian Sub-continent. It is bordered by Afghanistan, Iran, China and India and bounded by the Arabian Sea in the south, with a coastline that stretches almost 1000km (see location map and provinces, Annex-A). The country consists of four largely self governing provinces – the Punjab, the North West Frontier Province (NWFP), Sindh and Balochistan - with federal agencies playing a largely coordinating and facilitating role.

2. While there are 11 distinct as well as overlapping climatic zones, Pakistan is predominantly a dry land country. Eighty percent of the land is arid and semi-arid, (and therefore, according to IUCN, vulnerable to desertification), about 12 percent is dry sub-humid, and the remaining 8 percent is humid. Out of 79.6 million ha in the country, only about 20 million are suitable for agriculture (16 million for irrigated farming and 4 million for rain fed, or Barani, agriculture). About 4.2 million ha are forested, while a sizeable chunk (28 million ha) are rangelands. Current land use in Pakistan is shown in Annex-B.

3. The services provided by natural ecosystems are the foundation for the rural economy, supporting agriculture, livestock, forestry, water supply and non-renewable energy. About two-thirds of Pakistan's 152.53 million people depend on dry land areas for their livelihoods, largely through agro-pastoral activities, with a growth rate of about 2 percent per year, the population will almost double in the next 32 years. Already, estimates suggest, 55 percent of the rural population live on fragile lands that are prone to desertification, drought and floods

4. Despite Pakistan's recent achievements with regard to adoption of national environment policy and legal frameworks, establishment of environmental institutions, and raising awareness on environmental issues, environment degradation continues at a rapid rate, affecting livelihoods and increasing vulnerability of the poor to natural calamities like drought and flash floods. In 1995, the annual cost to Pakistan of environment degradation (in all areas) was estimated to be US$1.7 billion per year (Valuing Environmental Costs in Pakistan: The Economy-Wide Impact of Environmental Degradation, World Bank, 1995). Ten years on, the current cost of degradation are obviously much higher.

5. Productivity and household incomes in dry lands are low and about a third of Pakistanis still live in poverty. Indeed, poverty in Pakistan increased during the 1990s, rising from 26.1 percent in 1990 to 32.1 percent (38.9 percent in rural areas and 22.7 percent in urban areas) in 2001. (Medium Term Development Framework, 2005-10) This relatively poor performance is due to a number of factors, but among these, land degradation and desertification have played a role through their impact on the productive capacity of ecosystems: Population growth and existing poverty lead to an over-exploitation of resources (cutting of trees, removal of vegetation, over-grazing, over-use of water, etc), leading in turn to reduced productivity of land, food insecurity and further poverty.

Land Degradation in Pakistan and its Global Significance

6. Unsustainable land management practices in Pakistan are causing significant environmental problems, including soil erosion, loss of soil fertility and associated crop productivity, flash floods, sedimentation of water courses, and deforestation and the associated loss of carbon sequestration capacity and biodiversity assets. The northern mountain regions are subject to heavy soil erosion caused by large-scale deforestation in the catchments leading to siltation of major water reservoirs, thus reducing the capacity of power generation and availability of irrigation water.

7. Similarly, dry land areas of Balochistan, Sindh, NWFP, and southern Punjab are faced with increasing desertification challenges, primarily due to improper land use practices, over-grazing, and illegal removal of vegetation. Desert areas are subject to the acute problems of shifting sand dunes. Underground water resources in the western dry mountains of Balochistan are shrinking, due to low recharge and over-exploitation of meager water resources. Irrigated areas are plagued with water logging, salinity and sodicity reducing the drainage capacity of soils and consequently leading to loss of soil fertility, crop yields, and biodiversity. Eleven million ha are affected by water logging and 3 million ha by salinity/sodicity. There is also tremendous pressure on rangelands as a result of the proliferation of livestock. The dry land areas of Pakistan are sufficiently large that preventing vegetative loss and restoring cover could make a major contribution to combating global warming.

Table 1: Concept and Principles of Sustainable Land Management (SLM)

Sustainable Land Management (SLM) can be defined as the use of land resources such as soils, water, animals and plants for the production of goods – to meet changing human needs – while assuring the long-term productive potential of the these resources, and the maintenance of their environmental functions (SLM-IM Guidelines). The International Board for Soil Research and Management (IBSRAM) looks at SLM as *"combining technologies, policies, and activities aimed at integrating socio-economic principles with environmental concerns, so as to simultaneously:*

- *maintain or enhance production/services* ***(Productivity)***
- *reduce the level of production risk* ***(Security)***
- *protect natural resources and prevent degradation of soil and water quality* ***(Protection)***
- *be economically viable* ***(Viability)*** *(if the land uses being considered are locally viable, the use will survive), and*
- *be socially acceptable* ***(Acceptability)***

These five objectives are known as the basic 'pillars' (principles) on which SLM depends, and must be constructed and watched against to test and monitor its findings (IBSRAM 1997).

Threats, Root Causes and Barriers Analysis

8. Threats, root causes and barriers to Sustainable Land Management (SLM) have been analyzed during project preparation through broad-based consultations with stakeholders, meetings with line agencies and group discussions with a multi-disciplinary team of experts involved in the design of the full-scale project. Diagrammatic analysis of threats, root causes, and barriers is given in the Problem Tree (Annex-C.), while Annex-D provides a Solution Tree to address threats, root causes, and barriers. Annex E illustrates the severity of different human induced land degradation types in Pakistan.

Threats and Root Causes

9. The causes of land degradation in Pakistan include poor irrigation and drainage practices, overgrazing, deforestation, increasing competition for water, drought, migration/permanent settlement, intensification of agriculture, flooding, population pressures and persistent poverty (of course some of these threats, especially poverty, are both a consequence of land degradation as well as a barrier to SLM). Land degradation problems are often severed in areas where there are strong interactions between different causes of land degradation. This is especially the case between anthropogenic and natural causes (e.g. drought).

10. Furthermore, some threats are greater than others in terms of their manifestation: Water logging and salinity as a result of poor irrigation practices affects 14 million ha, while deforestation and overgrazing affect 11 and 24 million ha, respectively. While the former is the cause of the most widespread land degradation in river basins (in Sindh and the Punjab), the latter combine (mostly deforestation, water and wind erosion) to affect the greater dry land and upland areas (Balochistan, NWFP and parts of Punjab) and do considerable damage to the integrity of ecosystems and provision of essential ecosystem services – soils, trees, water and biodiversity (see Table 2, below).

Table 2: Causes and Effects of Land Degradation in Barani (rain-fed) Lands (Source: NAP)

Causes of land degradation	Effects and implications
Soil erosion	Soil erosion results in siltation of rivers, irrigation systems and small dams, debris flow and land slides on hill slopes impairing of texture and structure of soil and loss of soil nutrients, excessive water runoff, rise in frequency of floods decrease in water retaining capacity of soils.
Sloping cultivation	Clearing of forest land for crop cultivation, illicit cutting of trees for firewood and agricultural implements.
Over-grazing	Overgrazing, cutting and lopping of forage trees, damage to young forest crop and nurseries, disturbance or compaction of soil, increase in soil erosion. Reduction in wildlife habitat quality and quantity, competition with livestock for forages and space, less regeneration of natural vegetation due to compaction of soil.
Deforestation	Deforestation results in excessive soil & water erosion, drying of aquifers, reduced carbon sequestration, aridity in climate, reduction in water retaining capacity of soil, excessive water

	runoff, destruction and deterioration of wildlife resulting in lower number of wild animals and birds.
Land tenure issues	Fragmentation of land holdings, cutting of forest for fuel, timber and lopping for forage, clearing of forest areas for crop cultivation.
Poor management of natural resources/forests	Illegal cutting of trees in forests and watersheds, reduction in scrub forest cover, inadequate reforestation due to insufficient resources has increased soil erosion and siltation of rivers. Weak law enforcement to check theft and illegal removal of vegetation quite evident.

Poor Irrigation and Drainage Practices

11. Irrigation utilizes some 90-95 percent of freshwater resources in Pakistan. The country has one of the largest canal irrigation systems in world operating on the principles of flood irrigation and utilizing an estimated 41.6 MAF of groundwater pumped through more than 6000,000 tube wells (mostly private). The overall poor management of irrigation, both at the system and farm levels, is contributing to water logging and salinity in cultivated areas. Human activities such as the obstruction of natural drainage through construction of roads, improper alignment and poor maintenance of irrigation channels, insufficient drainage of excessive rainwater etc. all add to water logging problems. About 11 million ha of arable land in Pakistan is affected by water logging, with water table depth of 5-10 feet. Salinity and sodicity are often associated with the poor management of irrigation. At present over 3 million ha in Pakistan are affected by salinity and sodicity (close to 14 percent of total cropped area). Water logging, salinity, and sodicity are major problems in the irrigated areas of Punjab, Sindh, and Balochistan. These have reduced the drainage capacity of the soils resulting in low fertility of land, decline in crop yields and loss of biodiversity.

Deforestation

12. A small proportion, 5.2 percent (4.2m ha) of Pakistan's total area is under forests, whereas both environment and economic considerations suggest that 20-25 percent of the country's land area should be forested (NAP). Pakistan is also losing forests at 3 times the rate of other South Asian countries. About 3.1 percent of forest cover is being lost every year and woody biomass is disappearing at an annual rate of 5 percent as the majority of households continue to use firewood for cooking and heating (NAP). More than 50 percent of domestic energy needs are met through fuel wood. Fuel wood consumption in 1992-93 was estimated at 25.95 million cm^3, rising to 31.52 million m^3, of which 90 percent came from the farmlands and the rest form the state forests.

13. Illegal and excessive chopping of trees has resulted in severe soil erosion, flood damage and desertification in many areas. This activity leaves the soil exposed and less able to absorb rainfall which does occur. Water, therefore, runs off and causes soil erosion, speeding-up the process of denudation and eventually leading to desertification. The removal of top soil is also resulting in low production of forage, fodder, fuel wood, timber, cereal crops and grains and, as a result, exacerbating poverty in the rural areas. Removal of vegetative cover from steep slopes also causes flash floods and increasing sedimentation load in rivers. About 11 million ha of northern mountain regions are affected by water erosion bringing about 40 million tons of sediments into the Indus water basin every year. This reduces land productivity, shortens the lifespan of major upstream reservoirs like Tarbela and Mangla,

and reduces the efficiency of hydropower generation and irrigation systems in Punjab, NWFP, Sindh and Balochistan.

Over-grazing

14. Almost a third of Pakistan's total area is classified as rangeland. Livestock are an important component of Pakistan's farming system and a major source of cash income as well as consumption. The livestock population has doubled since 1976 and numbers exceed the carrying capacity of most ranges. The population of buffalo has increased from 6.3 million in 1955-56 to about 22.0 million in 1998-99. The cattle population followed a similar trend, with sheep and goats registered 4-5-fold increases over the past 50 years.

15. Over-grazing reduces productivity of rangelands because of soil compaction, removal of vegetation from fragile slopes and subsequent destruction through water and wind erosion. All the major rangelands/pastures in the county are in some state of degradation. A reliable estimate indicates that 48.3 percent of rangelands are completely.

16. Communities in dry land areas largely depend on the pastoral economy; degradation of rangelands affects their livelihoods and increases rural poverty. Such degradation also reduces ecosystem functions and services. For example, over grazing and the collection of firewood in arid regions of Punjab, Sindh and Balochistan has led to severe wind erosion, reducing ecosystem functionality. Almost 2m ha of land are affected by wind erosion

Water Scarcity

17. Water is a scarce resource in Pakistan and a sensitive political issue, especially between the provinces which compete for water in the growing seasons. Within the next 50 years, over 90 percent of all available sources of water will be fully utilized. Per capita water availability is declining at an alarming rate. In 1951 per capita availability was 5300 cubic meters. Today, this figure is 1105 cubic meters, right at the water scarcity level (Pakistan Council for Research in Water Resources, 2004). Estimates by the International Water Management Institute indicate that Pakistan is among the 17 countries that are likely to face the most severe water scarcity by 2025.

Drought, Migration and Permanent Settlements

18. From 1997-2003, Pakistan suffered from drought, causing severe water shortages for humans, livestock, and agriculture. Many areas of Balochistan, Sindh and southern Punjab were badly affected, impacting some 3 million people and 7.2 million head of livestock. Hundreds of lives were lost and thousands of livestock and wild ungulates perished. Persistent drought has also severely affected local livelihoods (cumulative drought over the last few years has culminated in output losses equivalent to about 12 percent of agricultural GDP - World Bank, 2005) and forced local people to migrate toward more agricultural productive areas as well as cities. Migration has disrupted traditional land use patterns, resulting in loss of traditional and in many cases more sustainable, land use practices.

Intensification of Agriculture

19. Agriculture contributes about 25 percent of Pakistan's GDP and 60 percent of foreign exchange earnings (GOP, 2005). Agricultural growth will be critical in the coming years as

Pakistan will have to double its cereal production, particularly wheat, to meet the food demands of a growing population. Sixty-eight percent of the population also depends on the sector for their livelihoods and 46 percent of the labor force is employed directly in it.

20. Intensification of arable land has been necessary because some 96 percent of cultivable soil has inadequate organic matter content. Economic pressures leading to the spread of commercial agriculture (cash crops) exacerbates the situation by encouraging monoculture and short fallows. In order to boost productivity, farmers rely on heavy use of chemical fertilizer and frequent watering. For several years, there has been no significant increase in the cropped area due to a paucity of new water supplies and inefficient use of available irrigation resources. However, intensification has failed to increase the productivity of the land. As in other countries, there has been a leveling off in the crop yield increases which took place in the 1960s and 1970s despite increases in the use of fertilizer According to the World bank (2005), Pakistan uses about 3m metric tons of fertilizer annually with a use intensity of 129kg/ha of crop. Intensification and the production practices that go with it are also leading to the loss of local, sustainable production systems as well as traditional and highly valuable crop varieties.

Flash Floods

21. Flooding is a regular feature in arid and semi arid regions of the country usually caused by heavy downpour during the monsoon season. Deforestation, soil erosion and compaction contribute to flooding. Excessive flooding buries top soil under the infertile sediments and inhibits cultivation, hence contributing to land degradation and loss of biodiversity. It is estimated that between 1950 and 2001 total losses from floods have been in the order or US$10 billion and over 6,000 lives lost (GOP Water Sector Strategy, 2002).

Population Pressure

22. Pakistan's rapidly growing population is putting more pressure on land resources; more people need more land to grow crops and more wood for fuel and timber. Pakistan is the 7th most populous nation in the world and its 153 million people are growing at the rate of almost 2 percent a year. At this rate the population will reach 217 million by 2020 and will double in next 32 years. Such a rapidly growing population means greater fragmentation of farmlands, greater competition for water, further pressure on fragile and marginal lands and the denudation of natural forests and rangelands.

Poverty

23. Over the past decade, poverty levels have increased in rural areas while they declined in urban areas. About one-third of the total households in the country were considered below the poverty line, whereas poverty levels in rural areas remained close to 39 percent (Pakistan PRSP, 2003) Poor people tend to exploit their limited land resources more intensively to meet immediate needs, even if exploitation compromises the long-term stability and viability of the land and its natural resources. Of course, further degradation of land and natural resources leads, in a vicious circle, to even more poverty.

Barriers to Sustainable Land Management

Policy Barriers

Policy Impediments

24. In the 1970s, Pakistan abolished the *"Sardari System"*, an indigenous system of communal property management[1] and introduced an alternate system of state ownership of un-cultivated land. This system is based on exclusionary principles, which places restrictions on utilization of resources by local communities. State management is weak and lack of ownership or tenure rights leaves little incentive for communities to protect and utilize natural resources sustainably.

In-appropriate Subsidies

25. The subsidized electricity tariff (flat rate) has been introduced nationally to encourage farmers to increase agriculture production. This tariff promotes poor use of scarce water resources in dry lands, especially in Balochistan where farmers do not invest in improving irrigation efficiencies of their tube-wells. In Balochistan, poor farmers who cannot invest heavy amounts in thatching water from lower water tables often abandon their lands. Such land is often left open to free-grazing, removal of existing vegetation for firewood, and removal of top soil for land development at sites where water is available. Continued unsustainable mining of ground water and consequent abandonment of land will cause further desertification in dry land areas.

Limited land Use Planning

26. Proper land use planning should ensure that land is allocated for those uses which best serve the needs of people on a sustainable basis. It should prevent incompatible uses of land and land degradation. The absence of adequate land use planning and supporting legislation is a major barrier in sustainable management of land resources. Land use planning has never been high on Pakistan's agenda. In fact, there have been only a few sincere attempts for localized land use planning. Islamabad, the capital of the country, is the only city which has a proper land use plan.

Institutional Barriers

Limited Institutional Capacity and Poor Coordination

27. Provincial line agencies (Agriculture, Forestry, Livestock and Irrigation Departments) are directly responsible for the protection and management of land resources under their jurisdiction. Each of these agencies operate under different mandates, for example, increasing agricultural production, managing irrigation systems, developing the livestock industry, rehabilitating rangelands, managing watersheds, and managing national parks and protected areas. But some have overlapping mandates. All agencies have severe capacity limitations. As a result, policy and planning decisions are made in isolation, without proper

[1] A traditional system of managing tribal lands, where grazing lands are managed under the orders of tribal elders to avoid over-exploitation of resources (water and grazing lands) and to ensure equal access to each tribe or clan. A system of deferred grazing was adopted under this system.

communication on, or knowledge of, the inter-relations between proposed sectoral interventions, and with little understanding of the consequences on land degradation and subsequent effects on economic development and ecosystem integrity. The situation is not much better at the federal level, where there are no institutional arrangements for coordination and sharing of lessons on what works, what doesn't and why.

Knowledge Gaps

28. There is insufficient quantitative data on current land use in arid and semi-arid regions of the country as well as status and trends of natural resources and their utilization. There are especially severe deficiencies in knowledge related to rangeland management, rehabilitation of degraded ecosystems, and sustainable agriculture and livestock production systems. Information that is available is scattered across many agencies and institutions and not readily available to researchers, planners, and policy makers, impeding the full assessment of land degradation and desertification problems and the quantification of threats to ecosystem functionality and services and resulting economic losses.

29. There is also no dedicated, coordinated system at the provincial or national levels to assess the extent and impact of desertification. The absence of a comprehensive monitoring system places serious limits on the application of sustainable and adaptive management[2] practices based on early detection and warning of drought and floods.

Lack of Awareness

30. There is very little knowledge of land degradation and desertification issues among the general public, planners, policy makers, and even those who are directly responsible for the management of land resources. Policy makers are unaware of how SLM can contribute to local economic development and help in alleviating poverty in rural areas. On the other hand, communities in dry land areas are generally aware of the impact of land degradation but have little knowledge about how to combat it.

Difficulty in Mainstreaming NAP into Sectoral Policies and Plans

31. Although the GoP has developed a National Action Program (NAP) for combating desertification, the lack of institutional capacity has meant that the NAP is not yet being mainstreamed in national and provisional policies and plans. Indeed, the NAP is yet to be disseminated to provincial level planning and development departments, line agencies and other stakeholders.

Financial Barriers

32. Historically, the government has preferred to invest in basic infrastructure, health and education. Funding for the environment and SLM related activities has always been weak. Also, many earlier government or donor funded projects which may have had the potential to contribute to SLM were abandoned because the government shifted priorities or ran out of money. Donors, too, have not been reliable, often looking for quick results.

[2] Adoptive Management is a cyclic, learning-oriented approach to the management of complex environmental systems that are characterized by high-levels of uncertainty about system process and the potential ecological, social, economic impacts of different management options (Jacobson, C. 2003. Introduction to adoptive management).

Socio-Economic Barriers

Vulnerability to Drought

33. The vulnerability of the poor to environmental shocks such as drought threatens their livelihood and increases pressures on natural resources. Their vulnerability was vividly demonstrated during the recent drought cycle (1997-2003). Between the two household surveys of 1998-99 and 2000-01, the estimated increase in poverty is attributed largely to the increase in rural poverty. This coincides with the persistent drought that depressed crop yields and reduced employment opportunities, particularly in non-irrigated dry mountain and rain-fed areas (PRSP). Poor communities lost their livelihood in large numbers. Overall losses were estimated close to US$500 million. The UN has highlighted the need in Pakistan for putting in place systems that continuously monitor weather patterns and inform local communities for drought preparedness. The current monitoring systems are reactive and fail as tools for early warning.

Land Tenure Insecurity (also see Policy Impediments, above)

34. Dry land systems in Pakistan have for centuries been defined by family or tribal relationships that allowed access to land on the basis of size of the household and kinship. The increase in population and greater competition for control of land is putting enormous pressure on these systems. New land management practices hold the promise of improving livelihoods and addressing poverty and food security. But it is important that modern and customary land tenure systems co-exist and are made compatible and those local communities participate in decision making processes regarding land.

Inadequacy of Safety Nets

35. Weak safety nets increases the vulnerability of the poor to shocks that threaten livelihoods and increases pressures on natural resources. The social safety nets for the vulnerable are weak in terms of their responsiveness and reach. There are few provisions to cover the rural poor and marginalized who are especially dependent on natural assets (and suffer directly from their loss). The Government intends to carry out a comprehensive profile of the poor and vulnerable and assess the efficiency of various safety net programs.

Policy and Institutional Context

Policies

36. Pakistan signed the United Nations Convention to Combat Desertification and Drought (UNCCD) in 1994 and ratified it in 1997. It has also constituted a National Coordination Committee to Combat Desertification (NCCCD) to facilitate and coordinate implementation of the convention and has established a task force for creating a National Desertification Fund (NDF).

37. Pakistan signed the Convention on Biological Diversity (CBD) in 1992 and ratified it in 1994. It has developed and adopted a National Biodiversity Strategy and Action Plan to meet the requirement of Article 6 of the convention.

38. Pakistan was also one of the first signatories to the United Nations Framework Convention on Climate Change (UNFCCC), which was signed in 1992 and ratified in 1994. To implement the convention, Pakistan has completed a number of major studies and projects focusing on climate change and GHG reduction. Recently, Pakistan prepared the First National Communication for the UNFCCC, which also gives high priority to SLM interventions.

39. A National Action Plan (NAP) to combat desertification in Pakistan has been developed through a participatory process and with broad-based consultation involving the relevant national and provincial government institutions/agencies, professionals, NGOs and other civil society organizations. The NAP identifies the factors contributing to desertification in Pakistan and suggests strategies and measures to combat desertification and mitigate the effects of prolonged drought by emphasizing integrated and bottom-up approaches.

40. To assist the Government in meeting the global targets of the Millennium Development Goals (MDGs), the United Nations Development Assistance Framework (UNDAF) for Pakistan has been adopted as a response to the national challenges identified in the Common Country Assessment (CCA). UNDAF includes support for creating an enabling policy environment, strengthening institutional capacity and promoting sustainable land management practices.

41. UNDP, under the Country Programme (2004-2008) focuses on policy reforms for providing the necessary conditions to meet the commitments under the global conventions, including UNCCD. To contribute towards the achievement of the UNDAF outcome for the environment, the Country Program supports the implementation of the Biodiversity Action Plan (BAP) for Pakistan, National Action Program (NAP) to Combat Desertification, and National Environment Action Plan (NEAP). NEAP places a particular focus on the poverty-environment nexus and dry land management, including promotion of SLM and integrated management of degraded ecosystems.

Institutions

42. At the federal level, the Ministry of Environment (MoE) is the focal ministry for implementation of the UNCCD, CBD and UNFCC. It is also responsible for mainstreaming the implementation of the NAP for combating desertification as well the Biodiversity Action Plan for Pakistan. It has the overall responsibility for coordinating efforts related to natural resources and environmental management.

43. The Forestry Wing of the Ministry is headed by the Inspector General of Forests (IGF). *The main function of the IGF is to facilitate inter-provincial and inter-ministerial coordination on the issues related to forestry, wildlife, biodiversity conservation, and desertification control as well as ensuring national compliance with international conventions to which Pakistan is a party.*

44. The Ministry of Food, Agriculture, and Livestock (MINFAL) is mainly responsible for policy formulation, economic coordination, and planning with respect to agriculture, and livestock. It oversees the operations of the Pakistan Agriculture Research Council (PARC), National Agriculture Research Centre (NARC) and many smaller attached departments.

45. The Ministry of Water and Power is responsible for overall policy maters related to the water and power sectors. It supervises performance of several organizations under its administrative control, including the Water and Power Development Authority (WAPDA),

the Indus River System Authority (IRSA), the National Commission Indus Water (NCIW) and several other bodies.

46. The Ministry of Science and Technology is also involved in research on land resources and oversees the operations of agencies like the Space and Upper Atmosphere Research Commission (SUPARCO) and Pakistan Council of Research on Water Resources (PCRWR). The PCRWR has implemented several projects in water management and research.

47. The provincial Planning and Development Departments in each province are responsible for overseeing planning, development and coordination of all sectors. The provincial Forestry Departments are responsible for sustainable management of forest resources, regulating the commercial harvest of trees, regulating the use of rangelands and overseeing the extraction of non-timber forest products. Similarly, Agriculture departments provide agriculture extension services (including research), while provincial Livestock Departments provide advice for raising livestock, veterinary services, control disease outbreak. The provincial Irrigation Departments are charged with managing the network of irrigation head-works, canals, small dams and other irrigation works in the country.

48. Several NGOs and Community Based Organizations also operate on the ground and have been active in local level land degradation and desertification control initiatives. These include the Society for Conservation and Protection of Environment (SCOPE), Bahan Beli, Sindh, Sungi Development Foundation, Aga Khan Foundation, Aurat Foundation, PPAF partners, Trust for Volunteer Organizations (TVO), Strengthening Participatory Organization (SPO)), and the Taraqee Foundation Balochistan.

Stakeholder Analysis

49. A wide range of stakeholders would be involved in the implementation of the project. They will include relevant federal ministries, provincial line departments, local communities (farmers, livestock herders, forest communities and nomad pastoralists), arid-zone research institutions, civil society and community organizations, the private sector and the donor community (also see discussion on linkages and partners, Part II). Detailed consultations with the major stakeholders have been undertaken through national and provincial consultative workshops. The purpose of these consultations was to design a full-scale national project through a participatory approach and to introduce them to the project concept. The consultative process also helped to obtain their feedback on the proposed implementation arrangements and project components (see list of consultation workshop participants, Annex-F). The participatory nature of the consultative process helped identifying feasibility study sites, project partners, and major stakeholders. The provincial consultations were followed by expert group discussions and individual meetings with the federal ministries and provincial line agencies. A detailed participation plan was developed during project preparation (see Section IV, Part IV).

Baseline Analysis

50. The Medium-Term Development Framework (MTDF) 2005-10 sets the stage for providing a sound baseline for the project. The strategic thrust of the MTDF provides a conducive environment through provision of appropriate infrastructure and strengthened intuitions. While this is promising, and while many existing and proposed activities across a number of sectors aim to address SLM, they are not sufficient and not adequately coordinated to have

the desired effect at landscape[3] and ecosystem levels. Without an overarching intervention by the GEF to build capacity, harmonize and coordinate efforts across sectors, and demonstrate innovative ways forward, ecosystem functions that are of global significance will continue to deteriorate.

51. For example, the GoP recently adopted a National Environmental Policy (2005) which provides guidelines for environment protection and sustainable management of natural resources, and a National Forest Policy is under consideration. While combating desertification is a listed priority, neither have been sufficiently informed by the interventions identified in the NAP. The Government has also adopted a Biodiversity Action Plan, which prescribes actions for maintaining biodiversity, but it is largely focused on protected areas and reserves, open landscape and uplands, not on productive areas or dry lands.

52. With respect to forest, rangeland and watershed development, on-going and new funding in these sectors focus on improving tree cover in the country and rehabilitation of degraded rangelands and watersheds. Programs like the Conservation and Rehabilitation of Indus Delta Mangrove for Sustainable Management and Afforestation at Community Waste Lands in NWFP provide a promising baseline for scaled up action - provided their interventions are guided by the need to take an integrated cross-sectoral approach and that there is adequate coordination and sharing of lessons learned.

53. Baseline actions with respect to agriculture focus on food security and maintaining sustainable agricultural production. This sector gets high priority both at the national and provincial levels. However, neither has incorporated the necessity of SLM in sector planning. For example, the current National Agriculture Land Use Plan (and the National Land Use Plan), are largely mapping exercises. To be effective with respect to SLM, they will have to incorporate data on the extent of land degradation and involve the participation of key stakeholders.

54. Some baseline actions like the Water Resources Development Project for Poverty Reduction in Pakistan will need to be further guided by good practice in integrated water management. Other baseline actions such as the pilot project for the promotion of water conservation technology through the introduction of high efficiency irrigation systems in Punjab, Sindh, and NWFP will need to be coordinated with activities that go beyond on-farm water use efficiencies to consider what is happening to groundwater which supplies water to farms. Finally, the establishment of a dry land research centre in Balochistan (funded through ADP) will need to be supported and networked with similar activities in other parts of the country.

55. Other baseline actions in water and irrigation development such as the rehabilitation of irrigation systems in Sindh and Punjab (limited for the purpose of this project to activities in the project site areas) can have a significant effect on reducing water scarcity and land

[3] Landscape is defined as a "delineable area of the earth's terrestrial surface, encompassing all attributes of ecosystems immediately above and below the earth surface. The 'landscape' level is usually a larger boundary than watershed, and can comprise several ecosystems. Landscape Approach include: "integrated land use planning, land functionality analysis, economic valuation of land use and services, land use competition and gap analysis, multi-criteria decision making tools for solving land use competition, conflicts and ensuring sustainability. GEF Land Degradation Strategy (Working Draft); GEF/R.4/inf.9 August 10, 2005.

degradation if they are informed by SLM principles and practices and, like other initiatives around the country, can be far more effective if there is a concerted effort to develop good practice and share lessons learned.

56. Finally, two other important components of the baseline are the National Centre for Drought and Environmental Monitoring - an on-going project which focuses on collecting, processing and disseminating information on the environment – and the establishment of a Federal Unit for Drought Emergency Relief Assistance. These will be essential partners in the project.

PART II: Strategy

Project Rationale and Policy Conformity

57. Unsustainable land management practices in Pakistan are causing significant environmental problems, including soil erosion, loss of soil fertility and associated crop productivity, flash floods, sedimentation of water courses, and deforestation and the associated loss of carbon and biodiversity assets. The northern mountain regions are subject to heavy soil erosion caused by large-scale deforestation in the catchments leading to siltation of major water reservoirs, thus reducing the capacity of power generation and availability of irrigation water. Dry land areas of Balochistan, Sindh, NWFP, and southern Punjab are faced with increasing desertification, primarily due to improper land use practices, over-grazing, and illegal removal of vegetation. Desert areas are subject to the acute problem of shifting sand dunes. Underground water resources in the western dry mountains of Balochistan are shrinking, due to low recharge and over-exploitation of meager water resources. Irrigated areas are plagued with water logging, salinity and sodicity reducing the drainage capacity of soils and consequently leading to loss of soil fertility, crop yields, and biodiversity.

58. Land degradation will continue at an accelerated pace with adverse impacts on the structural and functional integrity of ecosystems. Many current and proposed base line actions will make a significant impact on land degradation at a sectoral level and in limited geographic areas. However, GEF support is required to help remove the barriers to the implementation of sustainable land management nationally and within and across a number of ecosystems, specifically through integrating SLM considerations in land use planning, promoting cross sectoral and participatory planning, and conducting feasibility studies and pilot activities that demonstrate the benefits of good SLM practices.

Fit With GEF Operational Program and Strategic Priority

59. The project is highly relevant to global environmental concerns of the GEF and is designed to capture benefits in other focal areas, especially conservation of dry land biodiversity and carbon sequestration. The project objective is in conformity with the vision of GEF OP 15. It focuses on mitigating the causes and effects of land degradation on the structure and functional integrity of ecosystems through institutional strengthening and sustainable land management interventions while contributing to poverty alleviation and improving local livelihoods and economic well-being. It addresses the barriers to sustainable land management practices and proposes integration of SLM with federal and provincial development programs and poverty reduction strategies. It promotes cross-sectoral approaches for tackling land degradation and creation of an enabling environment for

improved policy and action at the national, provincial and district government levels as well as ensuring effective participation of stakeholders. The project also conforms to the vision and objectives of the NAP for combating desertification and mitigating impact of drought. The proposed interventions have emerged from the priorities identified within the NAP.

60. The expected outcomes of the project are consistent with the expected outcomes outlined in OP#15, namely: (i) strengthening institutional and human resource capacity, (ii) creating an enabling environment for implementation and replication of proposed project interventions by strengthening policy, regulatory, and economic incentive framework, and (iii) on-the-ground investments for improvement in the economic productivity of land through Sustainable Management and restoration of the structural and functional integrity of dry-land ecosystems. These will be achieved by a combination of 1) capacity building for implementation of the NAP, and on-the-ground interventions to demonstrate SLM practices, channel resources towards sustainable agriculture practices and develop new tools and technologies for addressing land degradation. The aim is to build on and further shape the large baseline of on-going rural development and natural resources conservation projects in the arid and semi-arid regions of Pakistan.

61. The project will be the first full size OP15 project in the Asia region, providing a good example for, and complementing proposed activities in, China, Mongolia, India and Iran.

Linkages with other projects and programs.

62. Several international and bi-lateral donors, including UNDP, FAO, IFAD, ADB and World Bank are assisting rural development in Pakistan through activities that are complementary to the proposed project. For example, the World Bank and ADB are assisting GoP in the "Drought Emergency Recovery Assistance" (DERA) programs, focused on Balochistan and Sindh. ADB is also launching a new project "Balochistan Water Resources and Rural Infrastructure Development Project" developed through a Technical Assistance package to Government of Balochistan for rural development and drought mitigation". Recently, ADB has initiated a new project for "Punjab Irrigated Agriculture Development Sector" to be co-financed by the Government of Netherlands, Japan Special Fund and Cooperation Fund for the Water Sector. This is parallel initiative and the proposed will establish linkages and complementarities with this project by sharing information, workplans, and progress reports as well as participation of project managers and other staff in the seminars, workshops and exchange visits and vice versa.

63. There are several on-going GEF funded projects in Pakistan mainly under the Biodiversity Focal Area. These projects include Mountain Area Conservancy Project, Pakistan Wetland Project, Conservation of Habitat and Species in Arid and Semi-arid Ecosystem of Balochistan, NCSA, Protected Areas Management Project (PAMP), and a project for the commercialization of wind power. UNDP is the GEF Implementing Agency for all of these projects, except PAMP which is being implemented through the World Bank. There are two pipeline GEF projects--Sustainable Management of the Chilghoza Forest Ecosystem and Conservation of Juniper forests in Balochistan. The proposed project will develop linkages with these projects where they are thematically relevant. Moreover, MoE is the Executing Agency for all GEF projects and hosts their Project Steering Committees. The central role of MoE in policy advice and as a chair of the steering committees will help in ensuring strong linkages and consistency among GEF projects. This will further help in avoiding duplication of efforts and GEF resources.

Project Goal, Objective, Outcomes and Outputs/Activities

64. The overall goal of the project is to combat land degradation and desertification in Pakistan in order to protect and restore ecosystems and essential ecosystem services that are key to reducing poverty. The principal objectives are to strengthen institutional capacity, create an enabling environment and demonstrate sustainable land management practices for the restoration of degraded ecosystems – all in an effort to help remove key barriers to sustainable land management. The project will depend on the strong commitment of the Government of Pakistan and the involvement of key stakeholders, in particular those at the community level.

65. It is important to note that the project will focus on arid and semi-arid areas and on, Barani and rangeland production systems rather than sub-humid areas or irrigated agriculture. The reason for this is that there are huge investments being made to improve irrigated agriculture through water conservation and combating water-logging and salinity to which this project could add only limited value. Also, while irrigated agriculture is the cause of the most widespread land degradation in river basins (sin Sindh and Punjab), threats to the greater rangeland and dry-land areas (in Balochistan, Sindh, NWFP and part of Punjab) do considerable damage to riverine and non-riverine systems.

Project Approach

66. The project will require a long-term approach in order to ensue that project benefits are sustained. Therefore, it will be implemented in two phases, stretching over a period of 7 years. Benchmarks for both phases are described below.

67. The phasing approach will provide a catalytic environment for removing SLM barriers in a more systematic way through a chain of actions geared toward coordinated capacity building and creating an enabling environment for introducing integrated ecosystem management.

68. Another important reason for the phased approach is the financial constraints in the Land Degradation Focal Area for GEF-3. It allows the project to tap both GEF-3 and GEF-4 resources as well as provide time and experience to mobilize co-financing.

69. The project strategy and approach is most cost-effective because it builds on the existing administrative set up and infrastructure of government agencies both at the federal and provincial levels. The project has selected an innovative strategy of sub-contracting feasibility studies/pilot testing of SLM practices to the line agencies and capable NGOs under a proper set of ToRs (see Part III under Management Arrangements). This will save substantial administrative costs. Moreover, Phase II will build on the lesson learned and best practices documented during Phase I, saving resources and time.

70. **Phase I** (2 years) will focus on addressing policy, institutional and knowledge barriers through targeted capacity building, and include site specific feasibility studies for testing SLM practices and designing full demonstration investments.

71. **Phase- II** (5 years) will strengthen the sustainability of initial interventions and launch full demonstration projects (targeted innovations in sustainable agriculture practices, water and soil conservation techniques, integrated management of natural resources, sustainable

pastoral activities, and agro-forestry, etc) for promoting SLM practices, building on the lesson learned in Phase I. Phase II will also emphasize the development of appropriate economic and social incentives and micro-credit schemes to ensure that proper linkages are developed with the proposed National Desertification Control Fund (NDCF). Towards the end of the second Phase, the project will work towards refining mechanisms for economic sustainability and replicability of best practices. Some of the project funding will be diverted to monitoring and evaluation and to overcome any remaining barriers not effectively tackled during Phase I.

72. Towards the end of Phase I, the achievement of the benchmarks will be evaluated and interventions for Phase II will be developed in consultation with project partners and stakeholders. It is expected that before embarking on Phase II the social and political ground work will have been laid to effectively implement on-the-ground demonstrations. Mainstreaming SLM principles into polices and plans as well as associated capacity building will continue as needed. By year 1.5, the Concept /PDF B for Phase II will be developed and submitted to the GEFSEC for pipelining. The Full Sized Proposal for Phase II is expected to be submitted to the GEF Council by the end of Year 2, so as to avoid a rupture in operations between Phase I and II.

Benchmarks for Moving Towards Phase II

73. The purpose of the section is to identify the milestones that will have to be met at end of Phase I in order to trigger the start of the Phase II. The elaboration of outcomes, outputs and budget for Phase II will be designed after an independent external evaluation of Phase I by the end of second year. The evaluation will establish whether the key benchmarks agreed for Phase I have been met. If they have, a Phase II document will be prepared and submitted for the endorsement of the GEF CEO. It is expected that such a submission could take place by the end of 2007. Benchmarks for Phase I are described below.

Phase-I Benchmarks

74. **Enabling Environment:** Policy reforms through integration of SLM principles and mainstreaming NAP into sectoral plans will be the key element for successful implementation of Phase I. The development of Criteria and Indicators (C&I) for monitoring the viability of SLM interventions and the introduction of innovative financing mechanisms for sustainable funding will also be important. Benchmarks will include:

    i. Key policies of agriculture, water and environment sectors reviewed and recommendations made for integrating SLM principles;
    ii. Gap analysis of NAP conducted and recommendation adopted for mainstreaming NAP into sectoral plans;
    iii. C&I for SLM developed through a consultative process;
    iv. Strategy for the creation of a National Desertification Control Fund devised.

75. **Strengthening Institutional Capacity:** Presently, line ministries and departments have limited capacity to respond to land degradation challenges and effectively coordinate implementation of the NAP. There is also limited knowledge of SLM practices. The main benchmarks under this category include:

    i. Capacity gaps assessed and training process initiated;

ii. National Coordination Committee to Combat Desertification for implementation of NAP revived and Provincial Coordination Committees on Desertification established.
iii. National Centre for Drought Monitoring established;
iv. Outreach and awareness raising process initiated.

76. **Land Use Planning:** Currently, land use planning takes place in sectoral silos, with inadequate attention to SLM and stakeholder participation. The key benchmarks in this area are:

i. Review of national land use and agriculture land use planning process initiated by the Ministry of Environment (MoE) and Ministry of Food, Agriculture and Livestock (MINFAL), respectively, and recommendation made for integration of SLM principles into land use planning;
ii. Provincial land use planning process initiated; and
iii. SLM information system developed and functional.

77. **Feasibility Studies:** Testing of different SLM practices will be an essential milestone for full demonstration of SLM options. These studies will set the stage for designing outcomes and outputs for Phase II. Key achievements required include:

i. Local level site specific land use plans developed and their implementation process initiated;
ii. Project communities and local partners participating in the feasibility studies;
iii. Lessons learned documented.

Phase II Benchmarks (to be further developed during Phase 1, following the mid-term evaluation):

78. **Enabling Environment and Coordinated Capacity Building:** Some of the policy reformulation, NAP mainstreaming, and capacity building actions initiated during Phase I will continue as necessary during Phase II. This will include interacting with local government institutions and communities, knowledge based advocacy and awareness building,

79. **On-the-Ground Demonstration of SLM Practices.** The results of pilot testing at the feasibility sites in different agro-ecosystems will be scaled-up, demonstrated and replicated (through co-financing).

80. **Establishment of National Desertification Control Fund.** Activities in Phase 1 will explore the strategy and mechanisms for the fund (e.g. targets, size, donors). The establishment and implementation of the fund will take place by year 5 of the project.

81. **Documentation and Dissemination of Lesson Learnt and Practices:** The development and dissemination of good practice and lessons learned will be an on-going high priority exercise. Specific benchmarks will include number of technical articles and other publications produced and widely disseminated as well as the breadth (number) and depth (reach across the stakeholder base) of thematic seminars, workshops, and training programs undertaken.

Outcomes and Outputs of the Project

Outcome I: Enabling Environment for Mainstreaming SLM Practices Created

{**GEF** US$304,111; **Co-financing** US$78,057 (in-cash)}

82. The main driving forces of desertification and land degradation are policy, institutional, socio-economic and financial barriers. The project aims to remove these barriers by creating an enabling environment and institutional capacity at the local, provincial and national levels to support sustainable land management through mainstreaming SLM principles into national policies, strategies, and action plans pertaining to agriculture, forest, and water sectors, in order to encourage sustainable use of land resources. Detailed gap analysis will be conducted to identify deficiencies in terms of promoting SLM practices. This analysis will build on the preliminary study conducted during the PDF-B.

83. Criteria and indicators (C&I) is an important tool to monitor viability SLM interventions. Criteria and indicators for SLM will be developed with the participation of key stakeholders. The C&I will help in monitoring dry-land ecosystem stability, functions and services as well as economic well-being of local communities. This initiative will draw and build on work currently underway as part of the UNCCD's Committee on Science and Technology as well as work undertaken by UNEP and FAO.

84. The creation of a National Desertification Control Fund (NDCF), as an endowment fund, has been envisaged under the NAP which would support innovative SLM activities on the part of community groups as well as research and development at national, regional, and local levels. A detailed strategy will be devised for establishment for the fund under Phase II, including whether the fund is to be a "small grant facility" or micro-credit programme for the grassroots level initiatives. During Phase II, part of the GEF financial assistance will help establish the fund. The GoP has already allocated US$1.53 million under the Medium-Term Development Framework-2005-10 to help support the fund. Multi-national and bilateral donors will also be approached for contributions to beef up endowment fund to a level of US$3.0 million. During phase II about 20 small grant projects will be supported from the NDCF for the local community groups and R&D initiatives.

85. Another major hurdle in addressing land degradation issues is failure to mainstream NAP into sectoral policies and plans. The Outcome I will also in mainstreaming of NAP into national and provincial policy frameworks and development programs through establishment of mechanisms for inter-agency communication and coordination and promotion of policy and position papers at key policy fora. The Project Steering Committee, multi-stakeholder Technical Committee, and the National and Provincial Coordination Committees on Desertification (established as part of the project, see management Arrangements) will be instrumental in these efforts.

Outcome II: Capacity for Sustainable Land Management Enhanced

{**GEF** US$485,360; **Co-financing** US$208,984 (in-cash) + US$400,000 (parallel)}

86. This component, drawing on the capacity needs identified during the National Capacity Self Assessment, will focus on organizing training, workshops and seminars on sustainable land use planning, rehabilitation of degraded ecosystems, and integrated management of

watersheds and rangelands. This will focus on institutional strengthening by enhancing technical capability of line agencies, research institutes, NGO, farmer groups, community groups, and women's organizations in tackling land degradation and desertification as well as create awareness about threats and consequences of unsustainable land use practices. A full-time Coordinator, Capacity Building and Training will be hired under the project, who will organize training workshops and seminars in collaboration with line agencies, research institutions, district governments and NGOs. Independent consultants, familiar with SLM practices, will be hired to ensure credibility with stakeholders. The results of pilot project will be disseminated through seminars and exchange visits.

87. The existing meteorological network in the country will be strengthened by developing an early warning and monitoring system for drought and flood preparedness as well as for monitoring extreme climatic changes. The preliminary work for establishing a national center in Islamabad, with nodes in the four provinces for drought and environment monitoring, has already started (by the Pakistan Meteorological Department). This center will be responsible for collecting, processing and disseminating information on environmental monitoring. The Government of Pakistan will co-finance this component of the project.

88. Increasing outreach and awareness and strengthen information management services on SLM will be critical outputs under this component. This would involve identification and tackling of root causes of desertification through cross-sectoral initiatives to support decision-making at national, provincial, and local levels for encouraging integrated land use planning and management. Best practices, technologies and lesson learned will be documented and disseminated in local languages. The Project Steering and Technical Committees will form the nucleus of a technical information network. The provincial Desertification Control Units and Provincial Coordination Committees on Desertification will also play a key role in ensuring that information and lessons on SLM comes from and gets to people at the community level.

89. Capacity Building will also involve the promotion of public-private partnerships for combating land degradation. For example, oil and gas industries are active in dry-land areas. During project preparation Premier-Kufpec Pakistan (PKP) and Shell-Pakistan expressed an interest in exploring how they could collaborate with the project to address socio-economic concerns in their production areas. The private sector is also represented on the project Technical Committee and in the Provincial Committees to Combat Desertification.

Outcome III: SLM Principles Mainstreamed into Land Use Planning

{**GEF** US$310,885; **Co-financing** US$220,889 (in-cash) + US$200,000 (Parallel)}

90. The project intends to support the Government of Pakistan in mainstreaming and harmonizing SLM principles with national development priorities, as well as integration of desertification and deforestation control measures into national development plans that aim to alleviate poverty among rural communities. To achieve this, the project would adopt an integrated and cross-sectoral approach for undertaking interventions for SLM. Conservation and sustainable use of natural resources will be integrated with local ecological, economic, and social dimensions while addressing land degradation issues.

91. The government is implementing a National Land Use Plan (MoE, 2003), but it does not include key SLM principles and means of implementing them. This project will work closely with MoE to include SLM guidelines and highlight land degradation data in mapping exercises.

92. Mapping and monitoring of the extent of desertification in Pakistan by gathering baseline information, developing performance and impact indicators on land degradation prevention and control, assessing and predicting sustainability of SLM interventions will be a crucial element of this project. This will also involve the strengthening of GIS and remote sensing to measure the incremental impacts of sustainable land management activities. This will be partially accomplished under on-going GIS and Remote Sensing projects being implemented by the Pakistan Forest Institute (PFI) and the GIS component of the Pakistan Wetlands Project.

Outcome IV: Participatory Feasibility Studies (or pilot testing) for Demonstration of SLM Practices Conducted

{**GEF** US$618,800; **Co-financing** US$820,200 (in-cash)}

93. Innovative SLM practices will be tested in Phase I (planning and implementation to start in Phase I and full-scale demonstrations in Phase II). These include refinement and adoption of appropriate technologies and management practices for integrated farming systems, testing and selection of drought resistant crop varieties, and propagation of multi-purpose tree species suitable for dry-land areas, Appropriate grazing management regimes, improved livestock production systems, and water use efficiency and ground water recharge techniques will also be explored. Other pilots include raising suitable forage trees, shrubs and grasses for drought and salinity tolerance, dry-afforestation, participatory land use surveys, developing cost-effective agronomic practices to improve soil fertility, and integrated pest management.

94. The pilot projects will focus on demonstrating alternate SLM practices in select areas of dry-land ecosystems. The reasoning is that there are substantially more resources being devoted in Pakistan to irrigated agriculture and water conservation strategies in those areas. The project can add greatest value by filling important gaps which happen to be in rain-fed, rangelands and low mountain ecosystems.

95. The implementation of pilot project will involve participatory land use planning and integrated management of land resources. This will require active involvement of local line agencies, NGOs and communities. In order to achieve this, the project will work through the recently introduced Local Government System and Citizen Community Boards (CCBs). This will help in mobilizing local communities for undertaking desertification control measures through preparation and implementation of site specific land use plans with the technical assistance from the project and line agencies.

96. The following pilot projects were identified during consultations with stakeholders (principally, provincial line agency staff) during project preparation using well defined criteria (see Annex H) and are broadly described in the Log Frame and Annex VII. Consultants are currently preparing these pilots in close consultation with the communities involved, therefore a limited amount of specific information can be provided.

- Integrated management of water resources and rangelands in Chakwal & Attock districts of Punjab.
- Poverty alleviation through soil conservation measures in District Bhakkar.
- Integrated natural resource management with the involvement of pastoralist communities in Rakhshan Valley District Kharan, Balochistan.
- Sustainable use of Mazri Palm and NTFP with the involvement of local communities and private sector in District Awaran, Balochistan.
- Sustainable land management by introduction of low delta and high commercial value crops with micro irrigation in Surkhab, District Pishin in Balochistan.
- Conservation of water and soil with the involvement of local communities in Shaikh Haider Zam, District D. I. Khan in NWFP.
- Strengthening of traditional land use practices in low productive lands in District Lakki Marwat in NWFP.
- Water harvesting and agriculture development in Kacho Area, Taluka Johi, District Dadu in Sindh.
- Participatory NRM for drought mitigation and food security in District Tharparkar in Sindh.

Outcome V: Documentation of Lessons Learned, Evaluation and Adaptive Management Increased

{**GEF** US$132,292; **Co-financing** US$140,668(in-cash)}

97. The project will build on the lessons learned from experiences by line agencies and NGOs to address land degradation issues in the country. It will also complement some of the on-going projects like Tarbela Watershed Management Project, Mangla Watershed Management Project as well as a number of other initiatives by the Federal and provincial governments and non-governmental organizations. The project will also benefit from regional experiences and best practices for addressing land degradation issues, especially from those countries which are successfully tackling desertification and deforestation.

98. Importantly, this component will also help to establish the basic infrastructure for the creation of federal and provincial desertification units as envisaged under the NAP. Following completion of the project The National Coordination Unit in the MoE will evolve into a Federal Desertification Control Cell, while Provincial Coordination Units ill be designated as Provincial Desertification Control Units. Funding for these will be mainstreamed into federal and provincial budgets.

Project Indicators, Risks and Assumptions

Component 1: Enabling Environment Created

Indicators

99. SLM guidelines are intergraded into sectoral polices (agriculture, forest and water) and PRSP to remove policy barriers. Medium-Term Development Framework (MTDF) 2005-10 reflects desertification as a priority area of concern and there is rationalized government budget allocation for NAP implementation. NAP is mainstreamed into policies and plans

during Phase I and its implementation deepened in Phase II. SLM C&I are developed in Phase I and are being used by stakeholders for restoration of dry-land ecosystems. Strategy and mechanism for creation of an endowment fund (NDCF) for supporting local initiatives are devised. Project document for Phase-II prepared and submitted to UNDP-GEF.

Assumptions and Risks

100. The political situation remains conducive for policy reforms and line agencies are collaborating for introduction of SLM practices. Enabling environment created by the Federal ministries, provincial line agencies and district governments by removing policy, institutional, socio-economic and financial barriers.

Component 2: Capacity Building for Sustainable Land Management

Indicators:

101. Coordination mechanisms at national and provincial levels are established in Phase I and further strengthened in Phase II. Capacity barriers among line agencies and dry-land research institutions (see stakeholder participation plan) and local communities removed by enhancing their capability to implement SLM practices. Early warning system and mechanism for monitoring drought are developed. Awareness raising strategy on desertification issues and SLM developed and implemented through print and electronic media.

Assumptions and Risks:

102. Provincial governments are collaborating and participating in desertification control measures. Concerned agencies are collaborating and timely sharing quality information to develop a reliable information baseline for SLM. Pakistan's current print and electronic media policies continue. Pakistan's current print and electronic media policies continue.

Component 3: Mainstreaming SLM into Land Use Planning

Indicators:

103. SLM guidelines are integrated in national and provincial land use plans Provincial land use plans are developed in Phase I and implemented in Phase II. A GIS database on SLM developed to provide comprehensive baseline information on land degradation and desertification. Relevant stakeholders have access to GIS based data for land use planning and decision making.

Assumptions and Risks:

104. Provincial governments are willing to take up and implement land use plans. Line agencies are willing to share information and use of GIS outputs for decision making and planning. Data available from line agencies' records is reliable and past satellite data for change detection at feasibility sites is available.

Component 4: **Participatory Feasibility Studies (Pilot Projects) for Demonstration of SLM Practices**

Indicators:

105. Feasibility studies/pilot interventions identified during project preparation are conducted in Phase I and brought to full demonstration in Phase II. Participatory landuse planning introduced at the pilot sites. Impact of pilot projects on local development and poverty alleviation efforts is monitored. (e.g. number of local communities have increased household income).

Assumptions and Risks:

106. Line agencies, district governments and communities fully participate in implementation of pilot interventions. Timely delivery of inputs and implementation of pilots. Local level coordination among line agencies, NGOs and community organizations create favourable conditions for collective planning and participation of local communities.

Component 5: **Documentation Lessons Learned, Evaluation and Adaptive Management**

Indicators:

107. Lessons learned during Phase I and best practices document are available to inform the full demonstration projects under Phase II. Special studies are conducted to document outcomes of the pilots. National Coordination Unit and Provincial Coordination Units are established. Coordination with provincial and district governments as well as with CCBs and CBOs is strengthened. Monitoring and evaluation (M&E) indicators are finalized to assess progress in implementing the annual work plan. Baseline is established and instruments to measure progress in attaining national and global benefits are in place by the end of PY2. External mid-term evaluation is carried by the end of Phase I. Lessons learnt and best practices dissemination workshops are held every year. Information about SLM is disseminated through print and electronic media.

Assumptions and Risks:

108. Provincial Planning and Development Departments are willing to house Provincial Coordination Units and communities are cooperating with the project staff. Adequate and reliable availability of funds are ensured. MoUs signed and adhered to by the partners. There are mechanisms in place to address disputes should they arise. Community is effectively involved in the M&E process. Evaluation parameters are easily definable and measurable. Dissemination of lessons learned is unhindered.

Expected Global, National and Local Benefits

109. The global, national and local benefits of the project are closely inter-linked. At the global level, the project will result in improved ecosystem stability and productivity. The major global benefit of the project would be restoration of degraded dry-land ecosystems for enhancing their structural and functional stability. The cross-sectoral nature of the project would help in meeting Pakistan's obligation under UNCCD as well as other conventions—CBD, UNFCC. Thus, other global benefits include improved carbon sequestration and conservation of plant and animal species of globally significance (also see discussion of global benefits under Situation Analysis).

110. At the national level the project will contribute to implementation of NAP and mainstreaming SLM principles into national polices and plans. More importantly, it will contribute to institutional strengthening and building systemic capacities. Other national benefits will include: promotion of efficient use of water resources, introduction of soil conservation measures, introduction of integrated management of land resources and using innovative financial mechanisms to combat land degradation and desertification. The project will also provide sustainable livelihoods for rural people and reduce poverty.

111. At the local level, the participatory nature of the project will ensure the involvement of local communities in decision making process and as principal beneficiaries. Investments in building social infrastructure will contribute to collective actions by the communities and their improvement - benefits that go beyond the project life.

Country Ownership: Country Eligibility and Country Drivenness

a) Country Eligibility

112. Pakistan signed the United Nations Convention to Combat Desertification and Drought (UNCCD) in 1994 and ratified it in 1997, and has constituted a National Coordination Committee to Combat Desertification (NCCCD) to facilitate and coordinate implementation of the convention as well as established a task force for creating a National Desertification Control Fund (NDCF).

113. Pakistan signed the Convention on Biological Diversity (CBD) in 1992 at UNCED and ratified it in 1994, and developed its National Biodiversity Strategy and Action Plan to meet the planning requirement of Article 6 of the convention. This document was prepared through a three-year consultative process and was adopted by the Pakistan Environment Protection Council (PEPC) in 1999.

114. Pakistan was also one of the first signatories to the United Nations Framework Convention on Climate Change (UNFCCC), which was signed in 1992 and ratified in 1994. To implement this convention, Pakistan has completed a number of major studies and projects focusing on climate change and GHG reduction strategies. Pakistan has prepared the First National Communication for the UNFCCC, which also gives priority to SLM interventions.

115. A National Action Programme (NAP) to combat desertification in Pakistan has been developed through a participatory process and with broad-based consultations involving the relevant national and provincial government institutions/agencies, professionals, NGOs and

other civil society organizations. The NAP identifies the factors contributing to desertification in Pakistan and suggests strategies and measures to combat desertification and mitigate effects of prolonged drought by emphasizing integrated and bottom-up approaches. The NAP aims to: i) provide guidelines for sustainable management of natural resources; ii) identify program areas for initiating projects to address desertification issues; iii) alleviate poverty and improving livelihoods of the people living in arid lands; iv) provide institutional mechanisms for SLM; vi) develop human resources and building capacity of the key stakeholders; and vi) create awareness among the general public for identification and tackling of root causes of desertification.

b) Country Drivenness

116. Pakistan has prepared Provincial Conservation Strategies for the provinces of NWFP, Sindh, Balochistan and Northern Areas Strategy for Sustainable Development. These highlight issues of desertification and deforestation and propose measures for sustainable management of land resources including controlling deforestation and combating desertification. Punjab is also considering preparation of its own conservation strategy. Some districts have also devised their conservation strategies to address local level environmental and sustainable development issues. These districts include: Abbotabad, Chitral, Dera Ismail Khan in NWFP, Kalat in Balochistan and district Badin in Sindh.

117. In 2001 the Government adopted the National Environmental Action Plan (NEAP) with a focus on clean air, clean water, solid waste management, and ecosystem management. To address the poverty-environment nexus, a NEAP-Support Programme has been launched, which proposes a wide range of technical, institutional, regulatory, social and economic interventions grouped under the following sub-programs: (i) policy coordination and environment governance; (ii) pollution control; (iii) ecosystem management and natural resources conservation; (iv) energy conservation and renewable energy; (v) dry-land management; and (vi) grassroots initiatives.

118. The Government of Pakistan realizes that natural resources conservation and land degradation issues can not be tackled effectively unless local communities are involved in project planning, implementation and decision making. There is considerable change in the attitude of land managers. Most of the agriculture, forestry, livestock and irrigation projects now encourage participation of local communities in project activities. As a result, rural communities are being mobilized to take responsibility for projects undertaken in their area.

119. The Government has also taken steps towards affirmative action for gender equality and is encouraging women's participation in sustainable land management. These include social empowerment (access to education, health and justice), economic improvement (extending credit facilities to women for livestock development, skill development programs and creation of job opportunities for women), and political empowerment (involving women in power and decision making by enhancing their representation in the district, provincial and national assemblies).

120. Pakistan' Poverty Reduction Strategy Paper (PRSP) also emphasizes the need to address issues of land degradation, soil erosion, desertification, and excessive use of pesticides and to minimize impact of these on local livelihoods and the environment. The strategies relevant to land management include: improving access of the poor to cultivable lands,

reclamation of waterlogged and saline lands, and providing opportunities to the rural poor for sustainable management of natural resources such as forests, rangelands and water.

121. The provinces have also initiated the preparation of PRSPs, to identify priority steps for providing alternative economic opportunities for the rural poor focusing on agriculture, livestock and rangeland development. The PRSP for Balochistan suggests a number of measures for sustainable management of land resources, including increasing the cultivated area through better water management, construction of small dams for harvesting rain water, reclamation of waterlogged and saline areas, improvement in the marketing system of agricultural products, rangelands rehabilitation, increased water use efficiency, undertaking groundwater recharge measures, eliminating electricity subsidies to check over-exploitation of groundwater and credit facilities for small farmers for promoting sustainable agriculture practices.

122. Pakistan has recently adopted the "National Environment Policy 2005". The policy aims "to protect, conserve and restore Pakistan's environment in order to improve the quality of life of people of Pakistan through sustainable development". The main objectives of the policy are: 1) conservation, restoration, and efficient management of natural resources, 2) integration of environmental considerations in policy making and planning processes, 3) capacity building of government agencies and other stakeholders, 4) meeting international obligations effectively, and 5) creation of a demand for environment protection through mass awareness and community mobilization.

123. Many of the policy guidelines are in line with GEF Strategic Priorities and OP 15 as well as requirements under the different articles of the UNCCD. For example, the policy calls for "development of strategies and programs to tackle desertification in line with the NAP and to establish a National Desertification Control Fund" (GoP, National Environment Policy, 2005). This recent policy was thoroughly discussed and debated among all the relevant ministries and their commitments were solidified. In this respect the Government of Pakistan is totally committed to the implementation and mainstreaming of the NAP through the SLMP project.

124. Pakistan has also adopted a "Medium Term Development Framework-2005-10" (MTDF-2005-10), which his been developed through a consultative process involving all the Federal Ministries, provincial governments and civil society organizations. The implementation of the MTDF constitutes the government's next five year's development agenda. Importantly, for the first time, "desertification control" is considered a priority area. The document calls for promoting SLM interventions and developing programs and strategies to tackle desertification problems in the country. The MTDF allocates US$ 4.94 million for combating desertification in the country, including for SLM interventions and the creation of a National Desertification Control Fund during the next five years.

Sustainability

125. The project is based on the measures prescribed under the NAP to combat desertification and land degradation in Pakistan and priorities identified by the stakeholders during project preparation consultation. The Government of Pakistan recognizes that a cross-sectoral and holistic approach combining indigenous agro-pastoral practices and ecologically sustainable land use management interventions is critical for combating land degradation and desertification. To achieve this, the project has been developed with the active participation

of the relevant federal ministries, national institutions, provincial line agencies, NGOs, local communities and multi and bilateral donors. It is expected that the participatory nature of the project will create a sense of ownership and contribute to social sustainability. Special emphasis has been placed on tackling the main causes of land degradation and removing barriers to SLM, which will ensure long-term sustainability of project activities.

126. MoE is strongly committed to supporting the cell and assisting it, politically and financially, in mainstreaming Pakistan's NAP at both national and provincial levels. To ensure institutional sustainability, the project's National and Provincial Desertification Units will be transformed into Desertification Control Cells will be established within MoE and the Planning and Development Department of each province. The Desertification Control Cells will be supported by the National Coordination Committee to Combat Desertification (NCCCD) and the Task Force already in place to steer implementation of the NAP. At the completion of the project, all units will be financed by shifting the recurring costs of their operations to the normal budget of the respective national and provincial governments and by partially linking them to the NDCF to be created under the NAP.

127. The National Desertification Control Fund, as envisaged under the NAP will channel financial resources for sustainable efforts (community based innovations, research, adaptive trials, etc) to combat desertification and SLM investments. Modalities for setting up such a fund will be explored during the implementation of Phase I of the project and actual funding will be put in place during the implementation of Phase II.

128. The involvement of scientific institutions, such National Agriculture Research Center (NARC), Pakistan Forest Institute (PFI), Arid-Zone Research Centers, and agriculture universities in implementation of the project through field level innovations and revival of indigenous land use practices will ensure sustainability of many SLM pilot and demonstrations interventions.

129. Finally, the project will benefit farmers and pastoralists by promoting cost-saving and yield enhancing agricultural practices and conserving natural resources. In this sense, it will ensure sustainability at the local level.

Replicability

130. As highlighted under proposed activities, the project is designed to implement a long-term strategy for integrated, locally adapted SLM systems that can be replicated on a larger scale across the country through parallel and follow-up investments by the government and donor agencies. For example, a key element to enhance replicability is the preparation and implementation of local level land use plans with the involvement of local communities, district governments, and line agencies.

131. The project will demonstrate alternate SLM practices in select areas of dry land ecosystems in the country. Lessons learned from implementation of diverse interventions could be applied not only to other parts of the country, but also in countries of west and central Asia with similar agro-ecological regions. Thus, the project has the potential to have a larger geographical impact in the sub-region.

132. During Phase I, the replicability of each intervention will be further analyzed and a strategy will be presented for Phase II to ensure implementation of successful models in different

eco-zones. The emphasis will be on identifying and developing cost-effective ways of managing degraded rangelands, restoring degraded watersheds, harvesting and utilizing rainwater for dry-afforestation and adopting viable soil conservation measures.

PART III: Management Arrangements

133. The Ministry of Environment (MoE) will be responsible for the execution and implementation of the project through the former Project Preparation Unit (PPU). This unit, established with project preparation funding will become a National Coordination Unit (NCU) under the full-scale project and the project staff hired during the Preparatory Phase will continue to work for the Project, however their positions will be re-designated as per new nomenclatures under the full-scale project, if needed. Additional professional, technical, and support staff will be recruited to under take output based activities. The NCU will act as a National Desertification Cell as has been envisaged under the NAP. The Inspector General of Forests (IGF) or any other nominee (BS-20 or above officer) of the MoE will act as the National Project Director (NPD), who will oversee the NCU.

134. ***Project Steering Committee (PSC):*** The MoE will establish a PSC to provide guidance and over-see implementation of the project as well as coordination with the concerned ministries, provincial line departments, and relevant research institutions. The PSC will meet at least twice a year or as needed to review the project implementation. The PSC will have, high level, cross-sectoral representation and of civil society organizations, line ministries, provincial Planning and Development Departments, national research institutions, and relevant NGOs. The Secretary, MoE, will be the Chair of the PSC. The Chair may, however, choose to co-opt additional members to the PSC to enhance its efficacy. The NCU will serve as the secretariat of the PSC and the NPD will act as its member/secretary and will take responsibility for organizing its meetings, documentation of minutes and ensuring that decisions of the PSC are implemented in letter and sprit.

135. ***Project Technical Committee (PTC):*** In addition to the PSC, there will be a PTC. The MoE will establish the PTC by inducting sectoral experts from the relevant ministries, provincial line departments, and representatives of the leading national NGOs, research institutions and universities. The PTC will provide technical guidance for implementation of project interventions and will provide technical backstopping to the NCU. In order to ensure inter-sectoral involvement in the implementation of the project, each line-ministry will be asked to nominate an expert as a technical focal point for the project as member of PTC who will provide technical support and information and facilitate participation of their various sectoral agencies. The PTC will be an informal technical and advisory body, but will have a crucial, consultative and coordinative role to play.

136. The PTC will provide a platform for the NCU to discuss technical matters pertaining to SLM and obtain technical opinion on the project inputs and outputs. The project will require continued technical support. Hence, meetings of the PTC will be organized as needed to present technical information and discuss technical issues pertaining to implementation of the project. The NPD will chair the PTC, while the National Project Coordinator will act as member/secretary and will take responsibility for organizing its meetings, recording minutes, and ensuring that technical advice of the PTC is addressed at appropriate levels of project implementation. If needed, the specific recommendations of the PTC will be submitted for approval of the PSC. In addition to the PTC, a Technical Network will be established under the SLM Information System already established with the PDF funds. This network is being linked through an e-mail list server. Once fully operational, it will

send regular updates about the project to its members and will provide an opportunity to contributors to post research findings and information pertaining to SLM.

137. ***National Coordination Unit (NCU):*** The NCU will be the nucleus of the project and will be responsible for delivery of project inputs and timely achievement of project outputs (see project organogram in Part II of Section IV). The NCU will be housed in close proximity to the office of Inspector General of Forests. The NCU will be headed by a National Project Coordinator (NPC), who will manage day to day operations of the NCU. The NPC will report to the NPD, while NPC will be supported by a team of professional and technical staff assisted by the administrative finance officer, finance assistant, office assistant and other support staff. Detail of positions under NCU is given in the Part XII.

138. In order to mobilize technical assistance to realize the project outputs under each of the outcomes local consultants will be recruited who will be responsible for their respective components of the project and will ensure timely achievement of specific outputs under these components. Local consultants (Component Coordinators) will report to the NPC and be supported by technical staff in their respective fields, if needed.

139. ***Provincial Coordination Units (PCUs):*** The PCUs will be established in the provincial Planning and Development Department (P&D) of each province. The PCUs will act as the Provincial Desertification Units as envisaged under the NAP. The operations of the PCUs will be overseen by the Secretary, P&D, of the respective province, who will act as the Provincial Project Director (PPD). The PCUs will be headed by a Provincial Project Coordinator (PPC), who will report directly to the Secretary, P&D/PPD with additional reporting to the NPC. The PPCs will work closely with the Chief of Sections of the relevant sectors (like agriculture, environment, irrigation and poverty). The other supporting staff at each PCU will be: an Admin & Finance Assistant, driver and an office helper/cleaner. The main responsibility of the PPCs will be to mainstream SLM principles into the provincial planning process, develop provincial land use plans and coordinate/oversee on-the-ground feasibility studies during Phase I as well as coordinate implementation of demonstration projects during Phase II.

140. ***Provincial Coordination Committees (PCCs):*** The provincial Planning and Development Departments of the respective province will establish a Provincial Coordination Committee to over-see the implementation of pilot projects and other provincial components of the project as well as to ensure coordination with line departments, provincial research institutions, and relevant NGOs. The PCCs will meet annually or as needed to review the progress on implementation of the pilot projects. The PCCs will have cross-sectoral representation, including provincial secretaries of agriculture, forest, livestock and irrigation departments; concerned Chief Sections of P&D Depts., NPD, NPC and heads of relevant research institutions. The Additional Chief Secretary (ACS), Development/Chairman P&D Board will be the Chair of the PCC. The Chair may, however, choose to co-opt additional members of the PCC, if needed. The PCUs will act as the secretariat of the PCC and Provincial Project Director (PPD) will act as member/secretary of the PCC. The PPD will take responsibility for organizing its meetings, documentation of minutes and ensuring that decisions of the PCC are implemented in letter and sprit.

141. **Sub-contracts/Feasibility Studies:** In order to test an innovative approach for managing SLM interventions on the ground, all the feasibility studies identified during project preparation will be out-sourced to concerned line agencies and relevant NGOs having experience in undertaking SLM projects. The sub-contracts will be governed under Terms of Reference to be agreed by the implementing partner and the project. Under the authority of the PSC/NPD, the National Project Coordinator would prepare sub-contracts in

consultation with the RCs for the feasibility studies/pilot projects to be outsourced to the provincial technical agencies/line departments and competent NGOs in line with the Project Cycle Operational Manual (PCOM-IV). The Project contractor/implementing partners in each province will be required to submit Quarterly Advance Requests and Quarterly Progress Reports (QPRs) through PCUs in each province. The PCUs will compile these requests and progress reports for forwarding to the NCU at the MoE for onward transmission to the UNDP. The Quarterly Progress reports will be disseminated to all the PSC and PTC members. In addition, all the QPRs will be made be available to the general public and professionals at the www.slmp.org.pk website, presently under construction, which will allow the feedback on the documents and implementation of the feasibility studies.

142. **Administration, Financial Disbursements, Auditing and Procurements:** PCOM-IV procedures would be followed for staff recruitment; dealing with administrative matters, financial disbursements to NCU and further to PCUs and to the sub-contractors/implementing partners through the PCUs. UNDP would conduct annual financial audits to ascertain that standard procedures are applied for disbursements and required monitoring systems are in place for internal control and record keeping. All local and international procurements would be carried out in accordance with the procedures detailed in the PCOM-IV.

143. **Project Inception Workshop:** A project inception workshop will be held within three months of project approval. Participants will include the full project team, the relevant counter parts of the government at the federal and provincial levels, potential sub-contractors, UNDP, and representatives of other key stakeholders (e.g. NGOs, research institutions, private sector and local community representatives in the feasibility study sites). The main objective of the workshop will be to establish ownership and understanding of the project goal and objectives and agree on a first year work plan and timeframe.

144. **Project Acknowledgements:** In order to accord proper acknowledgement to GEF for providing funding, a GEF logo would appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. All citations on publications regarding projects funded by GEF would accord proper acknowledgment to GEF. The UNDP and GoP logo would also appear on the project documents and correspondence to acknowledge their support for the project.

PART IV: Monitoring and Evaluation Plan and Budget

145. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team under the guidance of the UNDP Country Office, with support from UNDP-GEF. The **Logical Framework** will form the basis for the project Monitoring and Evaluation system.

146. The Monitoring and Evaluation Plan, including indicators and needs for baseline information, will be refined and finalized at the project **Inception Workshop** (IW). The IW will unite the principal stakeholders of the project to familiarize them with the project staff, develop a detailed **Annual Work Plan (AWP) Budget** for the first year of operations, and agree on the information and timeframes for reporting project activities to the different levels within the governance structure, including project review meetings and national and local provincial committee functions. Finally, the inception workshop will provide an opportunity to inform the project team on UNDP project-related budgetary planning, budget reviews, and reprogramming as necessary. In subsequent years, a brief annual workshop

will be held to develop AWPs and make new adjustments to the monitoring and evaluation system as necessary.

147. An **Inception Report** will be prepared immediately following the Inception Workshop. This will include a review of the project context, including any changes since the design phase which may affect implementation, and will detail the different levels of monitoring and evaluation that will take place throughout the project with specific information on the roles, responsibilities, activities, and indicators to be monitored during the first year of operations. For the benefit of all stakeholders, the following specific UNDP mechanisms will be defined and programmed with actions included in the inception report: annual **Project Implementation Review** (PIR), the **Annual Project Report** (APR), **Tripartite Review (TPR)** meetings, as well as the nature and timing of the **Mid-Term** and **Final Evaluations**.

148. For the purpose of informing the review stages, the original baseline will be updated and further quantified by the project in the first year. Additional information will be needed on specific baseline interventions that are on-going or proposed and their contribution to SLM.

149. ***Day to day monitoring*** of implementation progress will be the responsibility of the National Project coordinator with oversight by UNDP. Based on the project's Annual Work plan and its indicators, the Project Team will inform the UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion. Targets and indicators will be based on those agreed upon at the inception workshop and will be redefined at a new workshop to be held at the beginning of each project year, following a similar revision as implemented at the inception workshop.

150. ***Periodic monitoring*** of implementation progress will be undertaken by the UNDP-CO through quarterly meetings with the project staff. This will allow parties to review and troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities. UNDP-CO, UNDP-GEF RCUs, UNCCD focal point and national steering committee members will conduct yearly visits to field sites to assess project progress first hand. A Field Visit Report will be prepared by the CO and circulated to all stakeholders.

151. A terminal TPR meeting will be held in the last month of project operations. The MoE will be responsible for preparing the **Terminal Report** and submitting it to UNDP-CO, GEF, and the UNCCD focal point for distribution. It will be prepared in draft at least two months in advance of the terminal TPR in order to allow review, and will serve as the basis for discussions in the TPR. The TPR has the authority to suspend disbursement if project performance benchmarks (developed at the Inception Workshop) are not met.

152. The National Project Coordinator will be responsible for the preparation and submission to UNDP and UNDP-GEF the following mandatory reports: Inception Report (IR), Annual Project Report (APR), Project Implementation Review (PIR), the Project Terminal Report. Specifications for additional internal and external progress reports will be defined during the IW.

153. The National Project Coordinator will submit the quarterly progress reports to UNDP, GEF and UNCCD focal points to enhance the flow of information and feedback to and from the

NAP structure and to UNCCD through the national focal point. UNDP will be responsible for forwarding information and feedback to and from the UNDP-GEF structure.

154. The project will be subjected to at least two independent external evaluations. The first will be an independent **Mid-Term Review** (MTR), by the end of Phase I (PY2). This will determine progress being made towards the achievement of outcomes and will identify course correction if needed, focusing on effectiveness, efficiency and timeliness of project implementation; highlight issues requiring decisions and actions; and present initial lessons learned about project design, implementation and management. The timing of the mid-term evaluation will allow coordinators to make any modifications necessary to incorporate improvements or changes in the project's activities for the remaining project period. An independent **Final Evaluation** will take place six months prior to the terminal tripartite review meeting.

155. Financial audits are also considered. The National Project Coordinator will provide the UNDP-CO with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the legally recognized auditor of the Government, or by a commercial auditor.

156. To facilitate the sharing of information, the project staff will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects, and report will be submitted to the UNDP-CO, RCU and UNCCD at the end of each year. UNDP/GEF shall provide a format and assist the project team in categorizing, documenting and reporting on lessons learned. If requested, the project staff will prepare project specific technical reports and technical publications. The technical reports will represent the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels. Project publications will also be produced, including scientific or informational texts on the activities and achievements of the project, in the form of journal articles, multimedia publications, etc.

157. A table depicting an indicative M&E work plan and budget is provided below.

Indicative Monitoring & Evaluation Work Plan & Corresponding Budget

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team Staff time*	Time frame
Inception Workshop	▪ National Project Coordinator ▪ UNDP CO ▪ UNDP GEF		Within first two months of project start up
Inception Report	▪ Project Team ▪ UNDP CO	None	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators	▪ Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	To be finalized in Inception Phase and Workshop. Indicative cost	Start, mid and end of project

		xxxx	
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	▪ Oversight by Project GEF Technical Advisor and Project Manager ▪ Measurements by regional field officers and local IAs	To be determined as part of the Annual Work Plan's preparation. Indicative cost xxxx	Annually prior to APR/PIR and to the definition of annual work plans
APR and PIR	▪ Project Team ▪ UNDP-CO ▪ UNDP-GEF	None	Annually
TPR and TPR report	▪ Government Counterparts ▪ UNDP CO ▪ Project team ▪ UNDP-GEF Regional Coordinating Unit	None	Every year, upon receipt of APR
Steering Committee Meetings	▪ National Project Coordinator ▪ UNDP CO	2,000	Following Project IW and subsequently at least once a year
Periodic status reports	▪ Project team	4,000	To be determined by Project team and UNDP CO
Technical reports	▪ Project team ▪ Hired consultants as needed	8,000	To be determined by Project Team and UNDP-CO
Mid-term External Evaluation (Phase-I)	▪ Project team ▪ UNDP- CO ▪ UNDP-GEF Regional Coordinating Unit ▪ External Consultants (i.e. evaluation team)	20,000	At the mid-point of project implementation.
Terminal Report	▪ Project team ▪ UNDP-CO ▪ External Consultant		At least one month before the end of the project
Publication of Lessons learned	▪ Project team ▪ UNDP-GEF Regional Coordinating Unit (suggested formats for documenting best practices)	4,000 (average 2,000 per year)	Yearly
Audit	▪ UNDP-CO ▪ Project team	0 (Cost to borne by CO)	Yearly
Visits to field sites (UNDP staff travel costs to be charged to fees)	▪ UNDP Country Office ▪ UNDP-GEF Regional Coordinating Unit ▪ Government representatives	10,000	Yearly
Final Evaluation	▪ Independent Consultants	50,000	six months prior to the terminal tripartite review meeting.

TOTAL indicative COST	US$ 100,000	

PART V: Legal Context

158. The legal context for UNDP-assisted programmes and projects in Pakistan is established by two major agreements: 1) the Convention on the Privileges and Immunities of the United Nations, given affect by Act XX of 1948 of the Pakistan Constituent Assembly (Legislative) and assented to on June 16, 1948; and 2) the agreement between the Government of the Islamic Republic of Pakistan and the United Nations Development Programme concerning assistance under the Special Fund Sector of the United Nations Development Programme, signed by the parties on February 25, 1960.

159. This Project Document shall be the instrument (therein referred to as a Plan of Operation) envisaged in Article 1, Paragraph 2 of the agreement between the Government of the Islamic Republic of Pakistan and the United Nations Development Programme concerning assistance under the Special Fund Sector of the United Nations Development Programme.

160. UNDP-assisted programmes and projects for Pakistan are planned and executed in accordance with the global UNDP Financial Rules and Regulations and the Project Cycle Operations Manual (PCOM) for Pakistan.

161. The following types of revisions may be made to this project document in writing with the signature of the UNDP Resident Representative only, provided he or she has verified the agreement thereto by the UNDP-GEF Regional Coordination Unit and is assured that the other signatories of the Project Document have no objections to the proposed changes: a) revisions in, or addition of, any of the annexes of the Project Document; b) revisions which do not involve significant changes in the immediate objectives, outputs or activities of a project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation; and, c) mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.

162. The Government will provide the Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the legally recognized auditor of the Government, or by a commercial auditor engaged by the UNDP.

SECTION II: STRATEGIC RESULTS FRAMEWORK AND GEF INCREMENT

PART I: Incremental Cost Analysis

Project Background

163. Pakistan is predominantly a dry land country. Eighty percent of the country is considered arid or semi-arid. Two-thirds of Pakistan's rapidly growing population of 153 million people depends on dry land for their livelihoods through agro-pastoral activities. The productivity and sustainability of these activities in turn depends on critical ecosystem services – provided by rivers, ground water, trees, soils, etc. – which in turn depend on the structural and functional integrity of the river basins, watersheds and rangelands that comprise the country's ecosystems.

164. This project aims to combat land degradation and desertification in Pakistan in order to protect and restore ecosystems and essential ecosystem services that are key to reducing poverty. The principal objectives of the project are to strengthen institutional capacity. , create an enabling environment and demonstrate sustainable land management practices for the restoration of degraded ecosystems – all in an effort to remove key barriers to sustainable land management.. The project will depend on the demonstrated growing commitment of the Government of Pakistan and the involvement of key stakeholders, in particular those at the community level. The project will be implemented in two phases. The first phase will focus on creating an enabling environment for SLM, overcoming key policy and institutional barriers, and launch pilot innovations. The second phase will draw on lessons learned to deepen policy commitment, strengthen coordination and develop full-scale demonstrations that can, in future, be scaled up and replicated.

Incremental Cost Assessment

Baseline

165. The recent launch of Medium-Term Development Framework (MTDF) 2005-10 sets the stage for providing a sound baseline for the project. The strategic thrust of the MTDF is to provide a conducive environment through provision of appropriate infrastructure: intellectual, physical, technological, financial, legal and regulatory, along with strengthened institutions. Combating desertification is listed as a priority, and, for the first time, large amount of funds are allocated to the effort. This is promising, and there are a number of activities in key sectors that address or have the potential to address sustainable land management issues. Nevertheless, current and planned interventions are inadequate for achieving the overarching goal of addressing land degradation within entire ecosystems, thus maintaining ecosystem integrity and assuring that essential ecosystems services will be available over the long-term. That can only be achieved through a fully holistic, landscape-wide, cross-sectoral approach promoted by (i) ensuring that SLM principles and practice are mainstreamed in policy and planning, (ii) coordinating actions across sectors, institutions and projects, and (iii) instilling an appreciation and demand for developing and disseminating innovative technologies and management practices. Utilizing relatively modest resources, this project seeks to act as a catalyst in shifting the already substantial ground that has been laid and, in so doing, overcome barriers to SLM.

166. With respect the policy and legal framework, the GoP recently adopted a National Environmental Policy (2005) which provides guidelines for environmental protection and sustainable management of natural resources. It has also adopted a Biodiversity Action Plan. A National Forest Policy is under consideration. And the NAP for Combating Desertification has been developed and endorsed. These are important steps, but more needs to be done to provide the sound baseline for an enabling environment for SLM. With the exception of the NAP, policies lack specific measures for controlling land degradation and desertification. There is insufficient attention given for local communities to manage their land resources sustainability. The policies do little to overcome perverse incentives (such as electric subsidies for groundwater pumping). And policies have not been fully informed by the needed activities or even thematic and ecosystem focus identified by the NAP. For example, the Biodiversity Action Plan prescribes actions for maintaining biodiversity, but is focused largely on protected areas and reserves, not on productive areas or dry-lands.

167. With respect to forest, rangeland and watershed development, there are several on-going and new federal and provincial Government's projects which focus on improving tree cover in the country and rehabilitation of degraded rangelands and watersheds. These could make important baseline contributions to the project. Programs like the Conservation and Rehabilitation of Indus Delta Mangrove for Sustainable Management and Afforestation of Community Waste Lands in NWFP provide a vehicle for coordinated, scaled up action which is guided by an integrated cross-sectoral approach and continually developing and adapting to lessons learned.

168. Baseline actions with respect to agriculture focus on food security and maintaining sustainable agriculture production. This gets high priority both at the national and provincial levels. However, neither has incorporated the necessity of SLM in sector planning. For example, the current National Agriculture Land Use Plan is largely an agricultural sector mapping exercise at the national level which does not yet incorporate data on the extent of land degradation or involve the participation of local communities in the development of land use plans.

169. Some baseline actions like the Water Resources Development Project for Poverty Reduction in Pakistan will need to be further guided by good practice in integrated water management. Other baseline actions such as the pilot project for the promotion of water conservation technology through the introduction of high efficiency irrigation systems in Punjab, Sindh, and NWFP will need to be coordinated with activities that go beyond on-farm water use efficiencies to consider what is happening to groundwater which is supplied to farms. Baseline actions in water and irrigation development such as the rehabilitation of irrigation systems in Sindh and the Punjab (limited for the purpose of this project to activities in the project site areas) will be spending large sums of money. Informing these projects through integrating SLM principles and practices will have a significant effect on reducing water sacristy and land degradation.

170. The establishment of a dry-land research centre in Balochistan (funded through ADP) will need to be supported and networked with similar activities in other parts of the country. The National Centre for Drought and Environmental Monitoring - an on-going project which focuses on collecting, processing and disseminating information on the environment – and the establishment of a Federal Unit for Drought Emergency Relief Assistance are an important part of the baseline and will be essential partners in the project.

171. The GoP has also created "Pakistan Poverty Reduction Fund". This is a multi-donor assisted programme implemented in the country through national and local non-governmental organizations. The main objective of this programme is to make different grassroots level interventions to alleviate poverty. The project will explore how it might help direct resources from the fund towards SLM.

172. Finally, the GoP recognizes the importance of knowledge enhancement and mass awareness pertaining to environmental protection and conservation of the biological wealth of the country. The baseline scenario includes several on-going initiatives that directly or indirectly contribute to capacity building and creating an enabling environment in the country. One important program is a proposed national awareness campaign for environment protection which will be influenced by close coordination with the project..

Global Environmental Objectives

173. Global benefits of the project will include: i) sustainable use of land, focused on adopting sustainable and innovative pastoral and agriculture practices, ii) mainstreaming SLM principles into land use planning, iii) enhanced knowledge and awareness of SLM through information sharing and networking, iv) conservation of biological diversity of global significance, v) increased storage of greenhouse gases in agro-ecosystems and vi) restoration and long-term protection of critically degraded ecosystems.

GEF Alternative

174. The GEF alternative scenario will build on the baseline actions by promoting integrated, cross-sectoral management of natural resources, mainstreaming SLM into policy and land use planning, strengthening institutions and removing barriers. The alternative approach will help introducing incentive measures to encourage local communities to adopt sustainable livelihood options. It will enhance the knowledge base and raise awareness among policy makers and the general public. The GEF-alternative will also enhance innovation and the scaling up of good practice through participatory, replicable on the ground pilot projects, and it will explore innovative financial mechanisms for promoting SLM through the National Desertification Control Fund as envisaged under the NAP.

175. It is important to recognize that the success of the GEF alternative depends heavily on the creation of new and viable institutional structures that have strong political and financial backing by the GoP and the provinces, and so can be expected to succeed (where GoP has not yet succeeded) in mainstreaming Pakistan's NAP. These structures – which include the revival of the National Coordination Committee on Desertification, Provincial Coordination Committees on Desertification, the National Coordination Unit, Provincial Coordination Units, Project Steering Committee, and Project Technical Committee – have strong buy-in and participation from senior political and technical staff at all levels of government as well as the private sector, NGOs and the donor community. Utilizing these bodies, the National Project Coordinator promoting cross sector commitment and coordination. Critically, the Project Coordinator for this project is well connected in policy circles, including in the provinces, and has the full trust and support of MoE.

Summary of Costs

176. The baseline and incremental costs of the proposed project are summarized in the incremental cost matrix. The total budget for Phase I, US$4,600,000, is required to achieve global environmental objectives. Of this amount US$2,000,000 is requested from GEF, while the remainder will come from UNDP (US$1,350,000) and Government of Pakistan (US$1,250,000, including US$600,000 from on-going projects). The estimated budget needed for Phase II will be US$ 12,500,000: US$5,500,000 will be requested from the GEF, while co-financing for US$7,000,000 will be mobilized during implementation of Phase I from donors, GoP and the principal governments, making the total cost of the project to US$17,440,000 (US$340,000 for PDF-B, US$4,600,000 for Phase-I, and US$12,500,000 for Phase-II). Donors who may be interested in further supporting the project and, in particular Phase II, have been contacted and their interest will be further assessed during Phase I.

Sustainable Land Management to Combat Desertification
Incremental Cost Matrix ((Phase – I and II)

Benefits/Costs	Baseline (B)	Alternatives (A)	Increment (A-B)
Domestic Benefits	– Outdated policy and legal frameworks. – Poorly defined land tenure. – Limited institutional capacity. – Poor coordination among sectoral agencies. – In-compatible land uses. – Unsustainable natural resources harvest practices. – Uncontrolled soil and water erosion. – Prevailing poverty. – Loss of land productivity and household income. – Breakdown of traditional land management systems e.g. transhumant & rotational use of rangelands. – Continued degradation of plant cover. – In-efficient use of water resources. – Poor understanding of anthropogenic on land & natural resources. – Unsustainable financial mechanism. – Line agencies are not collaborating in integrated management of natural resources.	– Policy barriers removed – In-appropriate subsidies barrier removed or altered to ensure SLM practices. – Mainstreaming SLM principles into national policies and plans, such as PRSP, MTF-2005-10, and provincial PSDPs. – Proper land use planning at the local level. – In-appropriate subsidies removed or altered for SLM practices. – Incentive measures encourage local communities to pursue sustainable livelihood options. – Integrated management of land resources promoted. – Indigenous resource management practices strengthened. – Public-private partnership promoted. – Efficient use of water resources. – Soil conservation measures introduced.	– Enabling policy and framework recommended. – Ecosystem stability and integrity restored at the feasibility study sites. – Knowledge and awareness barrier overcome to thatch local benefits. – Innovative funding mechanism devised. – Enhance individual and institutional capacity. – Improved decision support system. – Alternate livelihood introduced for poverty reduction. – Mainstreaming SLM into land use planning. – Integrated NRM promoted. – Land degradation and desertification mapped.
Global Benefits	– Current land management practices are unsustainable. – Existing sectoral policies and laws do not provide enabling environment for SLM. – Degradation of dry -and ecosystems. – Rapid loss of globally threatened species. – Loss of vegetative cover. – Limited understanding of land degradation and desertification process and their consequences.	– Enabling environment for SLM provided. – Improved Carbon sequestration. – Restoration of degraded ecosystems. – Conservation of biological diversity of global significance. – Local communities adopt alternate sustainable livelihoods. – Enhanced technical capacity and financial resources.	– Local communities and private sector become active partners. – Participatory management regimes introduced at local levels. – SLM interventions provide demonstration value for replication of best practices to other regions of the world. – Improved international

	– Limited human and institutional capacity. – NAP not yet mainstreamed into sectoral polices and – No public and private partnership for SLM. – Lack of funding and sustainable financial resources. – High incidence of rural poverty. – Senior policy and decision makers and local communities are unaware of consequences of land degradation. – No incentive for SLM practices.	– SLM principles integrated into land use planning. – Enhanced knowledge and awareness.	coordination. – Lesson learnt and best practices documented and disseminated. – Global and regional network on SLM promoted. – Enhanced carbon sequestration. – Indigenous knowledge and land use practices documented and strengthened. – Conservation of globally significant plant and animal species.

Costs	Baseline (B)	GEF Alternatives (A)	Increment (A-B)
Outcome 1: Enabling Environment for Mainstreaming SLM Practices Created	– National Policies: ▪ Agriculture ▪ Livestock ▪ Forest, and ▪ Water – National Action Plan (NAP) to combat desertification & mitigate drought – Biodiversity Action Plan (BAP) – NWFP Forest Policy – Punjab Forest Policy (Draft) – Pakistan PRSP – Balochistan PRSP – Pakistan Water Sector Strategy 2002 – National Water Policy (draft) – MTDF 2005-10 – National Task Force for creation of NDCF ***$550,000***	– Sectoral policies provides SLM guidelines/principles for creating enabling environment – Policy barriers removed. – Land management policies provide incentives for local people to manage and sustainably use land resources. – In-appropriate subsidies are removed or modified to ensure SLM practices. – Mainstreaming NAP into national strategies and plans to achieve Millennium Development Goals. – Innovative mechanisms for financing land degradation and desertification control measures explored and a strategy recommended for adoption by the GoP. ***$932,168***	***GEF: $304,111*** ***Co-financing: $78,057 (in-cash)***
Outcome 2: Capacity for Sustainable Land	– National Center for Drought/Environment Monitoring & Early Warning (Rs.164.80 m)[4]	– Barriers removed to enhance capacity and coordination. – Enhanced individual and institutional	***GEF: $485,360*** ***Co-financing: $208,984 (in-cash)*** ***$400,000 (parallel)***

[4] One US$ = Rs.59.70 (UNDP's August 2006 exchange rate)

Management Enhanced	– Restructuring & Strengthening of National Agri. Research System (phase-I) (Rs.614.1 m) – Technical Assistance for capacity building for implementing (Drought Emergency Relief Assistance) DERA Programme (Rs.38.4 m) – Establishment of Dry Land Research Centre at Kharan, Balochistan (Rs.43.39 m) – Raising nurseries and research on various drought resistance species (Rs.8.84 m) – Up-gradation of Sohawa and Fateh Jang Research Stations and strengthening SAWCRI, Chakwal, Punjab (Rs.18.77 m) – Strengthening of laser land leveling services in Punjab (Rs.267.28 m) – Strengthening agriculture publicity through mass media (Rs.7.57 m) – Introduction of high yielding fodder varieties through public private partnership (Rs.100.0 m) – Research and studies for integrated water resources management (Rs.10.0 m) – Technical Assistance for development renewable energy and institutional capacity building of the Alternative Energy Board (Rs.15.32 m) ***$21,946,,000***	capacity for SLM – Substantial improvement in ability of relevant agencies to meet global environmental commitments. – Enhanced capacities of the land management agencies will help in protecting ecosystem integrity. – Enhanced inter-agencies and inter-sectoral collaboration to address land degradation issues. – Enhanced capacity in targeted research and monitoring ecosystem health. – Awareness among general public and policy makers created. – Improved decision support system. – Early warning system for drought monitoring contributing to drought preparedness. – Public-private partnerships promoted to combat desertification in the country. – Enhanced understanding of ecosystem integrity and services. – Global and regional knowledge networks strengthened – Awareness raising strategies around national, regional and global events e.g. 2006 International Year for Desertification. – Reduced pressure on globally significant dry land ecosystem. – Improved protection of globally and regionally significant ecosystems. – Behavior change toward land resources. – Increased understanding for controlling land degradation and desertification. ***$23,040,344***	
Outcome 3: SLM principles Mainstreamed into	– Preparation of national land use plan (Rs.33.0 m) – National agriculture land use plan	– Mainstreaming SLM principles into sectoral planning. – Participatory land use planning	***GEF: $310,885*** ***Co-financing: $220,889 (in-cash)*** ***$200,000 (Parallel)***

Land Use Planning	(Rs.136.9 m) – Land use planning in NWFP (Rs.30.32 m) – Establishment of agriculture marketing information system (AMIS) Punjab (Rs.190.067 m) – Establishment of management information system (MIS) in Irrigation Department of Punjab (Rs.5.0 m) ***$6,733,000***	– GIS and RS capabilities strengthened. – SLM practices integrated into provincial land use planning. – Sustainability of SLM interventions at feasibility study. – Decision support system improved through introduction GIS tools. – Data on extent of land degradation and desertification readily available. – SLM information system established. ***$7,464,774***	
Outcome 4: Participatory feasibility studies Pilot Projects) for demonstrating SLM practices conducted	– Rehabilitation of Rangelands of Pothwar Tract of Punjab through Participation of Local Communities (Rs.24.8 m) – Pilot project for promotion of water conservation technology through introduction of high efficiency irrigation system in Punjab, NWFP and Sindh (Rs.497.4 m) – Pilot project for promotion and expansion Of trickle irrigation programme in Balochistan (Rs.219.7 m) – Construction of small dams on Daraban, Chaudwan, and Sheikh Haider Zam in D.I. Khan and Tank, NWFP (Rs.30.98 m) – Feasibility study of small dams & delay action dam in southern area of NWFP (Rs.43.98 m) – Afforestation over state land in southern districts of NWFP (Rs.33.85 m) – Environment rehabilitation around small dams in southern districts of NWFP (Rs.10.0 m) – Increasing rangelands (Barani lands) productivity through range improvement and mitigation of poverty alleviation (Karachi, Thatta and Thar) (Rs.7.23 m) – Revamping rangelands with participation	– Biodiversity conservation values enhanced – Enhanced carbon storage capacity through improving vegetative and soil cover. – Improved functional integrity of dryland ecosystems. – Reduction in rural poverty – Sustainable use of natural resources introduced to eradicate poverty. – Vulnerability to climate change impacts reduced. – Integrated management of natural resources introduced at provincial and local levels. – Involvement of private sector in desertification control measures. – Water conservation promoted through micro irrigation measures. – Strengthening indigenous land use practices. – Participatory drought mitigation and local livelihoods enhancement measures – Alternate livelihoods identified to reduce pressure on degraded ecosystems.	***GEF: $618,800*** ***Co-financing:$ 820,200 (in-cash)***

	stakeholders in Punjab (Rs.72.81 m) – Construction of small dams in district Attock (Rs.300.0 m) – Construction of small dams in district Chakwal (Rs.500. m) ***$29,649,974***	***$31,088,974***	
Outcome 5: Documentation of Lessons learnt, Evaluation & Adaptive Management Increased	This includes staff time and existing facilities at: – Planning Commission – MINFAL staff – MoE staff – Provincial Planning and Development Departments – Project Steering Committee – Project Technical Committee ***$500,000***	– Capable staff in place to manage and coordinate project impact. – Effective monitoring and evaluation system in place – National Desertification Control Units established at national and provincial levels as envisaged under NAP. – Efficient coordination mechanism in place. – Lesson learnt and best practices documented and disseminated at regional and global level. ***$772'960***	***GEF: $132,292*** ***Co-financing: $140,668 (in-cash)***
Total Phase I	**US$59.379 million**	**US$63.979 million**	**US$4.6 million**
Phase II (Demonstration of activities that can directly address socio-econ and behavioral barriers to SLM) Note: The precise Outcomes of Phase II will be developed during Phase I.	Forestry, Rangeland and Watershed Development; Agriculture and Livestock Development; Water and Irrigation Development schemes; Poverty Reduction projects/programmes These programmes will not be integrating SLM principles and the estimated expenditures on them are US$ 133.15 million. (During Phase I, these baseline estimates will be further refined)	Add on demonstration of innovations in sustainable agriculture practices, water and soil conservation techniques, integrated management of natural resources, sustainable pastoral activities, and agro-forestry so as to address socio-economic and behavioral barriers to SLM. Strategy for integrating the lessons of these demonstrations into relevant government development schemes (internalizing the demonstrations), so as to be able to replicate this upon project completion	***GEF: $5,500,000*** ***Co-financing:$ 7,000,000***
Total Phase II	**US$ 133.153 million**	**US$ 145.65 million**	**US$ 12.5 million**
Total: **Phase I + Phase II=**	**US$ 192.532 million**	**US$209.629 million**	**US$17.1 million**

PART II

A: Summarized Logical Framework Analysis

Project Summary	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
Goal	**Combat land degradation and desertification in Pakistan**				
Objective: Strengthening institutional capacity, creating enabling environment, and demonstrating Sustainable Land Management (SLM) practices to remove key barriers for restoration of degraded ecosystems, in the context of sustainable development and poverty reduction.	– National Desertification Cell and Provincial Desertification Units established and functioning by the end of PY7	– 0	– 1 National and 4 Provincial Coordination Units established by PY1 and converted into respective desertification cells/units by PY7	– Progress reports – Independent evaluation report – Country report to UNCCD – Project Termination Report	– Current political and economic stability continues to hold in the country. – Prevailing climate change impact (i.e. drought cycle) in south and south-western part of the country ends. – Political situation in the neighboring countries remains stable and there is no further influx of refugees. – Co-financing is secured from Government allocations and other donors. – Government willingness to accept and implement policy reforms and mainstreaming SLM into sectoral policies – Sustained funding commitment from GEF and other donors
	– Enabling environment created by mainstreaming NAP and SLM guidelines into sectoral policies and developing integrated land use plans	– National and provincial sectoral policies and development plans	– NAP mainstreamed into sectoral policies – SLM guidelines developed by PY2 and integrated into next 5-years development plan – 10 integrated site specific land use plans developed by PY2 and implemented by PY7	– Progress reports – Federal sectoral policies and next 5-years plan – Integrated site specific land use plans	
	– SLM practices introduced at feasibility study sites in Phase-I and up-scaled to larger geographic area through demonstration of best practices under Phase-II for combating desertification and land degradation	– 0	– SLM practices introduced at 10 feasibility study sites by PY2 and up-scaled to larger demonstration sites by PY7 – Desertification and land degradation controlled by 20% at feasibility study sites by PY 3 and 50% by PY 7	– Independent evaluation at the end of PY 2 and 7. – Monitoring/Progress reports – Impact assessment reports – Change detection maps/reports using GIS/RS tools	
	– Project communities are participating in SLM interventions and have increased their average household income as compared to baseline.	– To be determined by PY1	– 50% of households benefiting directly from the project and their income increased by 20% by PY 5 and 30% by PY7	– Poverty related studies and household surveys at project sites – Socio-economic survey reports	

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
utcome 1: Enabling nvironment for ainstreaming SLM ractices created	– Number of sectoral polices that incorporate SLM guidelines	– National sectoral policies on environment, agriculture, forest and water – Pakistan-PRSP	– 2 national studies conducted by PY2 to recommend SLM guidelines for sectoral policies – SLM guidelines integrated into sectoral policies and PRSP by PY5	– Study reports – Reformed sectoral policies – PRSP containing SLM guidelines	– Political situation remains conducive for policy reforms. – Federal ministries, PRSP secretariat, provincial line agencies and district governments are collaborating and receptive for introducing SLM practices. – Long-term financial support by the Government and donors to arrest land degradation – Govt. and donor community is willing to contribute to NDCF – Transparent distribution of funds based on local needs and extent of desertification problem
	– NAP mainstreamed into sectoral policies and development plans and its implementation facilitated	– NAP Document	– Conduct participatory review/gap analysis of NAP by PY1 – NAP mainstreamed into sectoral plans by PY2 and 50% of its measures implemented by PY7	– Consultative workshop proceedings – Sectoral polices reflecting recommendation of NAP	
	– SLM Criteria and Indicators (C&I) developed and adopted	– 0	– C&I for SLM developed by PY2 and used by the stakeholders by the end of Phase-II (PY7)	– C &I background paper – Stakeholders consultations report – SLM C&I document – Progress reports	
Outcome 2: Capacity for Sustainable Land Management Enhanced	– Institutional capacity and coordination mechanisms at national, provincial and local levels strengthened	– Relevant federal ministries and provincial P& D Depts. – NCCD	– NCCD revived and PCCDs established by PY1 – National and provincial coordination units established by PY1 (Outcome 5) converted to desertification cells by PY7 – CBOs established at pilot project sites by PY1	– Progress reports – Evaluation reports – Minutes of NCCD, PCCD and CBOs meetings	– Provincial governments are collaborating and participating in desertification control measures. – Line agencies and communities are committed to enhance their capabilities – District government's cooperation is available. – Coordination among research institutions maintained
	– Technical capacity of relevant ministries, line agencies, dry-land research institutions and local communities enhanced to implement SLM practices.	– Relevant line agencies, dry-land research institutes, and local communities	– Capacity gaps of line agencies and local communities identified and training plans developed by PY1. – 4 training workshops conducted by PY2	– Capacity gap analysis report – Training plans available – Training material – Number of staff of line agencies trained – Number of training workshops organized	

	– Existing research institutes oriented toward targeted research on SLM	– Existing dryland research institutions	– At least 3 dry-land research institutes participating and conducting targeted research studies by PY2 & 5 by PY7	– Research study reports – Field visits – Project progress reports – Evaluation reports	– Local communities are receptive to new techniques
	– Early warning system and mechanism for monitoring drought supported	– Existing drought monitoring and warning system – Existing drought contingency plan	– National center for drought monitoring strengthened by PY2 – Revised drought contingency plan prepared by PY4	– Annual report of National Center for Monitoring Drought – Revised contingency plan – Progress reports	– Concerned agencies are collaborating and timely sharing information – Govt. is willing to commit resources for the early warning system and contingency plans
	– Awareness on desertification issues and SLM raised	– Existing agriculture and livestock extension services and their awareness campaigns	– Awareness raising strategy on SLM developed by PY1 and implemented by PY2. – SLMP Web site maintained – 5 posters, 5 leaflets and 1 documentary prepared by PY 2 in national and local languages.	– Strategy document – Print and electronic media campaigns – # of visitors to the web site – Number of posters, and leaflets prepared and distributed among project partners and local communities	– Pakistan's current print and electronic media policy continues.
Outcome 3: Sustainable land management principles mainstreamed into land use planning	– SLM guideline integrated into national and provincial land use plans	– National land use planning process	– SLM guidelines integrated into national land use plans by PY2 – 2 provincial land use plans developed by PY2 and remaining 2 by PY4	– National land use plan/maps – Consultative land use planning workshop reports – Provincial land use plans/maps	– Provincial Governments are willing to take up and implement land use plans. – Willingness to share Information and use of GIS outputs by the line agencies
	– GIS based SLM Information System (SLMIS) developed for monitoring impact and periodic changes at feasibility/demonstration sites	– Existing database with stakeholders	– Baseline at 10 feasibility study sites established by PY1 – A comprehensive GIS database on SLM available by PY2 – Performance indicators for each study site identified by PY1 and integrated into SLMIS	– Interactive database available at SLMP website – Local land use plans developed based on information from GIS data sets – Annual progress reports – Performance indicator document – Change detection maps/reports	
Outcome 4: Participatory feasibility studies (Pilot Projects) for demonstrating SLM practices conducted	– Feasibility studies/pilot testing conducted in Phase-I and up-scaled to full demonstration in Phase-II	– 0	– 9 participatory feasibility studies conducted at 10 pilot sites by PY2 and up-scaled by PY7 – 10 participatory land use plans developed by PY2 and implemented by PY5	– Progress reports – Field visit reports – Independent evaluation mission reports – Site specific land use plans	– Government is committed to community participation in natural resources management – Line agencies, district governments and

	– Number of local communities mobilized for implementing SLM interventions	– 0	– CBOs and 10 cluster organizations established by PY2	– Progress reports – Number of CBOs organized/ strengthened – CBOs meeting records	communities are participating in planning and implementation of pilot projects. – Timely delivery of inputs
	– Impact of feasibility studies/pilot testing on poverty reduction monitored.	– 0	– 50% of participating households at feasibility study sites have increased their income by 20% by PY 5 and 30% by PY7	– Independent mission reports – Socio-economic survey reports	– No major climatic incidents
utcome 5: ocumentation of ssons Learnt, valuation & adaptive anagement creased	– National and Provincial Coordination Units converted into respective desertification control cells.	– 0	– National and Provincial Coordination Units established by PY1 (Outcome 2) converted into respective desertification cells by PY7	– Project progress reports – Independent mission report	– Funding available on time – Follow up funds are sustaining desertification cells after the project life
	– Monitoring and evaluation mechanism developed and implemented	– 0	– M & E strategy developed by PY1 and implemented throughout the project life – External evaluation of Phase-I conducted by the end of PY2 – Project impact study conducted by PY6 – Final independent evaluation by PY7	– Quarterly progress reports – Annual progress reports – List and description of monitoring indicators – Minutes of the PSC – Minutes of the PTC – External evaluation report – Field visit reports – Impact study reports – Project termination report	– MoUs signed and adhered to by the partners and if a issue, obstacle arise there are mechanisms in place to address them – Dissemination of lessons learned unhindered
	– Lessons learnt and best practices documented and disseminated	– 0	– 3 lessons learnt report prepared by PY2, PY4 and PY6 – 1 best practices report prepared by PY2, PY4 and PY6 – Socio-economic impact study conducted at feasibility study sites by PY6	– Baseline study reports – Evaluation reports – Field visits & surveys – 1 best practices report prepared by PY2, PY4 and PY6 – Study reports – News/articles and technical papers	

B: Detailed Project Logical Framework Analysis

Project Summary	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
Goal	**Combat land degradation and desertification in Pakistan**				
Objective: Strengthening institutional capacity, creating enabling environment, and demonstrating Sustainable Land Management (SLM) practices to remove key barriers for restoration of degraded ecosystems, in the context of sustainable development and poverty reduction.	– National Desertification Cell and Provincial Desertification Units established and functioning by the end of PY7 (Tranche-I).	– 0	– 1 National and 4 Provincial Coordination Units established by PY1 and converted to respective desertification cells/units by PY7	– Progress reports – Independent evaluation report – Country report to UNCCD – Project Termination Report	– Current political and economic stability continues to hold in the country. – Prevailing climate change impact (i.e. drought cycle) in south and south-western part of the country ends. – Political situation in the neighboring countries remains stable and there is no further influx of refugees. – Co-financing is secured from Government allocations and other donors. – Government willingness to accept and implement policy reforms and mainstreaming SLM into sectoral policies – Sustained funding commitment from GEF and other donors
	– Enabling environment created by mainstreaming NAP and SLM guidelines into sectoral policies and development plans	– National and provincial sectoral policies and development plans	– NAP mainstreamed into sectoral policies – SLM guidelines developed by PY2 and integrated into next 5-years plan (2010-15) – National Desertification Control Fund (NDCF) established by PY5	– Progress reports – Federal sectoral policies and next 5-years plan – Financial reports regarding NDCF	
	– Integrated land use plans developed and implemented for restoration of degraded ecosystems	– In-process National land use plan – In-process National agriculture land use plan	– 10 integrated site specific land use plans developed by PY2 and implemented by PY7 – 4 provincial integrated land use plans developed by PY5 and implemented by PY7	– Integrated site specific land use plans – Provincial land use plans available – Minutes of the Provincial Project Coordination Committee	
	– SLM practices introduced at feasibility study sites in Tranche-I and up-scaled to larger geographic area through demonstration of best practices under Tranche-II	– 0	– SLM practices introduced at 10 feasibility study sites by PY2 and up-scaled to larger demonstration sites by PY7	– Independent evaluation at the end of PY 2 and 7. – Federal and provincial 5-years plans – Impact assessment reports	
	– Desertification and land degradation reduced at all the project sites as compared to baseline.	– To be determined by PY1	– Desertification and land degradation controlled by 20% at feasibility study sites by PY 3 and 50% by PY 7	– Monitoring/Progress reports. – Field visit reports – Change detection maps/reports using GIS/RS tools	
	– Project communities are participating	– To be	– 50% of households benefiting	– Poverty related studies and	

	in SLM interventions and have increased their average household income as compared to baseline.	determined during PY1	directly from the project and their income increased by 20% by PY 5 and 30% by PY7	household surveys at project sites – Socio-economic survey reports	

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
Outcome 1: Enabling Environment for Mainstreaming SLM Practices Created	– Number of sectoral polices that incorporate SLM guidelines	– Existing sectoral policies – Pakistan-PRSP	– SLM Guidelines integrated into national agriculture, forest and water policies as well as PRSP by PY7	– Reformed sectoral policies – PRSP	– Political situation remains conducive for policy reforms. – Federal ministries, provincial line agencies and district governments are collaborating and receptive for introducing SLM practices.
	– NAP mainstreamed into sectoral policies and development plans by and its implementation facilitated	– NAP Document	– NAP mainstreamed into sectoral policies i.e. agriculture, forestry and water by PY2 and 50 % of its measures implemented by PY7	– Sectoral polices reflect recommendation of NAP	
	– SLM Criteria and Indicators (C&I) developed and adopted	– 0	– SLM C&I developed by PY2 and used by the stakeholders by PY7.	– SLM C&I document – Special study report – Progress reports	
Output 1.1: Appropriate policy reforms for SLM recommended	– National sectoral polices harmonized for adoption of SLM practices	– National Policies on Environment, Forest, and Water	– 2 national studies conducted by PY2 for making recommendations for inclusion of SLM guidelines into forest, agriculture and water polices by PY 2 – One study conducted to identify in-appropriate subsidies/ incentives	– Guideline and policy review papers available – Revised sectoral policies – Minutes of the stakeholders consultative meetings – Study reports	– Government committed to SLM interventions – Coordination between sectoral agencies exists at federal and provincial levels
Output 1.2: NAP mainstreamed into sectoral planning	– Gap analysis of NAP conducted	– NAP Document	– One national study for gap analysis of NAP conducted by PY1	– Review report – Quarterly/Annual Progress report –	– Government committed to adopt NAP
	– NAP mainstreamed into sectoral planning	– NAP Document and sectoral plans	– 1 National and 4 provincial workshops held by PY2 – NAP mainstreamed into sectoral plans by PY2 and 50% of its measures implemented by the end of Phase-II	– Consultation workshop proceedings. – NAP document and revised sectoral plans	

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
Output 1.3: National Criteria & Indicators (C & I) Developed for SLM	– C&I for SLM developed and adopted	– 0	– 1 Background Paper prepared by PY1 – 2 stakeholders consultation workshops held by PY2 – C & I for SLM developed & adopted by PY2 and implemented by PY7	– Background Paper – Workshop reports – C&I document – Progress reports	– Stakeholders are willing to participate in C&I development and their implementation
Output 1.4: Project Document for Tranche-II developed	– Project document for Tranche II prepared and submitted to the GoP and UNDP-GEF	– Project Document for Tranche-I – Quarterly and annual progress reports of Tranche-I	– 5 Consultative Workshops held by PY1.5 – Project Document for Tranche-II prepared and submitted by PY 2 – Co-financing secured for Tranche-II	– Stakeholders consultation reports – Project document – Co-financing commitment letters	– Continued political commitment to SLMP and its interventions – Long-term financial support by the Government and donors to arrest land degradation
Output 1.5: National Desertification Control Fund (NDCF) established	– Feasibility study for establishment of NDCF conducted	– Recommendation for NDCF under NAP	– Feasibility study for establishment of NDCF completed by PY2 and NDCF established in PY5	– Feasibility study report – Local stakeholders' have access to NDCF	– Govt. and donor community is willing to contribute to NDCF – Transparent distribution of funds based on local needs and extent of desertification problem
	– Funding for NDCF secured	– 0	– Funds of ~US$ 3 million secured from donors/GoP by PY5	– PC-I (standard Govt. document) – Donor commitments/ financial statements	
	– National Task Force on NDCF revived	– National Task Force on NDCF	– Task force revised/revived by PY 2 – 20 small grant projects reviewed and approved by PY 7	– Minutes of the task force meetings – Number of small-grant projects reviewed and endorsed	
Outcome 2: Capacity for Sustainable Land Management Enhanced	– Coordination mechanism at national and provincial established	– Relevant federal ministries and provincial P& D Depts.	– 1 National and 4 Provincial Coordination Units established by PY1 and converted to respective desertification cells/units by PY7	– Annual progress reports – Evaluation mission report – Minutes of the NCCD/PCCD meetings	– Provincial governments are collaborating and participating in desertification control measures.

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
	– Technical capacity of relevant ministries, line agencies, dry-land research institutions and local communities enhanced to implement SLM practices.	– Relevant line agencies, dry-land research institutes, and communities	– 80 staff members of line ministries/departments, research institutions and 250 community activists trained by PY2	– Number of training workshops organized – Number of targeted research initiatives	– Local communities are participating in the project.
Output 2.1: Institutional capacity at National, Provincial and Local levels strengthened	– National and provincial desertification cells/units established	– 0	– 1 National and 4 provincial desertification cells/units established by PY7	– Progress reports – Evaluation reports – Mission reports	– Line agencies and communities are committed to enhance their capabilities regarding SLM practices – District government's cooperation is available.
	– Capacity gaps of provincial and local agencies identified and training plans developed.	– 0	– 4 Training plans developed by PY2 based on capacity gaps identified PY 1 – 80 staff members from provincial line agencies trained for SLM	– Capacity need assessment reports – Training plans available – Training material – Number of staff of line agencies trained	
	– Community representatives trained and certified to facilitate SLM interventions	– 0	– 100 Community representatives trained and certified by PY2 and 150 by PY5	– Number of community representatives trained	
Output 2.2: Apex bodies for coordination of desertification control measures formed	– National Coordination Committee on Desertification (NCCD) revived to implement UNCCD and NAP	– NCCD and NAP	– 2 meetings of NCCD held by PY2 – 20 SLM projects/ interventions recommended for NDCF support by PY7	– Minutes of NCCD meetings – Project concepts/documents	– Provincial governments agreed to establish PCCDs – Government agreed to support priority projects
	– Provincial Coordination Committees on Desertification (PCCDs) established	– 0	– 4 PCCDs established by PY1 – Bi-annual meetings of PCCD held	– Notification by P&D Depts. – Minutes of the PCCD meetings – Project concepts/documents	
Output 2.3: Orientation of research institutes towards targeted SLM activities	– Key dry land research institutions are participating in targeted research	– Existing Dry land Research Institutes	– At least 3 dry-land research institutes participating in the project activities by PY2 & 5 by PY7	– Research study reports – Field visits – Mission reports	– Coordination among research institutions maintained – Donor commitment is maintained – Local communities
	– Targeted research studies conducted and findings implemented	– 0	– 3 targeted research studies conducted by PY2 and 5 by PY7	– Project progress reports – Evaluation reports	

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
	– Networking of dryland research institutes and mechanism to implement research findings by the farmers/pastoral communities developed	– 0	– One national seminars arranged on Dry Land management by PY 2 – 4 farmers/pastoral communities conventions held by PY4	– Seminar/convention reports – Targeted research findings	are receptive to new techniques
Output 2.4: Public – Private partnership promoted	– Willingness of private sector's participation in dry-land management assessed. – Public-private partner investment plans designed and implemented	– 0 – 0	– Meetings/dialogues with private sector – 2 programs designed PY2 and implemented by PY7	– Assessment reports – Minutes of the meetings – Partnership agreements – Progress reports	– Private sector is willing to invest in SLM promotion
Output 2.5: Knowledge generated for sustainable land management	– Early warning system and mechanism for monitoring drought supported – – Number of climate change impact studies conducted	– Existing drought contingency plan at the Planning Commission – 0	– National center for drought monitoring strengthened by PY2 – Drought contingency plan revised by PY4 – 2 studies conducted by PY4	– National Center for monitoring drought – Early warnings issued – Contingency plan document – Study reports – Progress reports – Evaluation report	– Concerned agencies are collaborating and timely sharing information – Co-financing is available – Govt. is willing to commit resources for contingency plans
Output 2.6: Outreach & Awareness raised	– Awareness raising strategy on SLM developed and implemented	– Existing agriculture and livestock extension services	– Awareness raising strategy on SLM developed by PY1 and implemented by PY2	– Strategy document – Print and electronic media campaigns	– Pakistan's current print and electronic media policy continues.
	– Mass awareness messages through print and electronic media	– Existing mass media campaigns of agriculture, forestry and livestock depts.	– SLMP Web site maintained – 5 Posters, 5 leaflets and 1 documentary prepared by PY 2 – Profession/expert server list developed/maintained by PY2	– Number of visitors to the web site – Number of posters, and leaflets prepared – Server list and number of members	

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
Outcome 3: SLM Principles Mainstreamed into Land Use Planning	– SLM guideline integrated into national and provincial land use plans –	– National land use planning process	– SLM guidelines integrated into national land use plans by PY2 – 4 provincial land use plans developed by PY3	– National and provincial land use plans/maps – Consultative land use planning workshop reports – Provincial land use plans	– National land use planning project are willing to collaborate – Provincial Governments are willing to take up and implement land use plans.
	– GIS database on SLM developed –	– Existing database with stakeholders	– A comprehensive GIS database on SLM available by PY2	– Interactive database available at SLMP website	
Output 3.1: National and provincial land use plans developed/harmonized to SLM principles	– National land use planning process harmonized to SLM practices	– On-going national land use planning projects	– National land planning process harmonized toward SLM practices by PY2	– Minutes of the meetings with national land use planning agencies – National land use plans/maps	– Effective collaboration of provincial P&D Depts.
	– Provincial land use plans developed	– 0	– 2 provincial land use plans developed in PY2 and remaining 2 by PY3	– Minutes of the provincial stakeholders' meetings – Provincial land use plans/maps	
Output 3.2: SLM Information System based on GIS database developed	– Baseline at feasibility study sites established	– 0	– Extent of desertification at all 10 feasibility study sites mapped by PY2	– State of the art GIS/RS section	– Willingness to share Information and use of GIS outputs by the line agencies in planning and decision making
	– GIS database on land degradation and desertification developed	– Data at PFI, WWF, IWMI, ADPB, and other organizations	– Existing data accumulated and incorporated in SLM information system by PY2	– SLM plans developed based on information from GIS data sets	
	– Gaps analysis of GIS database conducted	– 0	– Field surveys conducted to fill gaps in the GIS database/SLM information system by PY2	– Field Survey reports – SLM Database –	
	– Use of GIS based data in decision making process introduced	– 0	– Decision Support System (DSS) for SLM by PY4	– DSS software/model – Records of relevant line agencies showing use of information based on GIS outputs and data	
Output 3.3: Sustainability of SLM practices at feasibility study/demonstration	– Periodic changes monitored	– 0	– Performance indicators identified by PY1 and monitored throughout project life	– Study reports – Change detection maps – M & E reports	– Appropriate performance indicators defined

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
sites assessed			– Change detection studies conducted at 10 sites	– Performance indicator document	
Outcome 4: Participatory Feasibility Studies (pilot projects) for Demonstrating SLM Practices Conducted	– Number of feasibility studies/pilot testing conducted and up-scaled to full demonstration – Site specific land use plans developed	– 0 – 0	– 9 feasibility studies conducted at 10 sites by PY2 and up-scaled by PY7 – 10 participatory land use plans developed by PY2 and implemented by PY5	– Progress reports – Field visit reports – Local land use planning reports – Site specific land use plans	– Active participation of local community in site specific planning – Line agencies, local govt. and communities fully participating in implementation of studies.
	– Number of local communities mobilized for implementing SLM interventions	– 0	– 100 CBOs and 10 cluster organizations established by PY2	– Progress reports – Number of CBOs and WOs organized/ strengthened – CBOs meeting records	– Timely delivery of inputs and implementation of studies
	– Impact of feasibility studies/pilot testing on poverty reduction monitored.	– 0	– 50% of participating households have increased their income by 20% by PY 5 and 30% by PY7	– Independent mission reports – Socio-economic survey reports	
Output 4.1: Integrated management of water resources and rangelands in Chakwal & Attock districts of Punjab	– Community mobilized and site specific SLM plans prepared – Capacity of local communities in SLM built – Indigenous water harvesting and dry land agriculture practices improved – Depleted rangelands rehabilitated – Innovative rain water harvesting techniques tested and introduced – Low delta cash crops introduced	– 0	– 10 CBOs formed by PY1.5 and one local land use plan prepared by PY2 – 20 community activists trained by PY2 – 20 water harvesting structures constructed – 1000 ha of depleted rangelands rehabilitated – 2 low delta crops/ tree species introduced	– SLM Plan – Quarterly and annual progress reports – Field visit reports – Minutes of project staff and CBO meetings – Independent mission reports – Tranche-I evaluation report	– Government is committed to encourage local community participation and decentralize management of natural resources. – Local communities are actively

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
Output 4.2: Poverty alleviation through soil conservation measures in District Bhakkar, Punjab	– CBO established and site specific Soil Conservation Plans prepared – Capacity of local communities in SLM – Shelterbelts/wind breaks established – High efficiency irrigation system (HEIS) introduced – Dry afforestation promoted – Wind erosion controlled	– 0	– 10 CBOs formed by PY2 and one land use plan – 20 community activists trained by PY2 – 10 shelter belts established by PY2 – HEIS introduced at 5 acres by PY4 – 5000 trees/shrubs planted – Rate wind erosion reduced by % 30	– Soil Conservation plan – Field visit report – Progress reports – Minutes of project staff and CBO meetings – Tranche-I evaluation report	participating in SLM practices – Local level coordination among line agencies, NGOs and CBOs create favorable conditions for collective planning
Output 4.3: Integrated Natural Resource Management with the involvement of pastoralist communities in Rakhshan Valley District Kharan, Balochistan	– Pastoral communities organized and integrated NRM plan developed – Transhumant and nomadic system of range utilization revived – Stock water ponds constructed to harvest rain water – Indigenous horticulture practices strengthened – Dry-land afforestation introduced – Sustainable use of medicinal plants explored	– 0	– 10 pastoral communities organized by PY2 – One integrated NRM plan developed by PY2 – 10 community activists trained by PY2 and 10 by PY4 – 20 stock water ponds – 5 acre plots of indigenous fruit trees established by PY3 – 2000 trees/shrubs planted – Medicinal plants study conducted by PY3	– Integrated Management Plan – Field visit report – Quarterly and annual progress reports – Minutes of project staff and CBO meetings – Special study reports – Evaluation report of tranche I	– No major climatic incidents that disrupts local agriculture and livestock production
Output 4.4: Sustainable use of Mazri Palm and NTFP with the involvement of local communities and private sector in District Awaran, Balochistan	– Local community moblized – Sustainable use plan developed – Depleted sites rehabilitated – Number of nurseries established for propagation and regeneration Mazri Palm by PY2 – Local community trained to make value added products of Mazri Palm and NTFP by PY2 – Number of households directly benefiting from sustainable use of NTFP	– 0	– 10 CBOs formed by PY1.5 – One sustainable use plan developed by PY2 – 10 community activists trained by PY 2 and 15 by PY5 in making value added products – 200 acres of depleted sites rehabilitated by PY4 – 2 nurseries established PY 2 – 50% households receiving increased income by 20% by PY3	– Resource Assessment report – Progress reports – Sustainable use plan – Regulatory framework – Independent mission reports – Field visit reports	

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
Output 4.5: Sustainable Land Management by introduction of low delta and high commercial value crops with micro irrigation in Surkhab, District Pishin, Balochistan	– Number of communities moblized – Socio-economic study conducted – Number of demonstration sites of HEIS developed – Number of farmers trained in operation and maintenance of micro irrigation systems – Water erosion control measures introduced – Native low delta – high commercial value crops and fruits varieties introduced	– 0	– 10 CBOs formed by PY2 – 1 study conducted by PY1.5 – 5 demonstration sites developed – 10 community activists trained by PY2 – Water erosion reduced by 20% by PY5 – 4 low delta/high commercial value crops/fruits varieties introduced by PY5	– Field visit report – Quarterly and annual progress reports – Independent mission reports – Minutes of project staff and CBO meetings – Special study reports	
Output 4.6: Conservation of water and soil with the involvement of local communities in Shaikh Haider Zam, District D. I. Khan in NWFP.	– Number of communities mobilized – Indigenous irrigation system (Rod Kohi) revived – Plant nurseries established – Dry land afforestation promoted – Depleted rangelands rehabilitated – Water harvesting structure/bunds constructed – Alternative livelihood (Apiculture/horticulture) introduced	– Existing project for livelihood improvement – Natural resource management project	– 10 CBOs formed by PY1.5 – Rod kohi system revived over 400 acres – 6 nurseries established by PY4 – 500 acres rangelands rehabilitated – 8 water harvesting devices/bunds by PY4 – 8 acres of horticulture plots established PY5	– Progress reports – Field visit report – Independent mission reports – Minutes of project staff and CBO meetings	
Output 4.7: Strengthening of traditional land use practices in low productive lands in District Lakki Marwat in NWFP	– Number of communities moblized – Land use plan developed by PY2 – Rain water harvesting promoted – Range condition and carrying capacity assessed in PY1 – Degraded rangelands rehabilitated – Number of households directly benefiting from project	– Barani area development project – Forestry Sector development Project	– 8 CBOs formed by PY1.5 – One land use plan developed by PY2 – 4 water ponds constructed by PY2 and 4 by PY4 – 500 ha of rangelands rehabilitated PY5 – 20% households directly benefiting and increase their income by 30% by PY5	– Assessment reports – Land use plan – Progress reports – Independent mission reports	

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
Output 4.8: Water harvesting and agriculture development in Kacho Area, Taluka Johi, District Dadu, Sindh	– Number of CBOs established – Number of small dams and water harvesting structure constructed – Number of drinking water supply schemes established on small dams with integration of bio sand filters (BSF) – Water courses rehabilitated	– 0	– 10 CBOs formed by PY2 – 5 water harvesting structures constructed by PY3 – 5 drinking water supply schemes developed by PY4 – 2000 m water courses rehabilitated by PY3	– Progress reports – Field visit report – Independent mission reports – Minutes of project staff and CBO meetings	
Output 4.9: Participatory NRM for drought mitigation and food security in District Tharparkar, Sindh	– Number of CBOs established – Number of agro-forestry farms developed – Water lifting techniques introduced – Number of micro irrigation systems installed – Vegetables and arid land crops raised – Number of acres planted with fodder trees and grasses to mitigate drought impact and supplement livestock feed requirements.	– 0	– 10 CBOs formed by PY2 – 2 agro-forestry farms developed – Water lifting techniques introduced at 5 sites by PY3 – HEIS installed on 4 acres by P3 – Vegetables and arid land crops raised on (10) acres by PY2 – 10 acres planted with fodder trees by PY2	– Progress reports – Field visit reports – Independent mission reports – Minutes of project staff and CBO meetings	
Outcome 5: **Documentation of Lessons Learnt, Evaluation & Adaptive Management Increased**	– National and Provincial Coordination Units (NCU & PCUs) established	– 0	– 1 National and 4 Provincial Coordination Units established by PY1 – NCU/PCUs converted to respective desertification cells/units by PY7	– Project progress reports	– Funding available on time
	– Lessons learnt documented and best practices recommended	– 0	– 3 lessons learnt report prepared by PY2, PY4 and PY6 – 3 best practices reports prepared, one each by PY2, PY4 and PY6	– Baseline study reports – Evaluation reports – Field visits & surveys – 1 best practices report prepared by PY2, PY4 and PY6	
	– Impact studies conducted to document outcomes of feasibility studies	– 0	– 3 impact studies conducted by PY6	– Study reports – Workshop proceedings – News/articles and technical papers	

Purpose	Performance Indicators	Baseline	Target	Means of Verification	Assumptions & Risks
Output 5.1: National & Provincial Coordination Units (NCU & PCU) established	– NCU established – PCUs established	– 0 – 0	– 1 NCU established in the MoE by PY1 and converted to National Desertification Cell by PY7 – 4 PCUs established in the provincial P&D Departments and converted to Provincial Desertification Units by PY7	– Quarterly and annual progress reports – Independent Evaluation mission reports – QPRs and APRs – Independent Evaluation mission reports	– Follow up funds are sustaining desertification cells/units after the project life
Output 5.2: Monitoring and Evaluation	– M & E strategy developed and implemented – External evaluation of Tranche-I conducted – Final (project termination) evaluation conducted	– 0 – Annual Progress reports – TPR reports – Midterm evaluation report – Progress reports – TPR reports	– M&E indicators finalized by PY1 – Bi-annual evaluation of project by PSC – External evaluation of Tranche I benchmarks carried out in PY2 – Socio-economic impact study conducted by PY6 – Final independent evaluation by PY7	– Quarterly progress reports – Annual progress reports – List and description of indicators – Minutes of the PSC – External evaluation report – Field visits & surveys – Impact study reports – Project termination report	– Adequate and reliable availability of funds – MoUs signed and adhered to by the partners and if a issue, obstacle arise there are mechanisms in place to address them
Output 5.3: Lessons learned document and disseminated	– Lessons learned documented and disseminated – Best SLM practices documented and disseminated at provincial, national and regional levels	– 0 – 0	– 3 lessons learnt report prepared by PY2, PY4 and PY6 – 3 biannual dissemination workshops held by PY7 – 3 best practices reports prepared, one each by PY2, PY4 and PY6	– Lesson learned reports – Dissemination workshop proceedings – Annual progress reports – Study reports – Best practices workshop proceedings	– Dissemination of lessons learned unhindered

TION III: TOTAL PROJECT BUDGET AND WORKPLAN

ID:	00053047
Title:	PIMS 3129 Pakistan Sustainable Land Management Project (Phase-I)
ness Unit	Energy and Environment
t Title:	PIMS 3129 Pakistan Sustainable Land Management Project (Phase-I)
enting / Executing y:	Ministry of Environment (MoE), Government of Pakistan

GEF come/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount 2008 (USD)	Amount 2009 (USD)	Total (USD)	See Budget Note Below
			GEF	71200	International Consultant	20,000	25,000	45,000	
				71300	Local Consultant	8,180	8,180	16,360	
				72100	Contractual Services Companies	112,625	130,126	242,751	
				Sub-Total GEF		**140,805**	**163,306**	**304,111**	
ne 1: g sment for eaming SLM es Created	MoE		UNDP	71300	Local Consultant	6,177	8,177	14,354	
				72100	Contractual Services Companies	-	2,303	2,303	
				71600	Travel	3,000	4,000	7,000	
				72200	Equipment & furniture	4,200	200	4,400	
				Sub-Total UNDP		**13,377**	**14,680**	**28,057**	
			GoP	72100	Contractual Services Companies	25000	25,000	50,000	
				Sub-Total GoP		**25,000**	**25,000**	**50,000**	
					Total Outcome - 1	**179,182**	**202,986**	**382,168**	
tcome 2:	MoE		GEF	71300	Local Consultant	11,180	11,180	22,360	

Capacity for Sustainable Land Management Enhanced				72100	Contractual Services Companies	222,800	240,200	463,000
			Sub-Total GEF			**233,980**	**251,380**	**485,360**
			UNDP	71300	Local Consultant	7,167	7,177	14,344
				71600	Travel	11,000	14,000	25,000
				72100	Contractual Services Companies	32,000	115,000	147,000
				72200	Equipment & furniture	8,900	-	8,900
				72400	Audio Visual Equipment	13,740	-	13,740
			Sub-Total UNDP			**72,807**	**136,177**	**208,984**
			GoP	72100	Contractual Services Companies	-	-	-
			Sub-Total GoP			-	-	-
			Total Outcome - 2			**306,787**	**387,557**	**694,344**
Outcome 3: Sustainable Land Management Principles Mainstreamed into Land Use Planning	MoE		GEF	71300	Local Consultant	31,380	31,380	62,760
				72100	Contractual Services Companies	101,325	132,000	233,325
				72800	GIS hardware and software	14,800	-	14,800
			Sub-Total GEF			**147,505**	**163,380**	**310,885**
			UNDP	71300	Local Consultant	34,657	34,657	69,314
				71600	Travel	12,000	16,000	28,000
				72100	Contractual Services Companies	30,675	68,000	98,675
				72200	Equipment & furniture	7,500	-	7,500
				72800	Information Tech. Equip.	17,400	-	17,400
			Sub-Total UNDP			**102,232**	**118,657**	**220,889**
			GOP	72100	Contractual Services Companies	-	-	-
			Sub-Total GoP			-	-	-

			Total Outcome - 3			**249,737**	**282,037**	**531,774**	
me 4: oatory lity Studies rojects) for strating SLM es conducted			GEF	72100	Contractual Services Companies	269,800	349,000	618,800	
				Sub-Total GEF		**269,800**	**349,000**	**618,800**	
			UNDP	71600	Travel	17,000	11,000	28,000	
				72100	Contractual Services Companies	39,200	153,000	192,200	
				Sub-Total UNDP		**56,200**	**164,000**	**220,200**	
			GOP	72100	Contractual Services Companies	246,000	354,000	600,000	
				Sub-Total GoP		**246,000**	**354,000**	**600,000**	
			Total Outcome - 4			**572,000**	**867,000**	**1,439,000**	
me 5: ring, Learning, ve Feedback aluation	MoE		GEF	71300	National Consultant	35,896	35,896	71,792	
				72100	Contractual Services Companies	15,000	15,000	30,000	
				74100	Professional Services	15,250	15,250	30,500	It includes M&E and reporting costs
				Sub-Total GEF		**66,146**	**66,146**	**132,292**	
			UNDP	71300	National Consultant	44,084	44,084	88,168	
				72100	Contractual Services Companies	10,000	20,000	30,000	
				74100	Professional Services	11,250	11,250	22,500	
				Sub-Total UNDP		**65,334**	**75,334**	**140,668**	
			Total Outcome - 5			**131,480**	**141,480**	**272,960**	
Project gement Unit	MoE		GEF	71300	National Consultant	25,000	25,000	50,000	
				71400	Contractual Services Individual	49,276	49,276	98,552	
				Sub-Total GEF		**74,276**	**74,276**	**148,552**	
			UNDP	71300	National Consultant	33,000	33,000	66,000	
				71400	Contractual Services		56,376	112,752	

				Individual	56,376			
			71600	Travel	20,000	20,000	40,000	
			72200	Equipment & furniture	188,250	-	188,250	
			73400	Operation and Maintenance Equiupment	31,000	28,000	59,000	
			73100	Rental & maintenance of Premises	16,000	16,000	32,000	
			74100	Annual Audits	4,000	4,000	8,000	
			72500	Office Supplies	3,500	3,700	7,200	
			74500	Miscellaneous Expenses	8,000	10,000	18,000	
				Sub-Total UNDP	**360,126**	**171,076**	**531,202**	
				Total PMU:	**434,402**	**245,352**	**679,754**	
				Grand Total	**1,873,588**	**2,126,412**	**4,000,000**	

Summary of Funds

		2008	2009	Total	%
GEF		932,512	1,067,488	2,000,000	43.48
UNDP		670,076	679,924	1,350,000	29.35
GOP	(In-cash)	271,000	379,000	650,000	14.13
	(Parallel Financing)	320,000	280,000	600,000	13.04
Total-Phase-I:		**2,193,588**	**2,406,412**	**4,600,000**	
Expected GEF Funding - Phase-II				5,500,000	
Expected Co-financing Phase-II				7,000,000	
Expected Total - Phase-II:				**12,500,000**	
PDF-B Grant				**340,000**	
Grand Project Total:				**17,440,000**	

Budget Note to the TBWP

The Total Budget and Work Plan of the project have been revised using the template and guidelines received from the GEF Secretariat. The following provide a brief "explanatory budget note" to the TBWP included in the Project Document:

General: All the costs pertaining to equipment, travel, office rental, vehicle purchase, and miscellaneous have been moved from GEF to UNDP Co-financing, even those expenditures of the Project Management Unit. There is no international training or study tour associated with any project outcomes or outputs.

Specific Budget Lines:

- TORs for key consultant positions have been prepared on the standard UNDP format and are included in the Project Document. All consultancy fees will be paid as per Project Cycle and Operational Manual (PCOM) and standard UNDP norms will be adhered for all SSAs and Service Contracts.

- International input has been identified only for two specific outputs under Outcome-1 i.e. "enabling environment created." For this purpose, an international consultant will be recruited to assist local consultants to 1) develop criteria and indicators (C&I) for SLM and 2) mainstream the National Action Program and SLM into sectoral policies and developmental planning. It is expected that this will require about 45 consultant working days.

- National Consultants will be hired to provide technical assistance for realizing Outcome 1 (Enabling Environment), 2 (Capacity Building for SLM), and 3 (Participatory Land Use Planning for SLM). These include outputs pertaining to policy reforms, mainstreaming NAP, strategy development for establishing a National Desertification Control Fund, promotion of public-private partnerships for SLM, knowledge generation for SLM, advocacy, integrating SLM principles into land use planning and GIS and RS. The national consultants will be hired to produce time bound outputs. Their cost will be shared by both GEF and UNDP co-financing.

- Contractual Services Companies: Specific activities will be sub-contracted to professional companies/institutions/ NGOs to produce outputs under the Outcome 1, 2, 3, and 4 by using standard UNDP procedures and regulations. The implementation of pilot projects (feasibility studies) under Outcome -4 will be sub-contracted to line agencies/research institutions/NGOs to promote participatory SLM practices with the involvement of local communities. The budget for each individual sub-contract has been identified in the TBWP.

- The costs pertaining to project personnel will largely be picked by the co-financing component of the project.

- Travel to realize specific outputs pertaining to on-the-ground implementation of pilot projects will be supported by co-financing. At this stage, there is no international travel cost indentified.

- Office space rental, office equipment and supplies, and communication costs will be borne by the Government of Pakistan and/or UNDP co-financing.

- Staff training workshops will be conducted to build institutional capacity of the project partners, including of local communities (Outcome 2 and Outcome 5). GEF funds will only be used for imparting training on participatory land use planning and implementation, SLM principles and practices, and developing training materials. The costs of venue and catering will be borne by the Government of Pakistan and UNDP co-financing.

The "personnel", "equipment" and miscellaneous costs under the Project Management Unit will largely be supported through co-financing. Part of some technical positions (personnel) will be paid from GEF funds for the inputs required to produce specific outputs such as "production of outreach and awareness material", "documentation of best practices" and monitoring the impact of the SLM interventions on-the-ground.

SECTION IV: ADDITIONAL INFORMATION

PART – I: Other Agreements

Endorsement Letter from the GEF Focal Point

United Nations Development Programme

ادارہ ترقیات اقوام متحدہ

PRO/300/GEF

25 September 2006

Dear Mr. Pinto,

This is in reference to the Global Environment Facility (GEF) Secretariat's requirement to indicate UNDP's commitment to co-finance the project on **"Sustainable Land Management to Combat Desertification in Pakistan".**

The Project is considered of high priority by the Government of Pakistan (GOP) to address the desertification issues both at the policy and implementation levels. This national ownership and commitment is evident from GOP's allocation of US $ 4.9 million in the Medium Term Development Framework (2005-2010) in support of this Project. The Project is also aligned with our current Country Programme Action Plan (2004-08), with UNDP's commitment to assist Pakistan in meeting the obligations under Multilateral Environmental Agreements. With this background, I am pleased to confirm UNDP-Pakistan's contribution of US $ 1.35 million towards the GEF approved Sustainable Land Management Project.

I also take this opportunity to acknowledge the assistance provided by the regional and global advisors of UNDP/GEF on Land Degradation for the approval of this important initiative and look forward to their close collaboration during the implementation phase of the project.

With best regards,

Yours sincerely,

Haoliang Xu
Country Director

Mr. Frank Pinto
Executive Coordinator EEG Deputy Leader
United Nations Development Programme
UNDP-GEF
Energy & Environment Group, BDP
304 East 45th Street, 9th Floor
New York, NY 10017
USA

Tel: 92-51-9202558
Fax: 92-51-9206051

F.No. 1(33)/GEF/2005-NCS
GOVERNMENT OF PAKISTAN
Ministry of Environment

Islamabad the, August 15, 2005

Joint Secretary (International Cooperation)
GEF Operational Focal Point

Subject: - Endorsement of the GEF Project "Sustainable Land Management to Combat Desertification in Pakistan".

Dear Mr. Xu,

The enclosed Project Document and Executive Summary of a full-scale GEF project on "Sustainable Land Management to Combat Desertification in Pakistan" have been received from the Forestry Wing of the Ministry of Environment, Government of Pakistan for their endorsement and onward transmission to UNDP/GEF.

2. The project aims to combat desertification in Pakistan by strengthening institutional capacity, creating enabling environment and demonstrating sustainable land management practices for restoration of degraded ecosystems. The project targets on sustainable development and poverty alleviation from the country for achieving the Millennium Development Goals (MDGs). The project has been designed through an extensive consultative process involving all the major stakeholders in the country. The duration of the project is seven years and it will be implemented in two tranches.

3. The Government of Pakistan places high priority to controlling land degradation and desertification in Pakistan through implementation of UNCCD and mainstreaming National Action Programme for combating desertification into sectoral policies and plans. Given this high priority, the Planning Commission of Pakistan has allocated Rs.290 million (about US$4.9 million) under the Medium Term Development Framework (MTDF), 2005-10 for combating desertification. The Ministry of Environment will facilitate channeling of these funds to the project through co-financing /associated financing of the project activities.

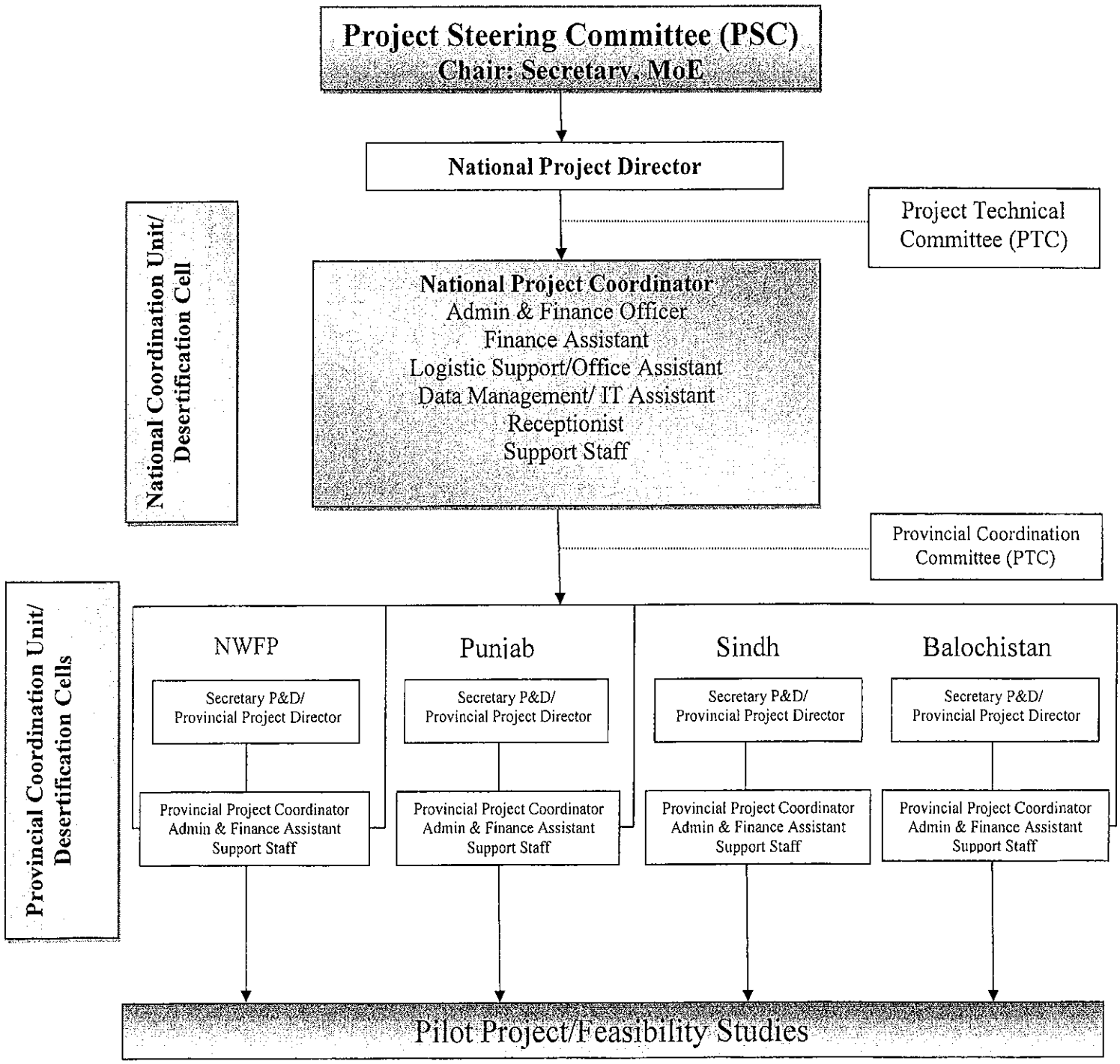
4. I, in my capacity as GEF Operational Focal Point, Ministry of Environment, endorse the Project Document and its GEF Executive Summary for full-scale financing. I look forward to the approval of the project by GEF and the early commencement of this very important project.

Yours sincerely,

(Khizar Hayat Khan)
Joint Secretary (I.C.)/
GEF Operational Focal Point

Mr. Haoliang Xu
Resident Representative (a.i.)
United Nations Development Programme
Saudi Pak Tower,
Blue Area, Islamabad.

PART – II: Organogram of Project (optional)



PART III: Terms of References for project committees, key staff and sub-contracts[5]

1. PROJECT STEERING COMMITTEE (PSC)

Combating land degradation and desertification requires cross-sectoral and integrated approaches. It involves many agencies and institutions ranging from federal ministries, to national research institutions, to a wide range of provincial departments to district governments and to community level organizations. However, coordination among these agencies/institutions has always been an issue. Policy and planning decisions are often made at sectoral level which results in poor planning and weak monitoring, particularly in cross-sectoral interventions like Sustainable Land Management (SLM). There is no institutional arrangements for coordination and sharing of lessons on what works, what doesn't, and why? The GoP is very much concerned of this situation and would like to improve cross-sectoral coordination to address the land degradation issues.

Since integrated management of land resources can best be achieved through multi-sectoral interventions to accomplish the goal of SLM, this requires participation of key stakeholders in the decision making process and providing guidance for implementation of a cross-sectoral project like SLMP. Therefore, it would be essential to have a cross-sectoral Project Steering Committee to oversee the project operations and ensure coordination among the concerned ministries, provincial governments, line agencies and relevant research institutions.

Functions of the PSC

The Project aims to combat land degradation and desertification in Pakistan in order to protect and restore degraded ecosystems and essential ecosystem services that are key to reducing poverty. The PSC will contribute toward achieving this goal by:

- Providing long term vision for promoting sustainable land management in the country;
- Providing policy guidance and overseeing implementation of the project;
- Improving quality of decision making and sectoral efficiency in implementation of the Project;
- Monitoring and evaluating progress made in achieving the project objectives;
- Facilitating policy and legislative reforms in support of SLM;
- Facilitating inter-sectoral and inter-agency coordination at the national and provincial levels;
- Coordinating sectoral efforts in mainstreaming National Action Programme and SLM principles into sectoral policies and plans;
- Approving sub-contract awards for implementation of the pilot project;
- Sensitizing policy makers of the federal, provincial, and district governments about the need of integrated management of land resources in order to combat land degradation and desertification;
- Providing support in mobilizing co-financing for the Phase-II of the Project; and
- Approving annual rolling work plans and budget.

[5] Terms of Reference for the key project staff given here are the basic ones. These will be further refined during the project inception workshop. ToRs for the sub-contracts for implementation of the feasibility studies will also be developed during the inception workshop and further refined consultation with the UNDP before getting them approved from the PSC.

2. PROJECT TECHNICAL COMMITTEE (PTC)

Sustainable Land Management (SLM) interventions require cross-sectoral expertise and integrated measures by many agencies ranging from federal ministries, national research institutions and provincial line departments. Many of the interventions under the proposed project will be highly technical in nature requiring input from the sectoral experts of the relevant agencies. Therefore, it would be imperative to have a cross-sectoral technical committee to provide guidance and advise the project team on technical matters pertaining to different sectors, including forestry, agriculture, livestock and water.

In order to ensure continued technical support and guidance to the National Coordination Unit (NCU), a Project Technical Committee (PTC) will be established having representation of technical experts from the relevant ministries, research institutions, line agencies, and NGOs. The PTC will be chaired by the National Project Director. The National Project Coordinator will act as its member/secretary. The PTC will meet at least twice in a year or on need bases prior to the Project Steering Committee meetings.

Functions of the PTC

The main functions of PTC will be to:

- Provide technical guidance for implementation of different components of the project;
- Facilitate inter-agency and inter-sectoral collaboration for sharing of technical information pertaining to SLM and integrated management of natural resources;
- Provide a platform to discuss technical matters concerning SLM and obtain technical opinion on the project inputs and outputs;
- Review implementation of pilot projects, including technical delivery;
- Identify technical limitation in various project interventions and suggest measures to over-come these limitations;
- Review project technical outputs and provide feedback for the course corrections;
- Recommend topics for targeted research for rehabilitation of degraded ecosystems and monitoring ecosystem health;
- Assist the Project in developing SLM Criteria and Indicators keeping in view conditions, including development of desertification monitoring tools and benchmarks for combating; and
- Suggest innovative measures for the on-the-ground interventions for promoting SLM to the larger landscape under the Phase-II of the project.

3. NATIONAL PROJECT DIRECTOR (NPD)

The NPD will oversee and provide guidance for implementation of the project. He will be the main focal point between the project and the Government of Pakistan, including coordination with the line ministries and provincial governments. He will have financial authority as per PCOM-IV guidelines and procedures.

Specifically the NPD will:

- Act as the focal point for the project to ensure successful implementation of the project;
- Ensure that all Government inputs committed to the project are available to the project;

- Over-see operation of the National Project Coordination Unit/National Desertification Cell to be established under the project;
- Recruit National Project Coordinator (NPC) and other key project staff in consultation with the UNDP and as per PCOM procedures;
- Supervise the work of NPC and ensure that he/she is fully empowered to implement the project;
- Assist the NPC, as necessary, to over-come constraints and resolve implementation problems;
- Authorize/approve project expenditures as per procedures laid down in the PCOM;
- Represent the project at meetings with project partners/stakeholders including line ministries, provincial governments, national institutions, NGOs and donors;
- Approve on behalf of the Government quarterly workplans and reports, including quarterly progress reports, expenditure plans and financial report(s) of the project;
- Provide assistance in the coordination of project activities that involve other agencies of Government both federal and provincial;
- Assist the project in out-sourcing implementation of pilot projects/feasibility studies through sub-contracts to line agencies, research institutions, and NGOs;
- Act as Chairman of the Project Technical Committee; and
- Serve as Member/Secretary to the Project Steering Committee.

4. NATIONAL PROJECT COORDINATOR (NPC)

The National Project Coordinator will be a project employee having responsibility for the overall management and coordination of the project operations. He/she will be responsible for day to day management of National Coordination Unit, including general and financial administration, work planning, progress reporting, monitoring and quality control of project inputs. The NPC will work closely with the UNCCD Focal Point and the Ministry and provide technical backstopping in implementation of the UNCCD and mainstreaming NAP into sectoral polices and plans. Under the supervision and guidance of the National Project Director (NPD), the NPC will lead the project team and ensure the implementation of project activities in a manner to achieve outcomes and outputs of the project to maximize the desired impacts.

The NPC will be responsible for the following technical and managerial tasks:

- Lead and manage the National Project Coordination Unit, applying administrative and financial procedures as required under the PCOM and by the UNDP;
- Assist the NPD with execution of the project and delivery of the project outputs according to the project document and the PCOM procedures;
- Selection, recruitment and supervision of project technical and administrative support staff;
- Preparation and negotiation of sub-contract agreements with all the implementing agencies of feasibility studies/pilot projects;
- Initiate mobilization of all project inputs in accordance with PCOM procedures;
- Preparation and revision project workplans, budgets and financial plans in consultation with the NPD;
- Organize and manage project activities in accordance to the workplan in order to produce project outputs;
- Hiring of project consultants/technical inputs in consultation of the NPD and UNDP-CO;

- Coordinate the project activities with line ministries, sectoral agencies, provincial governments, research institutions, NGOs and local communities to ensure cross-sectoral integration of the project activities;
- Provide backstopping to the NPD in organizing PSC meetings;
- Acting as Member/Secretary to the PTC and organize PTC meetings;
- Coordinate and supervise the technical inputs from the national/international experts to secure timely production of outputs planned in the project document;
- Timely preparation and submission of the Quarterly and Annual Progress Reports to the UNDP-CO under the guidance of the NPD; and
- Identification and resolution of project implementation problems with the assistance of the NDP, if necessary;

Selection Criteria

- Post-graduate degree (preferably Ph.D.) in natural sciences or NRM a field closely related to sustainable land management;
- At least 15 years of professional experience in project/programme planning, development and coordinating implementation of integrated natural resources management projects;
- Extensive knowledge of land degradation and desertification issues in Pakistan;
- Proven track record of implementing and managing donor funded projects;
- Previous experience in GEF project proposal development and familiarity with GEF operating areas and strategic priorities would be an added advantage;
- Extensive knowledge of UNCCD and other Rio Conventions to ensure synergy;
- Familiarity with NAP process and national reporting on implementation of UNCCD;
- Proven track record of working with the multi-stakeholders, including federal and provincial government, NGOs and research institutions;
- Proven ability to work under pressure and time constraints;
- Ability to lead multi-disciplinary teams of technical experts.
- Experience and knowledge of the functioning, procedures, and systems of GoP and UNDP projects, especially with PCOM procedures and requirements;
- Management skills and experience;
- Problem solving skills and result oriented approach;
- Leadership qualities and sensitivity to gender issues; and
- Computer literate with excellent facilitation, interpersonal and communication skills.

5. PROVINCIAL PROJECT DIRECTORs (PPDs)

The Secretary, Planning and Development Department/Board in the provinces will act as Provincial Project Director. He will supervise and provide guidance to the Provincial Project Coordinator in the overall planning, management and coordination of the project operations within their respective province. He/she will be the main focal point between the project and the provincial governments, including coordination with the line departments, cross-sectoral integration of the project activities with relevant sections in the P&D Depts. and NGOs. The PPDs will over-see operation of the Provincial Coordination Units/Desertification Units to be established under the project.

The duties and responsibilities of PPD include:

- Acting as the focal point for the project to ensure successful implementation of project activities in the province;
- Ensuring that all inputs committed by the provincial government to the project are available;
- Assisting NPD and NPC in recruitment of the Provincial Project Coordinator (PPC) and other staff of the Provincial Coordination Unit;
- Supervise the work of the PPC and ensure that project inputs are available to him/her to deliver the project outputs;
- Provide guidance and assist the PPC in mainstreaming SLM principles into the provincial planning process, and developing provincial land use plans;
- Over-seeing and assisting the PPC for coordinating on-the ground implementation of pilot projects/feasibility studies;
- Approve on behalf of the provincial Government quarterly workplans and reports, including quarterly progress reports, expenditure plans and financial report(s);
- Assist the PPC, as necessary, to over-come constraints and resolve implementation problems;
- Assist the project in out-sourcing implementation of pilot projects/feasibility studies through sub-contracts to line agencies, research institutions, and NGOs;
- Represent the project at meetings with project partners/stakeholders including line departments, research institutions, NGOs and donors;
- Keeping close liaison with the NPD and NPC regarding implementation of the project in the province;
- Representing province at the Project Steering Committee;
- Serve as Member/Secretary to the Provincial Coordination Committee

6. PROVINCIAL PROJECT COORDINATOR

The Provincial Project Coordinator will be a project employee responsible for day to day management of Provincial Coordination Unit, including general and financial administration, work planning, progress reporting and monitoring of the implementation of the pilot projects. He/she will work under the supervision and guidance of the Secretary, P&D/Provincial Project Director (PPD) with additional reporting line to the National Project Coordinator (NPC). The PPC will have the overall responsibility for the management and coordination of the project operations at the provincial level.

The PPC will be responsible for the following technical and managerial tasks:

- Manage the Provincial Coordination Unit, applying administrative and financial procedures as required under the PCOM and UNDP procedures;
- Act as focal person on behalf of UNDP during implementation of the project activities in the province and provide institutional backstopping to the PPD;
- Assist the PPD in coordination of project activities with provincial line departments as well as concerned District Governments where pilot projects are to be implemented;
- Keep close contact with the District Governments in the pilot districts for ensuring smooth functioning pilot projects;
- Take lead in establishment of PCUs, including procurement of services/equipment as per PCOM;

- Effectively coordinate implementation of the pilot projects, including monitoring of implementation of quarterly workplans by the sub-contractor/implementing agency;
- Assist the thematic coordinators in designing & implementing activities related to policy reforms, mainstreaming NAP, land use planning; capacity, M&E and GIS & RS;
- Documentation and dissemination of lesson learnt and best practices to the provincial line agencies and local communities;
- Keep close liaison with the NPC and keep him informed on the project operations or any other issue concerning the project;
- Timely preparation of quarterly and annual progress reports, expenditure plans and advance budget requests to the NCU;
- Identification and resolution of pilot project implementation problems with the assistance of the PPD;
- To perform any other duties as required by the PPD and NPC

Selection Criteria

- Post-graduate degree in natural sciences or in a field closely related to SLM.
- At least 10 years of professional experience in project planning, development and implementation of NRM projects.
- Knowledge of land degradation and desertification issues in the respective province;
- Proven track record of implementing and managing donor funded projects;
- Experience and knowledge of the functioning, procedures, and systems of GoP and UNDP projects, especially with PCOM procedures and requirements;
- Demonstrated ability to generate policy dialogues amongst multi-sectoral stakeholders;
- Excellent reporting and communication skills;
- Experience of operationalizing and managing a project M&E system; and
- Leadership qualities and working experience with government agencies.

PART IV: Stakeholder Involvement Plan

Sustainable Land Management Project (Phase-I)
Stakeholders Participation Plan

Outputs/Sub-outputs	Government	International Agencies/NGOs	Private Sector	Local Communities
Outcome 1: Enabling Environment Created				
1.1: Appropriate policy reforms for SLM recommended	Ministry of Environment (MoE), Planning Commission, Ministry of Food, Agriculture & Livestock (MINFAL)' Provincial P&D Depts., Power & Irrigation Ministry, Provincial line agencies, & District Governments, Zarai Taraqiati Bank Ltd. (ZTBL)	United Nations Development Programme (UNDP), Royal Netherlands Embassy (RNE), IFAD, DFID, World Bank, European Union (EU), Asian Development Bank (ADB), FAO, WWF-P, IUCN, SCOPE, Rural Support Programmes (RSPs), AKRSP, LEAD Pakistan	Small and Medium Enterprise Development Authority (SAMEDA), First Micr Finance Bank, First Women Development Bank, Khushali Bank	Farmers Organizations, CCBs
1.2: NAP mainstreamed into sectoral planning	MoE, MINFAL, NARC, Provincial line agencies, Research Institutions	UNDP, ADB, FAO, & WWF-P, IUCN, SOPE	–	CCBs
1.3: National Criteria & Indicators (C & I) Developed for SLM	MoE, MINFAL, NARC, Provincial line agencies, PFI, Research Institutions	UNDP, ADB, FAO, & WWF-P, IUCN	–	–
1.4: Project Document for Phase-II developed	MoE, MINFAL, Provincial line agencies, & P&D Depts.	UNDP & GEF	–	–
1.5: National Desertification Control Fund (NDCF) established	MoE, MINFAL, and Planning Commission	UNDP, IFAD, FAO	–	–
Outcome 2: Capacity Building for Sustainable Land Management				
2.1: Institutional capacity at National, Provincial and Local levels strengthened	Planning Commission, MoE, MINFAL, Provincial P&D Depts., and District Governments	UNDP, World Bank, ADB	–	CBOs, Village Organizations

2.2: Apex Bodies for coordination of desertification control measures formed	MoE	UNDP, WWF-P, IUCN	–	–
2.3: Orientation of Research Institutes towards targeted SLM activities	MoE, MINFAL, Water & Power Ministry, NARC, AZRI, PFI, SWCRI, Cholistan Institute of Desert Studies	UNDP, FAO	–	–
2.4: Public – Private partnership promoted	MoE, MINFAL, Provincial line agencies, & P&D Depts.	UNDP, FAO	Oil & Gas Companies, Leather Industries & Textile Industries, Banks, Chambers of Commerce and Industries, Agro-based industries, One-Village-One Enterprise Project	CBOs and Citizen Community Boards (CCBs)
2.5: Knowledge generated for sustainable land management	Ministry of Environment (MoE), Planning Commission, Ministry of Food, Agriculture & Livestock (MINFAL)' Provincial P&D Depts., Power & Irrigation Ministry, Provincial line agencies, & District Governments	United Nations Development Programme (UNDP), World Bank, European Union (EU), Asian Development Bank (ADB), FAO, WWF-P, IUCN, SCOPE, Rural Support Programmes (RSPs)	–	CBOs, VOs, Area Water Boards and CCBs
2.6: Outreach & Awareness raised	MoE, Planning Commission, MINFAL' Provincial P&D Depts., Power & Irrigation Ministry, Provincial line agencies, & District Governments	UNDP, World Bank, EU, ADB, & FAO, WWF-P, IUCN, SCOPE, Rural Support Programmes (RSPs)	–	CBOs, VOs, and CCBs

Outcome 3: Mainstreaming SLM into Land Use Planning Process				
3.1: National and provincial land use plans developed/harmonized to SLM principles	MoE, Planning Commission, MINFAL' Provincial P&D Depts., Power & Irrigation Ministry, Provincial line agencies, & District Governments	UNDP, World Bank, EU, ADB, & FAO, RSPs	–	–
3.2: SLM Information System based on GIS database developed	MoE, Planning Commission, MINFAL' Provincial P&D Depts., Power & Irrigation Ministry, Provincial line agencies, & District Governments, PFI, SUPARCO, NESPAK, Soil Survey of Pakistan, Survey of Pakistan, and Geological Survey of Pakistan, Met Department	UNDP, World Bank, EU, ADB, & FAO, WWF-P, IUCN, SCOPE, Rural Support Programmes (RSPs)	Oil & Gas Companies	CBOs, VOs, and CCBs
3.2.3: Sustainability of SLM practices at feasibility study/demonstration sites assessed	MoE, MINFAL, Planning Commission, Provincial P&D Depts.	UNDP, World Bank, EU, ADB, & FAO, RSPs		CBOs, VOs, and CCBs
Outcome 4: Participatory feasibility studies demonstrated SLM practices				
4.1: Integrated management of water resources and rangelands in Chakwal & Attock districts of Punjab	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF, RSPs	–	CBOs, VOs, and CCBs
4.2: Poverty alleviation through soil conservation measures in District Bhakkar	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF, RSPs	–	CBOs, VOs, and CCBs

4.3: Integrated Natural Resource Management with the involvement of pastoralist communities in Rakhshan Valley District Kharan, Balochistan	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF, RSPs	–	CBOs, VOs, and CCBs
4.4: Sustainable use of Mazri Palm and NTFP with the involvement of local communities and private sector in District Awaran, Balochistan	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF, RSPs	–	CBOs, VOs, and CCBs
4.5: Sustainable Land Management by introduction of low delta and high commercial value crops with micro irrigation in Surkhab, District Pishin in Balochistan	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF, RSPs	–	CBOs, VOs, and CCBs
4.6: Conservation of water and soil with the involvement of local communities in Shaikh Haider Zam, District D. I. Khan in NWFP.	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF, RSPs	–	CBOs, VOs, and CCBs
4.7: Strengthening of traditional land use practices in low productive lands in District Lakki Marwat in NWFP	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF, RSPs	–	CBOs, VOs, and CCBs
4.8: Water harvesting and Agriculture Development in Kacho Area, Taluka Johi, District Dadu in Sindh	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF, RSPs	–	CBOs, VOs, and CCBs
4.9: Participatory NRM for drought mitigation and food security in District Tharparkar in Sindh	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF, RSPs	–	CBOs, VOs, and CCBs

Outcome 5: Lessons learnt & adaptive management				
5.1 National & Provincial Coordination Units (NCU & PCU) established	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments	UNDP-GEF	–	–
5.2: Monitoring and Evaluation	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP-GEF	–	–
5.3: Lessons learned document and disseminated	MoE, MINFAL, Planning Commission, Provincial P&D Depts. Line Departments, district governments, PPAF	UNDP, World Bank, EU, ADB, & FAO, WWF-P, IUCN, SCOPE, Rural Support Programmes (RSPs)	Oil & Gas Companies, Leather Industries & Textile Industries	CBOs, VOs, and CCBs

PART V: Threats, Root Causes, Barrier Matrix

Problem	Causes of LD	Intermediate and Root Causes to LD	Barriers to SLM	Solutions
Unsustainable land management practices are causing enormous environmental problems, including land degradation, loss of soil fertility, flash floods, loss of biodiversity, reduced carbon sequestration capacity, reduction in land productivity, soil erosion and many other associated problems	**Poor Irrigation and Drainage:** Irrigation utilizes some 90-95 percent of freshwater resources in Pakistan. Pakistan has one of the largest canal irrigation systems in the world.	• The overall poor management of irrigation, both at the system and farm levels, is contributing to water logging and salinity in cultivated areas. • Excessive percolation of water from the canal system builds up the ground water level. • Human activities such as the obstruction of natural drainage through construction of roads, improper alignment and poor maintenance of irrigation channels, insufficient drainage of excessive rainwater etc. all add to water logging problems.	**Policy Barriers:** • *Policy Impediments:* The policy of state ownership encouraged land degradation because government control over land resources was weak and, more importantly, the lack of ownership or tenure rights kept local communities from active management of uncultivated land. • In-*appropriate Subsidies:* The subsidized electricity tariff (flat rate) has been introduced locally/nationally to encourage farmers to mine groundwater for increased agriculture production	• National sectoral polices harmonized for adoption of SLM principles (**Output 1.1**) • National and provincial land use plans developed/harmonized to SLM principles (**Output 3.1**)

	Deforestation: About 3.1% forest cover is shrinking annually and woody biomass by 5% annually due to indiscriminate cutting.	• Majority of households continue to use firewood for cooking and heating. More than 50 percent of domestic energy needs are met through fuel wood • Deforestation is the direct result of unsustainable commercial logging and wood harvesting by the poor for fuel. Indeed, poor communities have become increasingly dis-empowered to manage forest resources as their rights to forests weakened due to economic pressure from commercial loggers.	*Limited land Use Planning:* • Land use plans exist neither at the national, provincial or district levels **Institutional Barriers:** • *Limited Institutional Capacity and Poor Coordination:* • Most of the line agencies have severe capacity limitations. As a result, land use planning decisions are made in silos, without proper communication on, or knowledge of, the inter-relations between proposed sectoral interventions, and with little understanding of the consequences on land degradation and subsequent effects on economic development and ecosystem integrity • *Knowledge Gaps:* • There is insufficient quantitative data on current land use in arid and semi-arid regions of the country as well as status and trends of natural resources. There are especially severe deficiencies in knowledge related to rangeland management, rehabilitation of degraded ecosystems, and sustainable agriculture and livestock production systems.	• Institutional capacity at National, Provincial and Local levels strengthened **(Output 2.1)** • Outreach & Awareness raised **(Output 2.6)** • NAP mainstreamed into sectoral planning **(Output 1.2)**
	• **Overgrazing** Livestock raising is an important component of Pakistan's farming system and a major source of cash income as well as consumption of vegetative cover.	• The livestock population in Pakistan has doubled since 1976 and livestock numbers exceed the carrying capacity of most ranges • Over grazing and the collection of firewood in arid regions of Punjab, Sindh and Balochistan has led to severe wind erosion and the deposit of sands in downwind vegetative areas, reducing the ecosystem		

		functionality of these areas.		
	Scarcity of water: • Pakistan is mainly a dryland country and water availability is often scarce in arid and semi-arid regions.	• Water resources are under threat mainly due to overuse of water in irrigation. • Inefficient water use in irrigation occurs at three stages: water conveyance from source to fields due to poor maintenance of water-courses and channels, un leveled fields, and over-watering (including over-pumping of groundwater), mostly due to the lack of an assured and timely supply of water among farmers.	There is also no specific and coordinated system at the provincial or national levels to assess the extent and impact of desertification. • *Lack of Awareness:* • There is very little knowledge of land degradation and desertification issues among the general public, planners, policy makers, and even those who are directly responsible for the management of land resources	
	Drought: • Pakistan suffered severe drought from 1997 to 2003, causing severe water shortages for humans, livestock, and agriculture.	• The drought also severely affected local livelihoods and forced local people to migrate toward cities. • This disrupted traditional land use patterns, resulting in the permanent loss of traditional management practices and exacerbating the trends toward land degradation and desertification.	• *Difficulty in Mainstreaming NAP into Sectoral Policies and Plans:* • Although the GoP has developed NAP for combating desertification, the lack of institutional capacity has meant that the NAP is not yet being mainstreamed into national and provisional plans and policies.	
	Migration & Permanent	• Development often brings social and economic pressures on the local people and forces them to change their lifestyle. For example, with the arrival electricity and road connections in previously	**Financial Barriers:** • The government has preferred to invest in basic infrastructure development and provision of basic needs (health, education and communication means). The level and sustainability of financial resources for the	

	settlements • The major anthropogenic impacts of prolonged drought especially in the dryland areas of Sindh and Balochistan were malnutrition, higher animal sales, and significant increase in migration to irrigated areas. **Agriculture intensification:** • Agriculture contributes about 25 percent of Pakistan's GDP and 60 percent of foreign exchange earnings	remote areas of Balochistan transhumance practices are weakening. Many pastoral communities have now started permanently settling near roads and digging deep wells to irrigate their newly developed agriculture lands. As a result traditional use of rangelands is dying out, leading to their degradation because the land is left fallow or people are changing land uses towards permanent settlements with more intensive resource uses. • Pakistan will have to double its cereal production, particularly wheat, to meet food demands of its growing population. • 68% of the population also depends on agriculture sector for their livelihoods and 46 percent of the labor force is employed directly in it. • 96 percent of cultivable soil has inadequate organic matter content. • No significant increase in the cropped area. • Agricultural subsidies are also contributing to increasing agriculture intensification.	environment and SLM related activities have always been issues. **Socio-Economic Barriers:** • *Vulnerability to Drought and Loss of Traditional Knowledge Systems:* • The vulnerability of the poor to environmental shocks such as drought threatens their livelihoods and increases pressures on natural resources • The Green Revolution and introduction of high yielding varieties ended centuries-long practices for adapting to drought and resolving conflicts over scarce fodder and water resources • *Land Tenure Insecurity:* • Dry land use systems in Pakistan have for centuries been defined by family or tribal relationships that allowed access to land on the basis of size of the household and kinship. The increase in population and greater competition for control of land is putting enormous pressure on these systems. New land management practices hold the promise of improving livelihoods and addressing	National Desertification Control Fund (NDCF) established **(Output 1.5)** • Participatory feasibility studies/pilot projects for demonstration of SLM practices **(Outcome 4)**

	Flash Floods: • Flooding is a regular feature in arid and semi arid regions of the country usually caused by heavy downpour during the monsoon season **Population Pressure:** • Pakistan is the 7th most populous nation in the world **Poverty Stress:** • One-third of the total households in the country were considered below the poverty line	• Deforestation, soil erosion and compaction contribute to flooding. • Population growth rate of 2 percent a year • Rapidly growing population means greater fragmentation of farmlands, greater competition for water and further pressure on fragile and marginal lands and the denudation of natural forests and rangelands • Poor people tend to exploit their limited land resources more intensively to meet immediate needs • Poverty compels dryland farmers to degrade their land in order to produce more food and meet their material needs	poverty and food security. But it is important that modern and customary land tenure systems co-exist and are made compatible and those local communities participate in decision making processes regarding land. • *Inadequacy of Safety Nets:* • Weak safety needs also increases the vulnerability of the poor to shocks that threaten livelihoods and increase pressures on natural resources. The social safety nets for the vulnerable currently available in Pakistan are weak in terms of their responsiveness and reach	

PART VI: Detailed Baseline Analysis

For detailed baseline analysis see Section-II; Part-1 under Incremental Cost Analysis. Baseline matrix is given below:

Agency Institution	Initiative/Project or Program Title	Goal/Purpose	Geographic Focus	Thematic Focus	Duration	Expected Outputs	Total Budget (Million Rs.)
Pakistan Metrological Department	Establishment of a National Centre for drought/environment monitoring and early warning at Islamabad.	The overall goal of the project is to establish a national center at Islamabad for drought and environment monitoring.	National	Environment Monitoring	4 years	The main outputs include: • Prepare and issue weekly drought monitors and moisture stress in different regions of country. • Establish one drought center in each province for storing, processing, and transmitting data to the national center in the desired format. • Establish research unit in the main center to carry out research on drought related issues such as climatologically conditions, including formulation of statistical models for improved drought forecast.	164.800
Pakistan Agriculture Research Council (PARC)	Restructuring & Strengthening of National Agriculture Research System Balochistan (Phase-I)	The main purpose of the project is to strengthen national agriculture research system in Balochistan.	Balochistan Province	Capacity Building	5 years	• Improved productivity of livestock sector. • Alleviate problems faced by the farmers in arid and semi-arid regions of Balochistan. • Improved different ecological zones • Develop and transfer improved technologies through demonstration and training • Improve and upgrade rangelands and forestry • Human resource development through short and long term trainings.	614.100
Ministry of Food, Agriculture and Livestock (MINFAL)	National Agricultural Land Use Plan (Phase-I)	To upgrade land resource inventories and land evaluation research in the country in order to	National	Land use planning	3 years	• Preparation of pilot agriculture land use and development plans for seven districts. • Updating land resource inventory covering 30 million hectares and 10 district maps. • Land evaluation research through grouping farm lands in 100 major types on the basic	136.900

ncy Institution	Initiative/Project or Program Title	Goal/Purpose	Geographic Focus	Thematic Focus	Duration	Expected Outputs	Total Budget (Million Rs.)
		provide scientific base agriculture land use planning to achieve maximum agriculture production.				soils and land capability. • Preparation of legal documents to provide legal cover to land use plan.	
eral Water nagement Cell, NFAL, & vincial iculture Depts.	Pilot Project for promotion of water conservation technology through introduction of high efficiency irrigation system in Punjab, NWFP and Sindh	To demonstrate and test high efficiency irrigation technologies for enhancement of agriculture productivity and conservation of scarce water resources.	Punjab, NWFP and Sindh Provinces	Water conservation	3 years	• Farmer's capability for efficient use and management water resources in dryland areas enhanced. • Micro/high efficiency irrigation system (including drip, bubbler, and sprinkler) installed of 3,600 acres of farmers' lands. • Eighty units of these systems installed at Federal and provincial research and academic institutions • 720 water storage tanks constructed • Capacity of On Farm Water Management Staff built through a training programme • Mass awareness raised through print and electronic media	497.442
eral Water nagement Cell, NFAL, & iculture Dept. ochistan	Pilot Project For Promotion and Expansion Of Trickle Irrigation Programme in Balochistan	To save and use irrigation water efficiently by introduction of high efficiency irrigation methods.	Balochistan Province	Water conservation	3 years	• Bring 1418 ha under Trickle / Bubbler irrigation in seven districts of Balochistan • Train local farmers in management and maintenance of Trickle Irrigation System • Research and develop on micro irrigation system conducted.	219.700
istry of vironment	Preparation of National Land Use Plan	To develop GIS based land use maps at the scale of 1:50000 for planners and managers in various line agencies at the national and	National	Land use planning	7 years	• National Land use Plan developed to manage land in more environmental friendly manners. • Provide database to planners, managers and researchers. • Create GIS lab at Ministry of Environment • Prepare a baseline to monitor changes in land use systems • Develop an atlas of land use maps.	33.000

Agency Institution	Initiative/Project or Program Title	Goal/Purpose	Geographic Focus	Thematic Focus	Duration	Expected Outputs	Total Budget (Million Rs.)
		provincial levels.					
Punjab Forest Department/MoE	Rehabilitation of Rangelands of Pothwar Tract of Punjab through Participation of Local Communities	Rehabilitation of Rangelands of Pothwar Tract of Punjab through improved management and involvement of local communities	Pothwar Tract of Punjab (Dist. Chakwal)	Rehabilitation of rangelands/ natural resources management	3 years	• Local communities mobilized for participatory management of rangelands • Rangelands rehabilitated through manual reseeding/planting of native forage grasses, dry afforestation, and developing water-harvesting devices • Appropriate grazing management tools introduced • Livestock quality improved through extension services • Range studies through participatory learning and research conducted • Participatory monitoring of range conditions introduced	24.802
Alternative Energy Development Board	Technical Assistance for development of renewable energy in Pakistan	The purpose of the Technical Assistance (TA) is to identify and carry out detailed feasibility studies for developing renewable energy resources to meet the power requirements of far flung areas of the country	Punjab/ whole Pakistan	Renewable Energy and Capacity Building	One year	• Analysis of the renewable energy requirement of each province conducted. • Feasibility studies of selected sample sub-projects for financing through loans conducted.	61.302
Federal DERA Unit, Islamabad	Technical Assistance for capacity building of Federal DERA Unit, Islamabad to implement DERA Programme.	Field monitoring for quality assurance of schemes implemented under DERA and DIMRC	All provinces	Drought mitigation	3 years	• Field monitoring reports with visuals pictures • Monitoring Proforma for each drought mitigation scheme developed • Dissemination of monitoring reports to donors and district level partners	38.400

ncy Institution	Initiative/Project or Program Title	Goal/Purpose	Geographic Focus	Thematic Focus	Duration	Expected Outputs	Total Budget (Million Rs.)
						• Database on DERA projects developed • Site/scheme specific documentation containing fixed and targeted information introduced • Effective coordination at different tiers of DERA Programme	
FP							
ll Dams anization, FP Irrigation Power artment	Feasibility Study For Construction of Small Dams on Daraban, Chaudwan, and Sheikh Haider and Tank Zam in D.I. Khan and Tank	To carry out detailed feasibility study for construction of small dams	Daraban, Chaudwan, And Sheikh Haider In D.I. Khan and Tank Districts, NWFP	Water conservation	2 years	• Feasibility study conducted for construction of small dams • Geotechnical investigations and lab tests conducted • PC-I document and cost estimates prepared	13.110
ll Dams anization, FP Irrigation Power artment	Feasibility study of small dams & delay action dam in southern area of NWFP	To carry out feasibility study for small storage dams and delay action dams in the southern part of NWFP	Southern area of NWFP	Water conservation and controlling soil/water erosion		• Reconnaissance survey of catchment area conducted • Geological and hydrological investigations conducted • Contour survey of dam site and reservoir area completed • Land resources development survey of command area conducted	43.980
st Department, FP	Afforestation over state land in southern districts of NWFP.	To control soil erosion in the catchment areas of mini dams	NWFP Province	Afforestation	3 years	• Plantations raised to meet fuel-wood and timber requirement of local people • Conserve biodiversity • Improve local landscape • Promote ecotourism	33.853
st Department, FP	Environment Rehabilitation around small dams in southern districts of NWFP.	To rehabilitate denuded hill-sides and river banks for improvement of local environment	NWFP Province	Environment Management	5 years	• Forest nurseries raised • Establish 400 km of linear plantation • Conserve local biodiversity • Create awareness among local communities • Increase forest cover in the province	10.000
l Government Rural	Land use planning in NWFP	To develop comprehensive	NWFP Province	Land use planning	3 years	• Digital base map for entire NWFP developed	30.321

Agency Institution	Initiative/Project or Program Title	Goal/Purpose	Geographic Focus	Thematic Focus	Duration	Expected Outputs	Total Budget (Million Rs.)
Development, Dept., NWFP		land use maps of NWFP Province				• Existing land use assessed • Existing land use map developed • Develop land use plans for select districts and tehsils • GIS &RS facilities for land use planning established.	
Punjab							
Soil and Water Conservation Research Institute, Chakwal	Up-gradation of Sohawa and Fateh Jang Research Stations and strengthening SAWCRI, Chakwal, Punjab	To boost agricultural production and improve living standard of the farming communities of rainfed tract through conservation and optimum use of water and controlling soil erosion.	District Chakwal, Jhelum	Capacity Building	5 years	• Farm water control structures with different variable such as soil type, crop cover, slope gradient and intensity of rain fall developed. • Profitable use of gullied land introduced • Efficient use of stored rainwater for high value crops introduced • Conservation of moisture through green manuring and gypsum • Soil erosion control measures taken	18.771
Directorate General of Agriculture (Water Management), Punjab	Strengthening of laser land leveling services in Punjab	Promote efficient use of irrigation water by strengthening of LASER land leveling services in Punjab	Punjab Province	Sustainable Land Management	3 years	• Increased agriculture productivity through efficient use of land and water resources • Private enterprise for providing LASER land leveling developed • Cultivated area enhanced by reducing dikes and ditches • Production cost reduced by increasing cultivation efficiency and reducing labour cost	267.280
Directorate of Agriculture Information, Punjab	Strengthening agriculture publicity through mass media	Improve extension services through use modern technologies and creating awareness among farming	Punjab Province	Public awareness	2 years	• Quality and speedy production of video documentaries, advertisements, radio talks and interviews improved through use of modern technologies. • Modern information dissemination facilities established at Research	7.570

ncy Institution	Initiative/Project or Program Title	Goal/Purpose	Geographic Focus	Thematic Focus	Duration	Expected Outputs	Total Budget (Million Rs.)
		communities.				Information Unit.	
estock and ry Development t., Punjab	Introduction of high yielding fodder varieties through public private partnership	To increase per acre yield of Kharif and Rabi fodders and their seed production through promotion of improved varieties and crop production technologies.	Okara, Punjab	Fodder production	3 years	• Sufficient quantity of approved varieties of fodder crops produced and replicated by farmers • Latest technology of seed production demonstrated and disseminated to farmers • Farmers guided for producing quality fodder crops • Livestock production system improved	100.000
gation & Power partment/ gation Research itute, Lahore	Research and studies for integrated water resources management and development	Develop and manage integrated water resources through research and special studies	Punjab Province	Water resource management	5 years	• Sustainability of ground water availability investigated • Quantum of salts pumped to the surface and their effects on land productivity studied. • Intensities and water/crop management studies • Quantum of water available from rivers or harvested from rains for storage at suitable sites studied. • Options for utilizing flood water explored.	50.000
ectorate of riculture onomics and rketing), Punjab	Establishment of agriculture marketing information system (AMIS) Punjab	Enhance efficiency of marketing system through provision of timely, reliable and useable information to growers, traders, consumers and policy makers	Punjab Province	Agriculture marketing/ information management	3 years	• Information system for all market functionaries developed • Regularly collect, process and disseminate information on prices, including trends and volume • Market and market committees linked through up-gradation/modernization electronic facilities • Early warning system on supply and demand and price fluctuations developed • Market news and bulletins provided on regular intervals	190.067

Agency Institution	Initiative/Project or Program Title	Goal/Purpose	Geographic Focus	Thematic Focus	Duration	Expected Outputs	Total Budget (Million Rs.)
						• Capacity of staff built for collection and dissemination of market information	
Irrigation Department, Punjab	Establishment of management information system (MIS) in Irrigation Department of Punjab	Develop a database and information management system for improving irrigation system in Punjab	Punjab Province	Irrigation and Information management	2 years	• Computerized database on canals, channels, and water courses developed. • Mapping and documentation of water outlets • Irrigation Information and Management system developed to provide a tool for decision makers • Gather and disseminate water flow capacity and timing of canals, channels and water courses	5.000
Punjab Forest Department	Revamping rangelands with participation of stakeholders in Punjab	To rehabilitate depleted rangelands of Punjab	Districts of Chakwal, Bhakkar, D.G. Khan, and Bahawalpur of Punjab Province	Rehabilitation of Rangelands/ Natural Resource Management	3 years	• Rehabilitation of 10,000 acres of depleted rangelands through re-seeding of grasses and dry-afforestation. • Water harvesting devices constructed • Local communities mobilized • Deferred and rotational grazing system introduced • Poverty reduced through job opportunities and increase in household income	72.813
Irrigation & Power Dept./Small Dam Organization, Punjab	Construction of small dams at District Attock	Develop water resources by construction of storage dam in the Barani area	Haji Shah Area of District Attock, Punjab	Sustainable management of water resources	2 years	• Small water storage dam constructed to provide irrigation water for 1520 acres through gravity flow • Provide drinking water to local communities	300.000
Irrigation & Power Dept./Small Dam Organization, Punjab	Construction of Small Dams in District Chakwal	Develop water resources by constructing storage dams in the Barani areas of District Chakwal	Dharabi and Minwal areas of District Chakwal	Sustainable management of water resources	3 years	• Provide irrigation water for 7150 acres of Barani areas through gravity flow and water lift • Provide direct benefits to local communities through fish culture, livestock development and soil conservation • Provide drinking water to local communities	508.280

ency Institution	Initiative/Project or Program Title	Goal/Purpose	Geographic Focus	Thematic Focus	Duration	Expected Outputs	Total Budget (Million Rs.)
LOCHISTAN						•	•
riculture earch partment ochistan	Establishment of Dry Land Research Centre at Kharan	To establish dry land research centers at Kharan in order to enhance research activities at dry land areas of Balochistan	Kharan	Dryland research	5 years	• To increase crop yield under salaba irrigated areas. • Construction of center • Land acquired and developed. • Slaba Irrigation System developed	43.390
ochistan Forest partment	Raising of Nurseries and Research on various Drought Resistant Species.	Develop local capabilities and facilities for improving nursery raising techniques and identifying and introducing drought resistant species	Quetta, Khuzdar and Zhob districts of Balochistan	Propagation and research on drought resistance species	5 years	• Established and maintained 3 nurseries one each at Quetta, Khuzdar and Zhob have capacity of 50,000 plants. • 300,000 plants raised • Six adaptive research trial plots of drought resistant species established for demonstration • Capacity of field staff and community representatives built in raising nurseries of drought resistant species • One research center at Quetta and 2 sub-stations at Khuzdar and Zhob established.	8.837
DH						•	•
est Department	Increasing Rangelands (Barani lands) productivity through Range Improvements and Mitigate poverty alleviation	Rehabilitation of Barani rangelands increase productivity to alleviate poverty among rural communities	District Karachi, Thatta and Thar	Rangeland rehabilitation and poverty alleviation	5 years	• Range productive increased through introduction of local forage varieties • Carrying capacity of rangelands increased • Local environment improved • Water conservation measures adopted • Applied research conducted	7.228
						Total (million Rs.)	3500.94
						Total (million US$)	59.63

PART VII: Detailed Site Description

187. The detailed description of sites where the feasibility studies will be conducted during the Phase-I is as follows:

Chakwal & Attock

188. The first study i.e. **"Integrated management of water resources and rangelands in Chakwal and Attock districts of Punjab will be conducted at one site each in Chakwal and Attock districts of Punjab Province."**

189. Ecologically the area is classed as the subtropical semi-arid and sub-humid zone and sub-mountainous in character. The rain fall varies from 400 mm in the southern areas to 750 mm in the north. The major land use in the area is rangelands and the economy of the area is mainly pastoral. The livestock owned by the rural population is the backbone of the rural economy.

190. The rangelands in these districts are severely depleted due to soil erosion, which is a widespread problem. Rainwater readily runs off in the streams soon after downpours. The carrying capacity of grazing areas has been reduced drastically and most of the rangelands have been invaded by the unpalatable weeds such as sariala (*Heteropagan contrortus*), khawi (*Cymbopogan jwarancusa*), karir (*Capparis aphylla*), mesquite (*Persopis juliflora*) and cacti. Removal of vegetation and un-sustainable use of Barani (rain fed) lands has severely declined the vegetation cover. Agriculture is limited to rain fed area only by harvesting rainwater. Cultivation is practiced on traces and flat land at valley bottoms only.

Bhakkar

191. The study to be conducted in the area is **"Poverty alleviation through soil conservation measures in District Bhakkar, Punjab".** The district is mainly consisted of sandy desert. In the north it is bounded by the piedmont of Salt Range and by the Indus river flood plains in the west. Jhelum and Chenab river flood plains are in the east. Ecologically, the area is classified as arid sub-tropical sandy plain. Mean maximum and minimum temperatures are about 44°C and less than 5°C, respectively. The wind movements affect the amount and distribution of the rainfall in the desert areas. Most of the rains are received during monsoon and varies from 133 mm in the southern areas to 300 mm in the north-eastern regions.

192. The soils are alluvial with sandy textured dunes covering 50 to 60% of the area. Heavy grazing and ruthless cutting of trees and shrubs has resulted in complete disappearance of several desirable species. Top soil has been eroded by wind and sand dunes have become unstable. The vegetation and forage production has declined substantially.

193. Livestock grazing is the main occupation of the people. With the construction of the Thal irrigation canal, about 1 million ha desert areas have been converted into highly productive cultivated areas. However, still about 1.6 million ha are used as grazing land. In a normal rainfall year, dryland cultivation is done on sand dunes. Gram, watermelon, and millet are grown on large scale.

Kharan

194. The Kharan district has been selected for the feasibility study on **"Integrated Natural Resource Management with the involvement of pastoralist communities in Rakhshan valley, District Kharan."** The climate of Kharan is dry. Dust storms are common throughout the year. These storms become very severe during the period of summer from June to September. People call these storms "Livar". They are described as scorching and destructive, killing every thing. During this period traveling becomes impossible. During the summer season, days are hot but nights are very pleasant and cool. The winter is dry and cold.

195. The soil of the area is alluvial and extremely fertile. The best type is called "Matt". It requires less water and retains moisture for longer periods and is suitable for all crops. There are no forests in the district. Trees are few and scanty. The date palm is the most common fruit in Mashkhel, Washuk and Basima. Few wild fig trees and tamarix also exist in the hills. Willows also grow in the Nullahs. Pistachio is occasionally found. Wild vine is found in sheltered spots and in lower slops of the hills. Grass and bush known as "Alony" is fairly abundant.

196. Wheat is the principal crop. In fruits, almond, apples, apricots, grapes, peaches, plums, pears, pomegranates and mangoes are produced. Mashkhel is famous for dates. The major Rabi crops include wheat, barley and vegetables. Kharif crops in Kharan comprise fruit, vegetables, and fodder. Pulses and oil seed are also cultivated in a limited area

197. Livestock is the second most important sector in the district. It is not only a source of income but provides nutrition also. Livestock is a source of milk, wool, hides and skins. Although the livestock sector has developed, it is constrained by insufficient and low quality of feed and fodder. In the past, livestock production was not considered a high priority activity, which caused overgrazing of rangelands and created environmental problems. The nomadic inhabitants of the district take their animals to hilly areas and other places in search of grazing lands.

Awaran

198. The second feasibility study in Balochistan province will be conducted in the district of Awaran. The title of the study is **"Sustainable use of Mazri Palm and NTFP with the involvement of local communities and private sector in District Awaran, Blachistan."**

199. The climate of Awaran is hot in summer and cool in winter. Dust storms are experienced throughout the year. The storms become very severe from June to September. Summer days are hot but nights are cool. The winter is cool. Awaran is an area of extremely limited rains. The rain falls mostly during the months of April, May, June, and July. On the basis of meteorological data available, the district can be placed in "semi-arid hot summer and mild winter" climatic category.

200. The district is mountainous, intersected by broad valleys. The soil of the district is fertile both in irrigated and un-irrigated tracts. But due to non-availability of water, most of the area is permanently barren. The soil of Mashkai, Jhal Jhao, and surrounding areas of Awaran is very fertile.

201. The total arable area of the district is 71,520 hectares which is merely 3.3 percent of the whole geographical area. The irrigated area is 57,932 hectares and un-irrigated is 13,588 hectares. Culturable waste is 16,092 hectares which is a challenge for the Agriculture Department. According to the statistics, the majority (72%) of the arable land is irrigated by flood water. Tube wells irrigate only 2 percent of the arable land.

202. Wheat is the principal crop on which population of the district depends. The major Rabi crops of the district include wheat and barley. Kharif corps of the area are mainly fruit and pulses. Fodder and vegetables are cultivated in the area throughout the year. The agricultural production in the district is very limited due to which the level of income is minimal.

203. Compared to other districts there is less vegetation in the Awaran district. There are no forests, and trees are few and scanty, with date-palm trees being most common. A few wild fig trees exist here and there in the hills; tamarix and willows are found in the Mashkai tehsil. The plants of the lower region are Otostegia Auohesi and Pyonotheco Spinosa. A spiny bush, Convolvulus Spinosus is very common in the district.

204. In Awaran only a few big land owners possess agricultural land. They give the land on lease or on contract for cultivation on the basis of equal distribution of crops to the tenants. Small land owners cultivate the land by themselves with the help of their family members. The women also assist the men in harvesting activities. Some land owners hire the labourers on permanent basis for cultivation, but they pay very small wages to these labourers.

205. In Awaran, land is cultivated by using old traditional methods. However, mechanical cultivation and the use of fertilizers and better seeds are becoming popular. The use of these modern techniques is still limited. Tractors are being used by the big land owners. The entire families of the farmers get involved in agricultural activities. The women and children work for instance during the processing, cleaning, and packing of dates.

Pishin

206. The third feasibility study in Balochistan will be conducted in district Pishin. The title of the study is "Sustainable Land Management by introduction of low delta high commercial value crops with micro irrigation in Surkhab". The climate of Pishin is generally dry and on the whole temperate. None of the different parts of the district present any marked variations. Quetta and Qila Abdullah, two adjoining districts, owing to their higher elevation are cooler than Pishin.

207. The climate of Pishin valley is eminently suitable for the growing of fruits. The summer is the most delightful time of the year; winters can be bitterly cold. Like other parts of Balochistan, Pishin lies outside the sphere of monsoon currents. Rainfall is irregular and scanty. In winter the district is affected by storms. The dry climate is favourable for fruit production. However, the dry weather is not favourable for livestock, because in the absence of rains vegetation does not grow. Further, owing to irregular rainfall farmers of rain-fed areas cannot plan their crops properly.

208. There are four types of soils in the district of Pishin: piedmont plains; piedmont basins (playas), gravely piedmont fans and aprons bordering the mountains and loess plains. The soils are differentiated by their respective colours, which reflect differences of parent material.
209. Piedmont plain areas have potential for livestock grazing, due to its loose material. This land enhances the recharging capacity of ground water. Barshore and Khanozai have this type of soil. Piedmont basins are particularly suitable for permanent agriculture/horticulture. This type of soil is found adjacent to Bund Khushdil Khan and Batezai. Since this type of soil is situated in the middle of the valley, it has high potential for irrigation. The piedmont fans are not suitable for cultivation. Bostan and Gowal are an example of such soils. They are suitable for grazing. The

soils of the loess plains are traditionally used for agriculture and grazing. Soil erosion takes place in the vicinity of Karbala, Batezai, Jlogir and the areas near Pishin lora.

210. There are two cropping seasons in Pishin valley: Kharif and Rabi. Kharif crops are sown in summer and harvested in late summer or early winter, while Rabi crops are sown in winter, or during early summer and harvested in summer. Important Rabi crops are wheat, barley, cumin, vegetables and fodder. Crops grown during Kharif are fruits, melons, vegetables, tobacco, potato, fodder, onion etc. It is interesting to note that almost all the crops grown during Kharif season are cash crops. This indicates that the farmers of Pishin are commercial minded. It is worth mentioning that fodder and melons are the only crops which are sown both on irrigated and unirrigated plots. The farmers use scarce water resources in an efficient and effective manner.

Dera Ismail (D.I.) Khan

211. The feasibility study on **"Conservation of water and soil with the involvement of local communities in Shaikh Haider Zam, District DI Khan in NWFP"** will be conducted in D.I. Khan. It is the southern most district of North West Frontier Province (NWFP). The total population of the district is more than 900,000. The rural population constitutes 81% of the total. The district has boundaries with river Indus in the east and in west lies the tribal area and in south it is bounded by Punjab.

212. The socio-economic condition of the district is not at par with other developed districts of the province. Poverty is prevalent and the district has always remained neglected. The district wise socio-economic database of Pakistan shows that D.I. Khan has shown decline in key-areas relating agriculture, health and education. For example the irrigated fell from 121,000 ha in 1990-91 to 89,000 ha in 1994-95.

213. The local inhabitants having no optimum irrigation source are poor and their livelihood depend on subsistence farming and livestock depending upon the availability of agricultural and grazing land. The agriculture in the local area depends on the hill torrents, which are not regular and hence the crop production through water spreading is not an annual feature.

Lakki Marwat

214. Lakki Marwat district of NWFP has been selected for the feasibility study of **"Strengthening of traditional land use practices in low productive lands".** Lakki Marwat is the southern district of NWFP. It is bounded on the north by Bannu and Karak districts, on the east by Mianwali, on the south East by the D.I. Khan and on the southwest by Tank ditrict. To the west is the Tribal area of Tank and South Waziristan Agency.

215. The topography of the district is a combination of hills and plains. The hilly areas are along the boundaries of the district especially in the east, southeast, southwest and northwest. The general elevation of these hills ranges from 500 to 1000 meters above sea level. The land beyond these hills gradually slopes to the central part, which looks like a basin. It is a flat sandy area. The southern part comprises of undulating sand dunes, furrowed at regular intervals by deep torrent beds which carry the drainage of the Marwat and Bhittani area to the Gambila. In the western portion of the district, the soil is fairly stiff clay covered by a layer of stones at the foot of the hills. The whole district is intersected by numerous hill torrents and deep ravines.

216. The area as a whole is arid, with annual rainfall ranging between 400-500 mm. The bulk of the rainfall occurs in winter and monsoon season. In summer, during daytime, the temperature even touches 50 C, but drops sharply after sunset, due the sandy nature of the terrain. The ground water recharge is very low and the water table is at about 150 m depth.

217. As water is the most limiting factor in the agriculture production system, therefore in the rainfed areas, crops are entirely dependent on rain. Wheat and gram are the major rabi crops. Most farmers do not grow kharif crop, except those farmers who are able to divert flood water by constructing high bunds around their fields, utilize this water to their advantage during the monsoon and plant mainly fodder crops.

218. The socio-economic picture of the area does not portrait a sound setting. People are mostly poor and joint family system is predominant in the whole area. Extended family system ensures family's security and pooling of human and financial resources for the social and economic needs of the area. Poor hygienic and health conditions prevail in the area.

219. The second source of income is from the fruits. Among fruit crops, scattered trees of date palms are visible in a number of locations. These are mostly local varieties, and no major break through has been made so for the introduction and adaptation of improved high yielding varieties.

220. The third source of income is from livestock. Due to the shortage of fodder, people prefer to keep goats and cattle. Goats are reared for cash income. Milk is not marketed and is invariably consumed at home. Though the number of animals is more, but the overall products and income is low. The farmers also purchase fodder for their animals. This is an additional burden on the poverty-inflicted farmers. Women are associated with the livestock rearing and management.

Kachho, District Dadu

221. The last two studies will be conducted in Sindh Province. One of the studies i.e. **Water harvesting and agriculture development in Kacho Area, Taluka Johi, District Dadu** will conducted in **Kachho.** It is situated at dry land region of Kachho at Deh Pat Suleman, Union Council Sawro, Taluka Johi of District Dadu.

222. The area is 43 Km away in the west of Johi Town. Kachho is located between 67-68 degree East and 26-27 degrees North, and situated between Balochistan border in the west and Dadu in the east, a barren area with sparsely scattered forest is called Kacho. Kacho is derived from Sindhi language that means area situates besides the hills. It's a long belt of plain land near the Kirthar hilly range. It ranges from District Jacobabad in North to the Manchar Lake in the East. The total area of Kacho is 342,889 acres.

223. According to the 1998 census population of Kachho is 108,766 with approximately 21,452 households. The 52% population of Taluka Johi lives in Kachho and 75% of the population depends upon agriculture and livestock. Kachho is a rain fed area and its agriculture productivity heavily depends on rainfall. The area of Kachho experienced the drought situation in 1995 which proved horrific due to its impact on various social and economical aspects of locale.

224. Kachho region has no canal irrigation system and mainly depends upon rainfall and irrigation through hill torrent's run-off. The average annual rainfall in 'kacha' area is about 4.75 inches and the rainfall frequency is also not constant. People of Kachho also make diversions for flowing water from natural streams to their fields. These field diversion channels are prepared, excavated, and de-silted at their own. The livelihood system in the area totally depends on these

flows and rains, as crops are cultivated on spate and natural vegetation for survival of livestock also depends on this water. So only the crops needing single irrigation such as sorghum, millet, melons, mustard and sesame could be grown. Apart from agriculture, people raise goats and sheep for meeting economic and food related needs.

Thakparkar

225. The last feasibility study on **"Participatory NRM for drought mitigation and food security in district Tharpakar in Sindh"** will be conducted in the district Tharparkar of Sindh province. Tharparkar spreads over 19,637 km^2. It is situated between 24° and 27° North latitudes and 69° and 72° east longitudes. The landscape includes sand dunes, sand valleys, Karoonjhar hills and Rann of Kutch. The boundaries of Tharparkar are dividing India and Pakistan in the southeast. According to 1998 census, the population of the district was about 907,000 persons.

226. The population comprises on 60% Muslims and about 40% non Muslims (mostly Hindus). Most of the population in Tharparkar lives below poverty line. About 92% of people depends on livestock and *barani* (rain fed) agriculture which solely depends on monsoon rains. However, over last two decades or so monsoon rains are either absent or erratic which leads to low productivity. Due to fragile nature of agro ecosystem, even a minor drought causes heavy damages in terms of crop failure and livestock losses and results into further deepening of poverty. There is no long term drought mitigation strategy in place, and in the event of drought relief measures, no matter at how large scale, can not meet the demand of huge population of humans and animals.

227. The main land use in Tharparkar is grazing forest or rangeland, barani agriculture and perennial agriculture, besides housing and other uses. Livestock and seasonal crops (with some perennial cropping on well water) is basic production base in Tharparkar. Cows, sheep and goats are kept for meat, wool and milk. The males are sold for meat purposes. Donkeys and camels are used as work animals–for ploughing of cultivated land, transport and drawing water from the wells.

PART VIII: Sustainability and Replicability

Note: See Section I, Part II under Strategy

PART IX: Lessons learnt and applied to project design

228. Lessons learned during the PDF (B) phase and from other similar projects implemented or being implemented in Pakistan and other countries have been instrumental in guiding the project design. The flowing are the few lessons, which directly relates to project design:

- Effective involvement of local communities in planning, implementation and monitoring of integrated NRM projects is crucial for the success of on-the-ground interventions. Therefore, SLMP gave high priority to the participatory identification of feasibility studies/pilot test of SLM interventions through pre-feasibility surveys at the pilot sites and incorporated the recommendation of the local communities in designing of the pilot interventions. Community involvement in site specific land use plans during the phase-I of the project will ensure their effective involvement in implementation of the project and promote local ownership of the SLM interventions. Moreover, important community concerns and indigenous solutions to local problems are often overlooked in the project design and implementation. The SLMP is cognisant of this short-coming, hence local land use planning has been considered as a prime activity under the project.

- Several NRM projects that have been implemented in Pakistan in the past have undertaken community participation without an adequate gender framework. As a result, women's roles in NRM and conservation have been ignored or, at best, marginally addressed. The SLMP will give a special emphasis on the integration of women into Project activities wherever feasible.

- Participation of stakeholders during project designing and implementation of the project is critical for sustainability. In order to achieve this, a rigorous consultation process was adopted during the PDF-B for involving national, provincial and local levels stakeholders in designing of the project interventions. The project will follow a participatory approach for implementation of the project interventions. It is also important to understand local power structures, especially in tribal communities in NWFP, Sindh and Balochistan, and the way in which they influence the local use and distribution of land resources. The pilot studiess have been designed after thorough investigation of the existing social, economic and ecological conditions prevailing at the proposed project sites. This aspect will be further looked into during the local land use planning and designing of the phase-II interventions.

- Project success corresponds with ownership by the government and beneficiary communities. The government ownership of the project is ensured at all levels of the government, including federal, provincial and local government agencies through establishment of project "coordination units" in the MoE and provincial Planning and Development departments as well as their representation in the PSC, NCCD and PCCDs. The participation of local communities in development and implementation of site specific land use plans will stimulate local ownership, contribute to cost-effectiveness and support sustainability of SLM interventions on the ground.

- Sustainable land management requires both technical capacity for spatial and resource planning, and strong institutional coordination involving several ministries at the federal level and many line agencies at provincial and local levels. To ensure effective coordination among the relevant ministries and line agencies, the project designing has specifically addressed institutional barriers, through a mechanism for coordination and cooperation among the key

partners, and capacity building through both technical and institutional strengthening interventions.

- Project outcomes, outputs and assumptions must be realistic, and take into account national, provincial and local needs. The project has carefully considered this lesson by focusing mainstreaming of the NAP into sectoral planning process both at national and provincial levels as well as designing the pilot projects based on the priority issues or desertification control measures identified in the NAP.

- Demonstration of good SLM practices to achieve global environment benefits not only require integrated management of land resources by adopting landscape (ecosystem) approach, but also their social and economic viability through provision of alternate livelihoods. The project is designed on the basis of "integrated ecosystem approach" for sustainable use of natural resources through a combination of SLM interventions geared toward: i) capacity building, ii) institutional strengthening, creating enabling environment, iv) and demonstration of SLM practices to support local livelihoods for on the ground changes in land use practices aimed at rehabilitation of degraded lands and adopting sustainable agriculture practices.

- Knowledge gaps and lack of awareness about the consequences of land degradation often hinder success of SLM interventions. The project is designed in a way to: i) increase awareness and knowledge on the land degradation and desertification as well as linkage between poverty reduction and combating desertification, ii) promoting multi-stakeholders' involvement in the project implementation, and iii) support establishment of favourable institutional, fiscal, and financial mechanisms to enable smooth implementation of community-driven SLM practices. This approach will contribute to achieving social and economic viability. Furthermore, geographic up-scaling of on the ground demonstrations provide an opportunity to achieve the global environmental benefits envisaged under the project.

- For continuity of efforts and associated institutional memory the Project recommends the appointment of a quorum of senior staff of the relevant ministries and from appropriate departments as permanent members of the PSC for the entire duration of the Project.

- Earlier NRM projects have been hampered by a lack of technical capacity to implement activities and an inadequate knowledge of local conditions by the line ministries and partner organizations. To overcome this limitation, the Project provides for an inception period prior to commencement of any major interventions. This will enable staff in government and partner agencies to acquire a modicum of local knowledge and appropriate skills before the pace of the Project picks up. Additionally, the Project will involve a range of partners – NGOs, CBOs, research institutions and others - during implementation in order to benefit from the relevant capacity of various organisations.

- Contracting out the implementation of feasibility studies/pilot projects by the line agencies, NGOs, dryland research institutions and other partner organization will ensure that the technical capacities of various organisations are used under the Project. This will also serve to transfer skills to and strengthen technical capacity of line agencies in the provinces.

229. Lessons learnt during the implementation of phase I of the project will be documented and applied for designing and implementation of the phase II interventions demonstrating SLM practice and geographic up-scaling of the project. Furthermore, any gap remained to be filled during the phase- I for effective coordination of the project activities will be strengthened during the phase –II.

PART X: Response to the Comments Raised by the GEF Council Members

Project: **Sustainable Land Management to Combat Desertification in Pakistan (Phase-1) (GEF Grant: US $ 2 million)**

PIMS No: **3129**

Comments by the GEF Council Member from Netherlands

	Comment	Response from Project Proponents
1.	**General:** We are very critical about the merits and added value of this activity, and we do not agree with the proposal in its present form. Our main concerns are:	The Project Team feels that this is the first project of its kind which will spearhead mainstreaming of the NAP, help remove major barriers to SLM, strengthen institutional and systemic capacities, encourage participatory land use planning and management, and tackle land degradation on the ground by piloting SLM interventions in dryland areas not reached by other donors or government agencies which have the potential for significant scale-up and replication (**See**: Outcome IV; Outputs 4.1- 4.9 under detailed LFA). Furthermore, at a policy level, the project will also significantly raise the issue of land degradation in Pakistan and the plight of the rural poor who are entirely dependent on land resources for their livelihood.
2.	The proposal, too much reflects an isolated, project oriented approach from the Ministry of Environment, and lacks a broader orientation on ongoing activities in the water sector in Pakistan. Although the proposal mentions other actors, is not clear were and how other ministries, and non governmental actors in the sector will be involved.	SLMP will be a cross-sectoral project focusing on a participatory and integrated approach for restoration of degraded ecosystems. Therefore, the involvement of *all* sectors in planning and implementation of the project will be essential for its success. All the major stakeholders were consulted during project formulation. National and provincial consultative meetings were held and were attended by representatives of concerned ministries, line departments and NGOs, including those that deal principally with water. Historically, the water sector in Pakistan is a major receiver of internal and external resources. However, most water sector projects to date have been developed and implemented with the primary objective of improving physical infrastructure. Little attention has been paid to associated land degradation issues, and especially policy, institutional and capacity issues. The UNDP-GEF-Netherlands funded Pakistan's Wetland Project is one of the very first on-going initiatives that addresses wetlands management in a holistic manner. The proposed SLMP for drylands management follows a similar participatory and integrated approach to address institutional, policy, socio-economic and financial barriers. In the process, it is hoped that the proposed project will influence the future implementation of all water sector projects in the

		country. Those water sector projects which are relevant and compliment the project have been reflected in the baseline analysis and will be inter-linked with the project (**See:** Annex A attached to Project Brief for Baseline under Incremental Cost Assessment and Part VI for Detailed Baseline Analysis in the Project Document). It is important to note that in Phase 1 no single sector will be privileged because an inter-sectoral process is being put in place. However, in Phase 2 (and as a result of the findings of Phase 1), the sectors that need additional focus will be further targeted.
3.	The added value of this activity totally unclear. For example, we would recommend a reference to the 'Local Governance Ordinance' in Pakistan be included. This ordinance allows for funding of 'development' initiatives by Citizen Community Boards until a level of 25% of the development budget of districts. These resources are structurally under exploited and it is not clear why districts 'need' the extra financial means through the proposed activity.	We agree that the added value of pilot activities for promoting SLM needs further clarification and reference to recently introduced local government programs. Indeed, Citizen Community Boards (CCBs) are to be established in every local area by a group of non-elected citizens. These will ostensibly mobilize the community for development and improvement of service delivery. However, CCBs have not yet been set up in remote areas, and not in areas where pilot projects are to be implemented. Moreover, where CCBs have been established, their development priorities are often politically motivated and mainly focus on infrastructure projects like roads, schools, drinking water supply, sanitation, and health facilities. They have not, on the whole, considered land degradation and desertification issues. Furthermore, their capacity in local land use planning and integrated management of land resources is limited. Therefore, it will be very difficult for CCBs to act on their own to restore degraded ecosystems using district government budgets. The local government system and CCBs provide an opportunity for partnership under Phase-I of the project and the opportunity to design even more robust linkages for Phase-II. The proposed project will act as a catalyst by launching pilot SLM interventions and building the capacity of local communities to develop and implement local level land use plans. With help, the CCBs could provide a vehicle to mobilize local co-financing for undertaking desertification control measures. **Action taken:** Reference to the local government system and CCBs has been made in the revised Project Brief (**See**: Outcome 4) and under para 110 of the revised Project Document.
4.	The proposal is focusing mainly on policies and too little on implementation. Although the proposal mentions the ongoing efforts from the government to improve water management in Pakistan, the linkage between the proposal and these ongoing activities are not being made	Phase-I of the project focuses on mainstreaming the NAP and removing policy, institutional, socio-economic and financial barriers identified during the PDF-B (**See**: Section on barrier to SLM in the Project Document). On-the-ground implementation of SLM activities is limited to pilot projects, which have been identified by provincial stakeholders. Building on lesson learned from implementation of these projects, Phase-II of the project will focus on scaling-up and replication in other geographic areas.

	clear. This is a very weak point in the actual proposal. Moreover, we think that the proposal should include references to ongoing activities of other donors in the field of water management, as well as a vision how to link with these activities. The Government of Pakistan, with support of the Asian Development Bank (mainly) and other donors (a.o. The Netherlands) prepares a farmers loan facility for irrigation for example. The proposed activity tends to neglect these ongoing activities, if not duplicate them	Most on-going projects in the water sector being implemented in dryland areas of the county have been identified under the baseline analysis (**See**: summarized baseline analysis under Annex-A attached with revised Project Brief and detailed baseline analysis under Part-VI of the Project Document). Linkages with these on-going initiatives will be developed during implementation of Phase-I. There have been lots of investments in the past for improvement and rehabilitation of canal irrigated systems in the Indus Water Basin through funding from the World Bank and other multilateral donors, as well as by Government of Pakistan (e.g. under the national drainage program and lining of canals and water courses). These are included in the baseline analysis. The proposed project will not focus on such large-scale irrigation projects. It will, however, focus on small irrigation projects, including the promotion of rainwater harvesting and efficient use of water in dryland ecosystems, namely the pilot projects under Phase-I which introduce micro-irrigation in District Pishin of Balcohsitan for high commercial value crops and strengthen traditional "Rod Kohi" (spade) irrigation systems in D.I Khan. These will be replicated in other dryland areas during Phase-II of the project (**See**: Output 4.5 and 4.6 under the detailed LFA). The project indicated by the Council Member is a recent initiative conceived after the design of the SLMP in August 2005. This new initiative is in fact technical assistance from the Asian Development Bank to Pakistan for preparing "the Punjab Irrigated Agriculture Development Sector Project (co-financed by the Japan Special Fund, the Government of Netherlands, and Cooperation Fund for the Water Sector). The SLMP will establish linkages and complementarities with this new project through sharing information, annual workplans and progress reports. Moreover, the project managers/team will be invited to participate in the seminars, workshops and exchange visits to project sites of SLMP and vice versa. Another Asian Development Bank funded loan facility for "Balochistan Rural Development and Drought Mitigation" is referred to in the Project Document (**See**: Section on linkages with other projects and programs under para 76 Section I, Part-II in the revised Project Document). This project has been renamed "Balochistan Water Resources and Rural Infrastructure Development Project". **Action taken:** Punjab Irrigated Agriculture Development Sector Project is reflected as a parallel initiative for cross-fertilization of ideas and concepts (**See**: Section on linkages with other projects and programs under para 76, Section I, Part-II in the revised Project Document).

Comments by the GEF Council Member from Netherlands on May 24, 2006 for June 2006 Work Programme of the GEF Council

	Comment	Response from Project Proponents
1.	Thank you very much for the preparation of the workprogramme. We approve most of the proposals, but our concerns on the Sustainable Land Management for Combating Desertification activity in Pakistan (UNDP) remain. We had a close look at the redrafted proposal. We received a written communication from the Ministry of Environment in Pakistan to clarify some questions and indicate the intended changes to the program.	We thank the Government of the Netherlands for its most recent comments on the proposal and for high-lighting some of the fundamental issues surrounding sustainable land management in Pakistan. We too consider these issues to be critical if efforts to combat land degradation and desertification are to succeed. The project will certainly give due consideration to all of them as we move from inception of the program to testing pilot interventions under Phase-I and full demonstration under the Phase-II. We would like to briefly clarify here to some of the continuing concerns that have been raised:
2.	The new document shows some significant improvements. We can see now that the added value of this proposal lies in the creation of awareness and the application of more participatory processes for decision making and policies for integrated sustainable land management. The second phase will serve further implementation of policies and mainstreaming in the field. However, our concerns on the isolated setup of this proposal have not been taken away completely. We recommended to include a clear reference to the funding of 'development' initiatives by Citizen Community Boards, facilitated by the Local Governance Ordinance. These resources are structurally underexploited and it is not clear why the districts 'need' the extra financial means through the proposed	The funding for development initiatives by the Community Citizen Boards (CCBs) under the Local Government System provides a unique opportunity for the project to seek parallel financing for addressing local land degradation issues. Hence, the project will work through the CCBs to access these funds. Right from beginning, the project will be focusing on participatory land use planning with involvement of CCBs, Community Based Organizations (CBOs), and representatives of local Union Councils. The development of land use plans will be the joint responsibility of the CCBs, Tehsil Council /District Assemblies and the project. This course of action will help in creating greater interest and awareness on land degradation issues and a coherent response to local land degradation problems. No doubt district development funds are available (mainly for infrastructure development). The enabling environment, including institutional capacity and political will to address local land degradation, is lacking. The project will help CCBs and union councils create such an environment.

	activity. The Ministry of Environment agrees that the present proposal does not link with programming and funding for Citizen Community Boards. The Ministry states however that local communities unlikely will be able to utilise district development funds (for lack of enough CCBs having been formed), but more importantly the Ministry also indicates that it expects communities to have other prioritised interests above Sustainable Land Management. The project, so the Ministry explains, is meant to create greater interest and awareness on land degradation amongst the communities.	
3.	It is our opinion however, that the apparent absence of local ownership would be an important problem in itself that could undermine the successfull implementation of the GEF activity. Awareness creation at the community level will help to address the problems to some extent, but would fall short of achieving visible changes 'in the field', which this full size activity clearly should be aiming for. Political awareness and commitment too is essential. Here we would recommend that an economic analysis is included in the programme set-up to make clear the relationship between land degradation and poverty/economic development. Hard, undisputable figures about the economic cost of land degradation and how this specifically affects the poor (and therefore undermines gains made towards poverty reduction), will be essential to persuade the decision makers e.g. in the Ministry of Finance about the need to invest more in sustainable land management.	The Project Team agrees that local ownership of SLM interventions will be absolutely crucial. For this very reason, the project has started to develop a Strategy Paper for involvement of local stakeholders in the implementation of on-the-ground interventions. We believe that local ownership of the project will spring from developing participatory land use plans, which will also help in creating political awareness and commitment. We agree with the recommendation regarding the need to include "economic analysis" in the program, in order to make clear the relationship between land degradation and poverty/economic development. Such a study would be important to developing our understanding of the economic costs of land degradation. Such a study will be launched under Outcome I: Enabling Environment for Mainstreaming SLM Practices". The project is also discussing with the PRSP team the possibility of a joint venture for such a study. The findings of the study will help in perusing decision makers of the need to invest more in sustainable land management. It is also worth mentioning that the Ministry of Environment is working on an effort to establish a system of integrated environmental and economic accounting in Pakistan and will seek assistance from the Royal Netherlands Embassy in Pakistan for the initiative. This project will also help to persuade decision makers on the need to invest in SLM. We also agree that the issues of land tenure are a risk factor for the project, especially for the success of on-the-ground interventions. For this reason, pilot interventions have been designed which a focus on adopting a package of incentives for restoration of land productivity in degraded areas. The issue of "land tenure insecurity" has been identified as a major socio-economic barrier. The project will try to remove this barrier through development and

	On a more fundamental note, we feel that the proposal should recognise the problem that exists in Pakistan with respect to land ownership and its relation to land degradation. Pakistan has, for more than 50 years, failed to make any significant progress on the issue of land distribution. The poorest of the poor are forced to over-strain the land which they work, but over which they have no ownership and therefore have no incentive to invest in for restoring the productivity of the land. Clearly this is a major risk factor that the programme should make reference to and hopefully find ways to address	implementation of local land use plans in an amicable and participatory manner. However, we feel that national land reform and land distribution is beyond the scope of this project. We can only provide good examples of local successes which could be replicated, eventually having an impact nationally.
4.	The new version of the proposal is much more clear about the importance of sharing of ideas and experiences with other actors. However, the linkage between the proposed GEF activity and ongoing efforts from the Government to improve water management is still under-exposed. The Ministry of Environment argues that all stakeholders have been consulted and that in a latter stage (phase 2 of the activity) the possible means for cooperation with different stakeholders will be considered. We think that these contacts need to be much better internalised in the activity from the beginning. Close cooperation with important programmes on water/irrigation management such as those funded by ADB and WB is essential, since these partners could provide a future entrance to the Irrigation Departments in the different provinces.	The project will establish linkages not only with on-going programs of the Government to improve water management, but also with new initiatives in the water sector. Sustainable land management depends on the sustainable management of water resources. Therefore, almost all the pilot projects under Phase-I emphasize the development and efficient use of water. We realize that close cooperation with the water/irrigation management programs of the provinces, especially those funded by the ADB, World Bank and other donors, will be essential if the project is to succeed. For this reason, all the provincial irrigation secretaries and heads of irrigation departments were invited to the provincial consultation workshops held during the PDF-B. Their involvement in the project will be further deepened through their membership in Provincial Coordination Committees on Desertification Control to be established in each province under the project. These committees will oversee the implementation of the project in their respective province. Meetings will also be held with the heads of provincial irrigation departments in the run-up to the project Inception Planning Workshop, and they will be invited to participate in the workshop. Finally, the Project Team will hold discussions with the ADB and WB on the possibility of a partnership with the project for co-financing for Phase-II.
5.	In conclusion: although the proposal has improved significantly, we would like to recommend strongly that from the beginning of	To conclude, we would like to assure the government of the Netherlands that the utilization of local governments and community groups, the establishment of strong linkages with on-going activities, and the development of effective cooperation with

	implementation activities will be finetuned to ongoing activities and existing policies (among others the Local Governance Ordenance) in Pakistan. Secondly we would like to recommend to formalise, in an early stage of implementation, effective exchange and cooperation with water management programmes from ADB, WB and other actors. We hope to receive some additional information and clarifications about these issues at the June Council meeting, or if that is not feasible, at the earliest convenience thereafter.	water sector programs funded by the ADB, WB and other donors will be given urgent and careful attention in the inception and implementation of the project.

Comments by the GEF Council Member from USA

#	Comment	Response from Project Proponents
1.	The logical framework is too detailed, and should be simplified to focus on priorities and outcomes, rather than inputs.	The logical framework presented with the Project Brief was prepared in detail to provide clarity with respect to priority activities, indicators and targets to be achieved under Phase-I and II of the project. **Action taken:** The LFA has been separated into two tables. One table now focuses on objectives and outcomes, thus showing the priority results and impacts expected form the project. (**See:** Summarized log frame annexed to the revised Project Brief). Second table explains objectives, outcomes and outputs to be achieved during the implementation of the project (**See:** Detailed LFA annexed to the revised Project Brief)
2.	There are several weaknesses in the project. First, it does not address how government plans to get buy in from provincial leaders and local groups, which is important in light of some of the areas where the program is planning to operate.	We agree that the success of any on-the-ground intervention for demonstrating Sustainable Land Management (SLM) practices will depend on acceptance of the project approach by the provincial leaders and local community groups and their active participation in the implementation of the project. The project will not operate in areas where there is conflict. The project has been designed through a consultative process involving all the major stakeholders in the provinces. Consultations with local community groups were also held during the pre-feasibility studies/socio-economic surveys conducted under the PDF-B. The pilot project sites selected for Phase-I of the project, especially in Balochistan and Sindh, fall in remote areas experiencing extreme poverty and land degradation. There has been very little outside help to local communities in these areas to manage their land resources sustainably. The PDF-B phase

		has already initiated the process to seek buy-in of local leaders. Their support will be further harnessed during community mobilization, participatory land use planning (Outcome 4; Outputs 4.1-4.9 and capacity building Output 2.1 under detailed LFA). The Government at federal and provincial levels is fully sensitized on the key role of local NGOs and CBOs to meet obligations under the UNCCD. These organizations will be implementing partners for on-the-ground implementation of project activities. This approach has been informed by the Stakeholders' Participation Analysis undertaken during the PDF-B (for details refer to Section IV, Part-IV of the revised Project Document). The key aspects to be considered while establishing boarder ownership of the project will be flexibility, transparency and local acceptance of project activities. A two phased approach to the project has been devised precisely because we share the concerns about the need to ensure strong project ownership. The second phase will be implemented only on the basis of unambiguous progress and the promise of long-term sustainability in the first phase.
3.	Second, there are other GEF-funded projects that are complementary to this effort, but little discussion of how the projects would be linked or what efforts would be undertaken to ensure consistency with each other.	Presently, there are five GEF-funded projects in Pakistan under the "Biodiversity" focal area. UNDP is the GEF Implementing Agency for four of these projects, while World Bank is assisting implementation of the Protected Areas Management Project. The project will develop linkages with these projects where they are thematically relevant. The Ministry of Environment (MoE) is the Executing Agency for all projects and their Steering Committees are headed by the Secretary, MoE and represented by stakeholders who have been involved in SLM activities. The central role of MoE in policy advice and as chair of the steering committees will help in ensuring strong linkages, complimentarity and consistency among the projects. Furthermore, duplication of efforts and GEF resources will be avoided through exchanging notes/progress reports and designing activities (e.g. land use planning and capacity building), which complement all GEF projects being implemented in arid and semi arid regions of the country. **Action taken:** Discussion on linkages and complimentarity with other GEF-funded projects has been strengthened under relevant sections in the Project Document (**See**: "Linkages and Complimentarity with other Projects and Programs" under para 77 of the revised Project Document).
4.	Finally, there is little discussion of how the project would operate in areas of high corruption.	The Government of Pakistan has taken a number of steps tackle corruption, including establishment of National and Regional Accountability Bureaus, devolution of power at the local level, and encouraging participatory decision making with the involvement of Community

		Citizen Boards and NGOs. Management and implementation arrangements of the project have been designed specifically to safeguard against corruption and ensure transparency. This includes the following steps: – Implementing the project in line with UNDP rules and procedures (detailed in the Project Cycle Operations Manual, applicable to all Nationally Executed Projects) which establish checks and balances through a participatory decision making process, beginning with the mobilization of project inputs through to the delivery of outputs. The manual also requires annual audits to establish the efficacy of management and financial controls and a yearly annual review and allows the UNDP Resident Representative to decide to close the project if necessary (See: http://www.un.org.pk/undp/prm/pocoms4.htm). – Implementing participatory feasibility studies for demonstrating SLM practices through Community Based Organizations (CBOs) (Outcome 4; outputs 4.1-4-9 under detailed LFA) – Sub-contracting feasibility studies/on-the-ground pilot interventions to NGOs/line agencies under contractual agreements to be governed with detailed, output based ToRs (**See:** sub-contracts/feasibility studies under Part-III of the Project Document). – Ensuring that all sub-contracts are scrutinized and approved by the Project Steering Committee after completion of pre-requisites. – Establishing strict financial controls under the Enterprise Resource Planning System launched by UNDP headquarters as the corporate standard.

Comments by the GEF Council Member from Germany

	Comment	Response from Project Proponents
1.	Germany agrees to the project proposal. Changes outlined below should be made during further planning steps and during project implementation:	
2.	Outcome 1 targets the creating of an enabling environment for SLM. Nevertheless the understanding of "enabling environment" is limited and certainly needed mainstreaming of	We agree that the term "enabling environment" is somewhat vague and could be interpreted differently under different circumstances. However, within the context of SLM, it refers to removing policy, institutional, socio-economic, and financial barriers for managing land resources sustainably. For example, failure to mainstream the Pakistan-NAP into national,

	NAP into national policies. More attention should be paid the driving forces of the land degradation: policies in agriculture, social, institutional and economic factors. They should be described and properly addressed at the level of activities and indicators.	provincial, and local developmental programs is considered a major barrier. Similarly, national agriculture, forest, livestock, and water policies as well as Poverty Reduction Strategy Papers (PRSPs) do not refer to integrated and cross-sectoral interventions for tackling land degradation issues and participatory management of natural resources. The implementation of Outcomes I and II will help address the driving forces of land degradation. It is expected that the concept of strengthening the enabling environment for SLM practices will further evolve during implementation of Phase-I and planning of Phase-II of the project. **Action taken**: Driving forces of land degradation have been further described at the activities and indicators level (**See**: "Project Outcome, Outputs and Indictors" under Section I, Part II of the revised Project Document). They are also further described in the detailed LFA.
3.	The rational and use of the GIS based decision support system should be further explained.	Information on the extent of desertification and land degradation is either limited or outdated. GIS and RS tools are needed to map and monitor the extent of desertification and to document the impact of SLM interventions. Land management agencies often have to rely on data extrapolated from site specific studies, which leads to poor management decisions and negative environmental impacts. In this respect, GIS is critical for implementing a more integrated, landscape approach to decision-making. The project intends to use these tools for developing a baseline at the pilot sites and assisting local communities in developing land use plans and monitoring the impact of SLM activities. For this purpose, the information will be widely shared with community groups and non-governmental organizations. Preliminary mapping and monitoring work has been initiated during the PDF-B by acquiring and processing satellite images of districts where pilot projects will be implemented. The project will collaborate with other agencies/partners involved in natural resource management to collect information and quantitative data on land degradation and desertification in order to develop a GIS-based SLM Information System (SLMIS). This will provide a comprehensive database accessible online to decision makers, planners, scientists and researchers. SLMIS will also help to identify information gaps and stimulate online publishing of information pertaining to desertification control measures and success stories easily accessible to agencies involved in ecosystem conservation and restoration. **Action taken:** The point will be carefully taken into account during implementation planning of this particular activity.
4.	An operational link to the participatory land use	There are very few initiatives on proper land use planning in the country. What is being done is

	planning that needs to be established at the level of local communities.	taking place at the national level and within sector silos, without much attention to integrated SLM as practiced by farmers or involvement of stakeholders. The project will assist local stakeholders in developing participatory land use planning. The project will assist local communities at pilot project sites to develop and implement local level land use plans with technical assistance from the project (**See**: Outcome 4; Outputs 4.1 to 4.9 under detailed LFA). These plans will be scaled-up to district level land use plans. District Governments where the pilots are to be implemented will be assisted to develop district level land use plans. These will be further incorporated in provincial and then national land use plans (Outcome 3; Output 3.1 under detailed LFA). **Action taken:** The point will be carefully taken into account during implementation planning of this particular activity.

Comments by the GEF Council Member from Switzerland

	Comment	Response from Project Proponents
1.	**General:** The project addresses important national concerns: land degradation, deforestation, productivity of farming, and desertification. The project will contribute to enhancing institutional and local capacity through better land management practices. The program will deal with arid and semi-arid regions as well as irrigation practices in these areas. The project is well defined, comprehensive, and the aims and means to reach the expected results are clearly designed. Acceptance of funding phase 1 implies acceptance of phase 2.	We are grateful that the Council Member recognizes the importance of the project and its cost-effectiveness through a phased funding approach and supports the approach of mainstreaming SLM into sectoral policies and development plans.
2.	The use of GIS is an important tool for monitoring progress and comparing results	Rationale and use of GIS has been further elaborated (**See**: Response 3 to comments from Council Member from Germany)

	during the various phases of the program. The database will take into consideration SLM regions, although Sustainable Land Management SLM is not well defined nor precisely spelled out.	SLM is a relatively new concept and its principles are still evolving and being debated in the professional community. The concept has been briefly defined under Table 1 of the Project Document.
3.	How will SLM be achieved? What are the tools and techniques, which will be mobilized to reach the final aims?	The Project Team fully agrees that achieving SLM will be a challenge, as SLM is long-term process.. However, creating an enabling environment through mainstreaming the NAP and strengthening institutional capacities are foundational prerequisites for achieving SLM. And the participatory and integrated approach for undertaking pilot activities will help to fundamentally change the way these kinds of interventions have historically been implemented in the country.
4.	The cooperation of local governments and local communities is not yet assured to implement and disseminate positive results of phase 1.	Preliminary consultations with local government departments and community representatives were conducted during the pre-feasibilities at pilot project sites where communities have assured their full support and participation in implementation of the project. The cooperation of the district governments and local communities will be further sought during the land use planning and community mobilization activities under Phase-I (Outcome 4; Outputs 4.1-4.9 under detailed LFA). Also refer to response 2 to the GEF Council Member from USA.
5.	Who are the people responsible for heading the seminars, which will be conducted to disseminate results? Are they local stakeholders, members of government agencies or members of the program? This point has to be clarified before organizing these seminars throughout the region.	Training workshops, seminars and exchange visits will be part of overall capacity building responsibilities of the partner organizations and of project communities for sustainable land use planning and rehabilitation of degraded ecosystems. Lessons learned and success stories will also be widely disseminated (Outcome 2; Outputs 2.1, 2.3 and 2.6 under detailed LFA). This component will be implemented under the guidance of the Coordinator, Capacity Building and Training to be hired under the project. He/she will organize training workshop and seminars in collaboration with line agencies, research institutions, district government and NGOs (**See:** Project Organogram under Section IV, Part II of the revised Project Document.) **Action taken:** This point has been further clarified under Outcome 2 (para 101 of Section I, Part II of the revised Project Document).
6.	Independent consultants, familiar with Sustainable Land Management should be hired in order to be credible for the local governments and various stakeholders.	The Project Team fully agrees that independent consultants with a background in SLM and familiarity with local desertification issues would be most credible in working with district governments and local communities. Such consultants will be hired under the project for, among other tasks, facilitating training workshops and seminars.
7.	The replicability of SLM in other countries, as well as in various regions in Pakistan, implies that the examples chosen originate in rural areas and are conducted by farmers, i.e. local stakeholders.	The extraction of best practices and lessons learned will, in as much as possible, be done by farmers themselves with the help of the project and its partners, and in this way scaling-up and replication will be facilitated through farmer-to-farmer dialogue. Best practices in SLM tested through pilot interventions will be documented and disseminated to all stakeholders (Outcome 5; Output 5.3 under detailed LFA).

8.	The gender question is mentioned in the proposal, but the project proponents need to clarify how women would gain and participate in this program.	Involvement of women in promoting SLM activities will be crucial, as they play a key role in natural resources management and in achieving food security. The participation of women will be ensured through establishment of Women Organizations, involving women in land use planning. The project will provide funding for pilot activities for female economic empowerment and exploration of alternative livelihoods through, for example, support for vegetable gardening, planting fruit trees, training in basic skills for human and veterinary health, and collecting and marketing medicinal plants (Outcome 4; Outputs 4.1 – 4.9 under detailed LFA). The role of women will be further defined during local level land use planning exercises.
9.	Land tenure seems to be a "solved question" as there is no mention of it. Is this really so?	Land tenure issues in countries like Pakistan are complex and difficult. Land tenure insecurity is a major policy and socio-economic barrier (See: Section I, Part I of the revised Project Document under "Barriers to SLM"; Section IV, Part V—Threats, Root Causes and Barrier Matrix). Given the complex nature of land tenure - and to avoid the possibility of local conflicts - the project will examine land tenure at each pilot site during participatory land use planning and provide recommendations to the concerned government institutions through special studies under Outcome 4. Depending on the outcome of these activities as well as of actions that are under way as part of the baseline, the project will consider how to address this fundamental barrier in Phase 2.
10.	Several evaluations and reports will be required to be conducted which require sufficient time. However, very little time seems to be available between the beginning of the program and the various evaluations. For example, the mid term external evaluation scheduled after only one year, will not be able to evaluate much of the program. A seminar conducted by all members of the program prior to the beginning of the activities could be profitable to all. This seminar would clarify a certain number of questions such as: SLM, relations between central and local authorities, role of stakeholders, etc.	The Project Team agrees that there is little time between project evaluations. However, given GEF requirements, we will have to make the best of it. The Mid-Term Review (external evaluation) will be at the end of Phase-I (i.e. end of PY2) (See: Section I, Part IV—Monitoring and Evaluation Plan and Budget of the revised Project Document). The Inception Workshop (project launch seminar) involving project staff, partners and major players will develop a consensus on what is meant by SLM. It will also clarify the timeframe for internal and external evaluations, functions and responsibilities of national and provincial committees and the role of different stakeholders in implementation of the project.
11.	**Conclusions and Recommendations:** We recommend that the project is approved by the GEF. The project is sound, well thought out, and it will succeed if participation at different levels is assured.	The Project Team thanks the Swiss GEF Council Member for the positive note on the project and thorough review which has helped in clarifying certain points and improving the Project Brief.

	The general philosophy of the program, i.e. to work from pilot sites and disseminate the results in a subsequent phase, seems excellent, granted that the actions taken in the pilot sites are replicable and economically sustainable for the stakeholders. Pakistan is aware of the necessity to reach better productivity and to implement better land-use practices. A continuation of today's trend leads to severe ecological problems. The stakeholders and authorities are aware of this state of affairs. One could wish for a more explicit integration of the pastoral dimension in the project; herders seem partially left out of the program. In comparison to other programs and taking into account the expected long term results, the proposed project proves to be fairly inexpensive. This statement remains true also when including the second phase with a cost estimate of some 13 million US$.	Pastoral communities and herders will be an integral part of participatory land use planning and implementation of land use plans. A specific pilot project has been identified for the pastoral communities of Rakhshan Valley, District Kharan, Balochistan (See: Outcome 4; Output 4.3 under the detailed LFA). The project will be an important part of the WISP learning network, thereby strengthening the pastoral component and helping to ensure that more pastoral work is undertaken in Phase 2.
12.	Further comments: **We consider this a very interesting project with promising results; the risks mentioned in the request are probably easily surmountable.** The type of intervention and the method, once clarified, should lead to a successful result in fighting land degradation and desertification, and it should enable local populations to earn higher incomes from farming.	

Part XI: RESPONSE TO GEF SECRETARIAT COMMENTS

(Reference to GEF Secretariat Project Review / March 29, 2007)

Pakistan: Sustainable Land Management Project (Phase-I)

GEF: USD2.0 million; Total Project Costs: USD4.94 million

COMMENTS *(Expected at CEO Endorsement)*	RESPONSE
3. FINANCING Financing Plan i. Confirm all financing including co-financing ii. The total budget and work plan need to show more detail. When budgeted costs per outcome differ from the council approved documents, please explain. iii. The GEF share of the management budget is 352,377 USD. Please be advised that office facilities, equipment etc. should be taken care of by the agency and/or country. Can you please revise and present the specified budget for project management?	i. Co-financing commitment letters for Phase-I have already been provided. Scanned copies of the same are attached again for ready reference. ii. Project Budget and Workplan have been revised as per new template. The outcome costs slightly differ from the council approved document, because UNDP budget is outcome based while GEF requires input an based budget. Provision of inputs through "national consultants" and "contractual services companies" has been moved from Outcome 5 to the relevant outcomes, hence slightly increasing the costs of Outcomes 1-3. However, the overall GEF budget remains the same as approved by the GEF Council. iii. Project Management budget has been separated from the outcomes. However, some management inputs are cross-cutting and they are accordingly reflected under each outcome. The majority of the cost of equipment and travel under each outcome are shifted from GEF to agency (UNDP) costs. However some incremental GEF funding is maintained to cover the costs of project equipment and travel related to on-the-ground implementation of pilot project in remote dry land areas of the country and the outcomes directly contributing to the achievement of global environmental objectives.
4. INSTITUTIONAL COORDINATION AND SUPPORT **Core Commitments and Linkages**	

COMMENTS *(Expected at CEO Endorsement)*	RESPONSE
Confirm all commitments.	i. Commitment letters are attached.
SPONSE TO REVIEWS **cil** Response to council comments is satisfactory. Response to comments is satisfactory.	- -
SUMMARY OF RECOMMENDATION BY PROGRAM MANAGER	
The total budget and work plan need to show more detail. When budgeted costs per outcome differ from the council approved documents, please explain. The GEF share of the management budget is 352,377 USD. Please be advised that office facilities, equipment etc. should be taken care of by the agency and/or country. Can you please revise and present the specified budget for project management?	i. Same as responded at (i) under Financing. ii. Same as responded at (ii) under Financing.
FURTHER PROCESSING	
Further details on budget are request before project document will be recommended for CEO endorsement.	i. Budget has been revised and necessary details provided as advised by the GEF Secretariat.

Part-XII:

Detailed Project Budget

Objective/Output/Activity	Atlas Code	Funding Partner	Unit	No of Units	Unit Cost	*Total Cost*	2008	2009	Remarks
I. Project Management & Coordination									
National Coordination Unit (NCU)									
National Project Coordinator (NPC)	71300	UNDP/GEF	Per Month	24	3,027	72,644	36322	36322	Existing position of Project Manager will be re-designated as NPC
Admin & Finance Officer	71400	UNDP	Per Month	24	1,050	25,200	12600	12600	
Sr. Finance Assistant	71400	UNDP	Per Month	24	450	10,800	5400	5400	Existing position of A&F Assistant will be re-designated at Sr. Finance Assistant
Logistic Support/Office Assistant	71400	UNDP	Per Month	24	350.0	8,400	4200	4200	Existing position of Project Secretary will be re-designated as Logistic/Office Assistant
Data Management/IT Assistant	71400	UNDP	Per Month	24	425.0	10,200	5100	5100	
Rsearch Associate	71400	UNDP	Per Month	24	325	7,800	3900	3900	
Receptionist	71400	UNDP	Per Month	24	350	8,400	4200	4200	
Driver (s)	71400	UNDP	Per Month	72	300	21,600	10800	10800	
Office Helper/Cleaner, Security Guard (s)	71400	UNDP	Per Month	96	225	21,600	10800	10800	Existing position of messenger will be designated as Office Helper
Provincial Coordination Unit (PCU)									
Provincial Project Coordinator (s)	71300	UNDP/GEF	Per Month	96	1570	150,720	75360	75360	
Admin & Finance Assistants (s)	71400	UNDP	Per Month	96	450	43,200	21600	21600	
Driver (s)	71400	UNDP	Per Month	96	325	31,200	15600	15600	
Office Helper/Cleaner (s)	71400	UNDP	Per Month	96	225	21,600	10800	10800	
SUB-Total						***433,364***	***216,682***	***216,682***	
II. Assests (Vehicle, Equipment, Furniture & Fixture)									
Jeep 4WD	72200	UNDP	Per Unit item	1	25,000	25000	25000	-	For field inspections/ missions
Pick Up 4WD (Double Cab)	72200	UNDP	Per Unit item	5	19,000	95000	95000	-	One for NCU and one each for PCUs
Comuter Van (12 Seater)	72200	UNDP	Per Unit item	1	20,000	20000	20000	-	For community meetings/training workshops & community exchange visits
Motor Cycle (125 CC)	72200	UNDP	Per Unit item	1	1,200	1200	1200		
Communication Equipment (PABX, Telephone & connection)	72200	UNDP	Lumpsum		2,500	2500	2500	-	
Computing/IT Equipment	72800	UNDP	Lumpsum			38400	38400		
Office equipment	72200	UNDP	Lumpsum			16900	16900		Includes photocopiers, fax machines, UPS, ACs, and heaters

Objective/Output/Activity	Atlas Code	Funding Partner	Unit	No of Units	Unit Cost	*Total Cost*	2008	2009	Remarks
Funiture & Fixture for NCU	72200	UNDP	Lumpsum	-	-	13000	10000	3000	
Funiture & Fixture fore four PCU	72200	UNDP	Lumpsum	-	-	16000	16000	-	
Sub-Total						***228,000***	***225,000***	***3,000***	
III. Operational Expenses									
Office Supplies	72500	UNDP	Per Year	2	7,500	15000	7,500	7,500	
Rental Premises	73100	UNDP	Per Year	2	16,000	32000	16,000	16,000	
Operation & Maintenance of Equipment	73400	UNDP	Per Year	Lumpsum	-	59000	31,000	28,000	Includes O&M vehicles and other equipment
Misclienous Expenses	74500	UNDP	Per Year	Lumpsum	-	18000	8,000	10,000	
Sub-Total						***124,000***	***62,500***	***61,500***	
IV. Travel Cost									
Duty travel	71600	UNDP	Per Year	2	20,000	40000	20,000	20,000	
Sub Total						***40,000***	***20,000***	***20,000***	
V. Professional Services									
Annual Audits	74100	UNDP/GEF	Per Year	2	4,000	8000	4,000	4,000	
Monitoring Evaluation and reporting, External	74100	UNDP/GEF	Lumpsum	-	53,000	53000	26,500	26,500	
Sub-Total						***61,000***	***30,500***	***30,500***	

Project Outcomes/Outputs

VI. Creation of Enabling Environment

Technical Asistance (International)	71200	GEF	Out put based	Lumpsum	-	45000	20,000	25,000	
Technical Assiatnce (Local) for Policy Reforms	71300	UNDP/GEF	Out put based	24	1,570	37,670	18835	18835	
Intergrating SLM principles into sectorl policies and plans	72100	UNDP/GEF	Output	Lumpsum	-	70000	35,000	35,000	
Mainstreaming NAP into sectoral planning	72100	UNDP/GEF	Output	Lumpsum	-	65000	26,000	39,000	
Development of National Criteria & Indicators (C & I) for SLM	72100	UNDP/GEF	Output	Lumpsum	-	60000	24,000	36,000	
Design/develop Phase-II Project Document through consultative process	72100	GEF/GOP	Output	Lumpsum	-	60000	24,000	36,000	
National Desertification Control Fund (NDCF) strategy devised	72100	UNDP/GEF	Output	Lumpsum	-	40000	16,000	24,000	
Consultations for policy reforms	71600	UNDP	Output	2	3500	7000	3500	3500	
Sub Total						***384,670***	***167,335***	***217,335***	

Objective/Output/Activity	Atlas Code	Funding Partner	Unit	No of Units	Unit Cost	*Total Cost*	2008	2009	Remarks
VII. Capacity Building for Sustainable Land Management									
Technical Assistance (Local) for Capacity Building, Trainings, Outreach & Awareness	71300	UNDP/GEF	Out put	24	2,620	62,880	31440	31440	
Consultations/surveys and training need assesments	71600	UNDP	Output	2	7000	14,000	7,000	7,000	
Institutional capacity at National, Provincial and Local levels strengthened	72100	UNDP/GEF/GOP	Output	Lumpsum	-	118000	59,000	59,000	
Apex bodies for monitoring Land degradation and Desertification formed	72100	UNDP/GEF/GOP	Output	Lumpsum	-	27000	10,800	16,200	
Orientation of Research Institutes towards targeted SLM	72100	UNDP/GEF/GOP	Output	Lumpsum	-	160000	64,000	96,000	
Public – Private partnership promoted	72100	UNDP/GEF/GOP	Output	Lumpsum	-	125000	50,000	75,000	
Knowledge generated for sustainable land management	72100	UNDP/GEF/GOP	Output	Lumpsum	-	100000	40,000	60,000	
Outreach & Awareness raised	72100	UNDP/GEF/GOP	Output	Lumpsum	-	80000	32,000	48,000	
Audio Visual/Awareness & outreach equipment	72200	UNDP		Lumpsum		10680	10680		Includes multimedia projector, mini taprecorders, TV and digital camaras
Sub-Total						***697,560***	***304,920***	***392,640***	
VIII. Mainstreaming SLM into Land Use Planning Process									
Technical Assistance (Local) for mainstreaming [illegible]	71300	UNDP/GEF	Man month	72	1,428	102,840	51420	51420	
Consultations, field surveys and ground truthing	71600	UNDP	Annual	2	12000	24000	12000	12000	
Provincial Land Use Plans developed	72100	UNDP/GEF/GOP	Output	Lumpsum	-	120000	48,000	72,000	
SLM Information System Developed	72100	UNDP/GEF/GOP	Output	Lumpsum	-	212000	84,800	127,200	
GIS and RS Software & Hardware	72800	UNDP		Lumpsum	-	24000	24000		
Sub-Total						***482,840***	***220,220***	***262,620***	
IX. Pilot Projects for Demonstration of SLM Practices									
Integrated management of water resources and rangeland in Chakwal & Attock districts of Punjab	72100	UNDP/GEF/GOP	Output	Lumpsum	-	167000	66,648	100,352	
Poverty alleviation through soil conservation measures in District Bhakkar	72100	UNDP/GEF/GOP	Output	Lumpsum	-	157000	62,600	94,400	

Objective/Output/Activity	Atlas Code	Funding Partner	Unit	No of Units	Unit Cost	*Total Cost*	2008	2009	Remarks
Integrated natural Resource Management with the involvement of pastoralist communities in Rakhshan Valley Distt Kharran, Balochinstan	72100	UNDP/GEF/GOP	Output	Lumpsum	-	161000	64,000	97,000	
Sustainable use of Mazri Palm and NTFP with the involvement of local communities and privatesector in Distt Awaran, Balochistan	72100	UNDP/GEF/GOP	Output	Lumpsum	-	157000	62,000	95,000	
Sustainable land management by introduction of low delta and high commercial value crops with micro irrigation in Surkhab, Distt Pishin in Balochistan	72100	UNDP/GEF/GOP	Output	Lumpsum	-	160000	64,000	96,000	
Conservation of water and soil with the invlovement of local communiteis in Shaikh Haider Zam, Distt D.I.Khan in NWFP	72100	UNDP/GEF/GOP	Output	Lumpsum	-	150000	67,000	83,000	
Strengthening of tradional land use practices in low productive lands in District Lakki Marwat in NWFP	72100	UNDP/GEF/GOP	Output	Lumpsum	-	156000	62,400	93,600	
Water haresting an Agriculture Development in Kacho Area, Taiuka Johi, Distt Dadu in Sindh	72100	UNDP/GEF/GOP	Output	Lumpsum	-	149000	50,000	99,000	
Paritipatory NRM for drought mitigation and food security in Distt Tharparker in Sindh	72100	UNDP/GEF/GOP	Output	Lumpsum	-	154000	64,000	90,000	
Local consultation and monitoring	71600	UNDP	Annual	2	12000	24000	12000	12000	
Sub - Total						***1,435,000***	***574,648***	***860,352***	

X. Adaptive Management, Monitoring, Feed back and Evaluation

Technical assistance for monitoring, evaluation and assessment	71300	UNDP/GEF	Man month	24	1,940	46,567	23283	23283	
Lesson learning, Documentation of best practices and Evaluation	72100	UNDP/GEF/GOP	Output	Lumpsum	-	60000	25000	35,000	
Field monitoring and assessment surveys	71600	UNDP	Annual	2	3500	7000	3500	3500	
Sub-Total						***113,567***	***51,783***	***61,783***	
G.TOTAL						**4,000,000**	**1,873,588**	**2,126,412**	