



FACT SHEET ON State of land degradation

Fact Sheet (009.09.03)

Introduction

The loss of land's functionality reduces its productive use, environmental benefits and capacity to provide social goods. The process of degradation is a gradual one which can occur in different ways. Natural processes such as salinization and erosion alongside human activities give rise to degradation. The main land-use of the Indus Ecoregion is agriculture and forestry. Table 1 represents the province wise land use pattern.

Table 1: Province wise land use (1997 - 98)
(Adapted from draft South Asia Water Vision 2025, Country Report, Pakistan)

Province	Geographical Area	Cultivated Area	Net Area Sown
Punjab	20.63	12.34	11.11
Sindh	14.09	5.58	3.04
NWFP	10.17	1.91	1.57
Balochistan	34.72	2.11	0.97

Current Scenario

The River Indus is the life line of Pakistan. An example of this is that the survival of the Sindh Province is solely dependent on water from the River Indus due to the scarcity of good quality groundwater. Sindh is situated in an arid to hyper-arid region. Its annual precipitation rate 100 to 200 mm is far less than the annual evaporation and transpiration loss (the evaporation rate is between 1,000 to 2,000 mm). Sindh has entered into a phase of water insecurity (Table 2). All possible measures must be taken to manage and conserve scarce water!

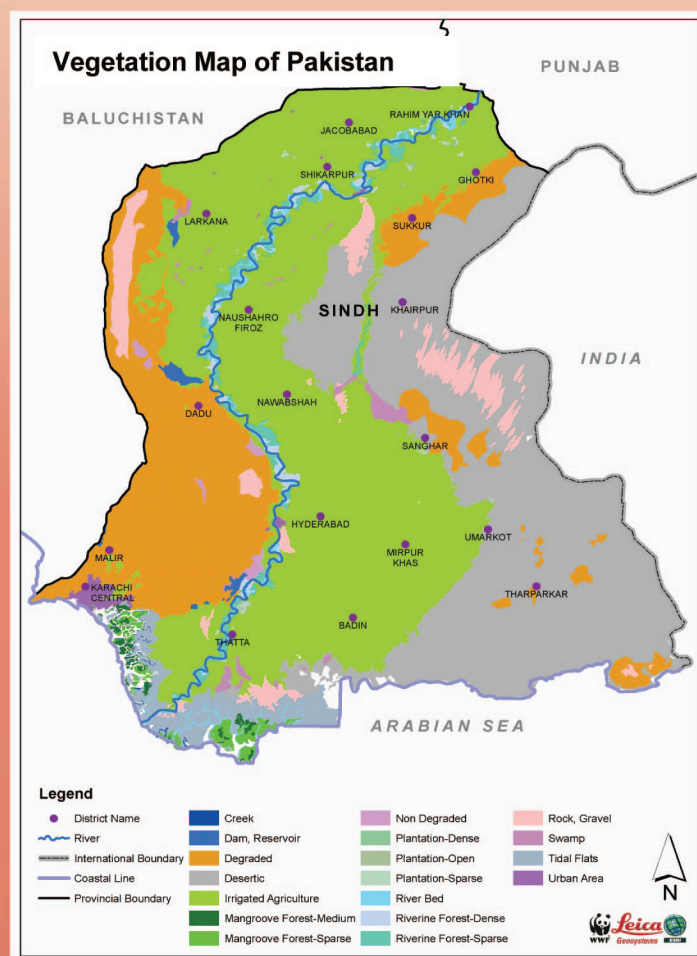


Table 2: Future availability of water in Sindh
(Adapted from Sindh: State of Environment & Development, 2004, IUCN)

Year	Population (million)	Water flow to Sindh (MAF)			
		Per Capita water availability (Cubic meter)			
		45	40	35	25
1998	30	1852	1646	1440	1029
2002	34	1634	1452	1271	908
2010	45	1292	1148	1005	718
2020	56	992	882	772	551
2030	75	741	658	576	412

A major agricultural problem in Pakistan is water logging and salinity. Persistent seepage over the years from unlined canals and large networks of distributary channels has caused the water table to rise close to the surface.



Salinity is a critical issue in the country. In the coastal regions especially the Indus Delta, vegetation in areas close to sea level, watercourses and wetlands are most at risk from rising groundwater tables. About 10 tons per year of salt is brought in by the Indus in Sindh. Another issue related to land degradation is the depletion of soil fertility and organic matter. In order to halt the decline in soil organic matter, the use of organic sources of plant and animal origin must be popularized.



Loss of Mangrove cover due to Sea intrusion

Threats and Challenges

The following have been listed as some of the threats and issues of concern by the Government of Pakistan.

- ❑ **Poor Irrigation and Drainage Practices:** approximately 11 million ha of arable land is lost to water logging, while over 3 million ha are affected by salinity and sodicity.
- ❑ **Deforestation:** 5.2 % (4.2m ha) of Pakistan's total area under forests is threatened by illegal and excessive chopping of trees. Pakistan is losing forests at a 3 times the rate of other South Asian countries. About 3.1 % of forest cover is being lost every year and woody biomass is disappearing at an annual rate of 5 %.
- ❑ **Over-grazing:** unchecked livestock rearing has exceeded the carrying capacity of rangelands and reduced their productivity. An estimated 48.3% of rangelands are completely eroded. Many other areas are producing only 20-30% of their biomass.
- ❑ **Water Scarcity:** 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.
- ❑ **Intensification of Agriculture:** heavy use of chemical fertilizer and frequent watering coupled with intensive cropping is contributing to degrading agro-ecosystems, polluting streams and rivers, reducing essential nutrients and eliminating beneficial micro-organisms. Agricultural run-off, which includes pesticides as well as nitrates, is now the leading cause of freshwater contamination.

Table 5: Soils affected by various types of salinity & sodicity in Sindh		
(Adapted from Sindh: State of Environment & Development, 2004, IUCN)		
	Sindh	Pakistan
Soil with surface/ Patchy salinity & sodicity		
Irrigated	118.1	598.7
Unirrigated	0	0
Gypserous saline/saline-sodic soils		
Irrigated	743.4	972.1
Unirrigated	536.3	124.5
Porous saline sodic soils		
Irrigated	257.0	1102.9
Unirrigated	150.1	1022.9
Dense saline sodic soils		
Irrigated	32.5	130.1
Unirrigated	379.7	1633.4
Total	2217.1	6281.0



Wheat field in interior Sindh

For Further Information
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