

## **Desertification, Drought hit sustainable development, food security**

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Desertification has long been recognized as a major economic, social, and environmental problem of concern to many countries in all regions of the world. Desertification is the degradation of land in arid, semi-arid, and dry sub-humid areas. Primarily human activities and climatic variations cause desertification. It does not refer to the expansion of existing deserts. It occurs because dry-land ecosystems, which cover over one third of the world's land area, are extremely vulnerable to over-exploitation and inappropriate land-use. Poverty, political instability, deforestation, overgrazing, and bad irrigation practices could all undermine the land's productivity. Over 250 million people are directly affected by desertification in the world. In addition, some one billion people in over 100 countries are at risk. These people include many of the world's poorest, most marginalized, and politically weak citizens.

Combating desertification is essential to ensuring the long-term productivity of inhabited dry lands. Unfortunately, past efforts have too often failed, and around the world the problem of land degradation continues to worsen. The United Nations Convention to Combat Desertification adopted in 1994 aims to promote effective action through innovative local programmes and supportive international partnerships. The treaty acknowledges that the struggle to protect dry lands will be a long one because the causes of desertification are many and complex, ranging from international trade patterns to unsustainable land management practices. Countries affected by desertification are implementing the Convention by developing and carrying out national, sub-regional, and regional action programmes.

Desertification can only be reversed through profound changes in local and international behavior. These changes will ultimately lead to sustainable land use and food security for a growing world population. Combating desertification is really just part of the broader objective of sustainable development of the countries affected by drought and desertification.

The United Nations Environment Programme (UNEP) concluded in 1991 that the problem of land degradation in arid, semi-arid, and dry sub-humid areas had intensified, although there were some local examples of success. As a result, the question of how to tackle desertification was a major concern for the 1992 United Nations Conference on Environment and Development (UNCED), which was held in Rio de Janeiro. The Conference supported a new, integrated approach to the problem emphasizing action to promote sustainable development at the community level. It also called on the United Nations General Assembly to establish an Intergovernmental Negotiating Committee (INCD) to prepare, by June 1994, a Convention to Combat Desertification in those countries experiencing serious drought and/or desertification. In December 1992, the General Assembly agreed to the Rio conference's recommendation by adopting a resolution and hence it adopted the Convention within stipulated time.

Now the world is heading towards World Summit on Sustainable Development (WSSD) in Johannesburg in August-September 2002 to review the ten years of Rio agenda, which

covers wider issues of environment and sustainable development. The desertification and drought would be among various issues to be taken up for discussion at the WSSD.

As part of a campaign to tackle global environmental deterioration in particular by combating the degradation of dry lands, World Day to Combat Desertification and Drought was observed on June 17 throughout Pakistan as elsewhere in the world. The day, every year, reminds governments and development sector to reiterate their pledge to combat desertification and drought to achieve the broader objectives of sustainable development and food security. It marks the adoption by the United Nations General Assembly of the UN Convention to Combat Desertification in Paris on 17 June 1994. The Convention was opened for signature in Paris on 14-15 October 1994. It entered into force on 26 December 1996. As on March 2002, 179 countries have become parties to the Convention.

Pakistan is among those countries that had signed it immediately. Pakistan signed the UN Convention to Combat Desertification (UNCCD) on October 15, 1994, ratified it on February 24, 1997 and started enforcement on May 25, 1997.

In pursuance of article 26 of the UNCCD, Pakistan has submitted two national reports to the UN on implementation of the Convention in 2000 and now in April 2002. The current national report briefly highlights the activities undertaken and the actions completed for the implementation of UNCCD since submission of the first report in April 2000.

According to the latest report, Pakistan has been facing a serious problem of land degradation in many part of the country. Northern mountains are the major source of water for Tarbela and Mangla Dams. However, due to heavy soil erosion, caused by deforestation in the catchments, these reservoirs are silting up, thus reducing the capacity of power generation and availability of irrigation water. Barani lands are subjected to heavy soil erosion, primarily due to improper land use by crop cultivation, livestock grazing and illegal removal of vegetation cover.

Deserts have acute problems of shifting sand dunes and salinity. The irrigated areas are infested with the twin menace of water logging and salinity. Because of mismanagement of Sulaiman Rod Kohi areas, there is substantial damage to crops and properly by flash floods. Underground water resources in western dry mountains of Balochistan are shrinking, due to very little recharge, overexploitation of the meager quantity of water for horticulture and crop cultivation. The productivity of rangelands is hampered by heavy livestock pressure. The arid coastal strips and mangrove areas are under increased environmental stress from reduced fresh water flows, sewage and industrial pollution and overexploitation of other natural resources.

Pakistan with an area of over an area of 88 million hectares has a diversified landscape with high mountain ranges, rivers and plains. About 80% of the country is arid and semi arid, nearly 12% is sub humid and the balance 8% is humid with two distinct seasons, summer and winter. Pakistan is one of more than 100 countries of the world that are affected by desertification which is resulting in environmental degradation, loss of soil fertility, biodiversity and reduction in land productivity.

Pakistan has a limited forest cover of 5.2 percent, which is even lower than the required area to meet the environmental and socio-economic standards. The already meagre forest cover is shrinking by 3.2 percent annually due to indiscriminate cutting of trees, logging for use as fuel wood and livestock feed, over grazing and manmade ecological changes. The loss of vegetative cover from the northern mountain ranges results in vast amounts of

soil erosion from the steep mountain slopes in the catchment areas that receive the intense monsoon rains. The loss of valuable topsoil results in reduced levels of soil fertility, which, in turn, lowers the quality of fodder and agricultural produce. Some 40 million tons of soil is brought into the Indus Basin annually as a result of water erosion and about 11 million hectares of land is affected annually.

Wind erosion is a common phenomenon in the deserts of Thal, Cholistan and Tharparker and along the Makran coast. As vegetative cover is depleted, sand dunes 0.5 to 4 meters high, are shifted by the wind, covering railway tracks, roads, and croplands. According to an estimate, 3-5 million hectares are affected by wind erosion, which removes about 28 percent of topsoil.

About 68 million hectares of the country lie in regions receiving less than 300 mm of rainfall annually that makes it susceptible to periodic droughts. The current drought in Balochistan, Sindh, and southern Punjab is estimated to have affected 2.2 million people and 7.2 million heads of cattle.

Under these circumstances, desertification often results in large scale migration. Such ecological migrants in their struggle to survive, often make the most destructive users of vegetative cover and water supplies, severely depleting the resources of reception areas. Thus desertification often impacts people in regions away from the degraded areas.

A number of studies and reports have been completed that describe strategies and priorities within the framework of sustainable development plans to address the major issues of land degradation and low agricultural productivity in Pakistan. They are:

- Punjab Barani Commission Report, 1973 (PBCR)
- National Commission Report on Agriculture (1988)
- Forestry Sector Master Plan, 1992 (FSMP)
- National Conservation Strategy 1992 (NCS)
- Sarhad Provincial Conservation Strategy 1996 (SPCS)
- National Master Agricultural Research Plan 1996 (NMARP)

In addition to the above studies, the government took several other steps for protection of environment, ensure sustainable development and implement the Convention. A national action programme (NAP) to combat desertification and drought has been prepared as mandated by the UNCCD. The NAP with a deep situation analysis recommends a strategy to intensify efforts at national, provincial, regional and district level to adopt such measures and steps with the active involvement of the all stakeholders including the community organisations and NGOs which help in reversing the trend of desertification and land degradation to improve the quality of life of the affected people.

Since the communities in arid/desert areas are poor, the trend of environmental degradation can be checked by reducing poverty and development of social infrastructure in the areas prone to desertification. The government's policy of addressing poverty matches the objectives of the NAP. The policy emphasis on achieving higher per annum growth rate in agriculture sector, encouraging participation of all the people in the development process; poverty reduction through an integrated approach of income generation, well dispersed access to social and community services, human resource development; extension of physical infrastructure, population welfare and conserving natural resources and protection of environment. Women participation in the implementation of the NAP is being encouraged as they are represented in various technical and consultative committees.

The presentation of the April 2002 report to the United Nations as required under the UNCCD, setting up of national action programme and some other initiatives on the part of the government to check environmental degradation and desertification seem as good steps. But the government's initiatives and the UNDP's support are not enough to really achieve the desired results and hence there is a dire need to involve communities giving them ownership of the task to be taken during the process of implementation on the Convention to Combat Desertification. Ultimately, the people are the ones who would really bring about change in the land use patterns and sustainable use of natural resources. We should pledge to fight to save our land from any sort of erosion, be it caused by water, wind and other hazardous elements, which cause erosion in any shape.  
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