

# Desertification

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## Desertification :

Desertification is a process whereby the productive potential of arid or semi-arid lands falls by ten percent or more. Moderate desertification is 10-25% drop in productivity, severe desertification causes 25-50% drop while very severe desertification results in more than 50% drop in productivity and usually creates huge gullies and sand dunes. Desertification leads to the conversion of agricultural and forest lands to desert like conditions in which agricultural productivity falls. Desertification is generally characterised by decrease of vegetation cover, depletion of ground water, salinization and severe soil erosion. Desertification is not the literal invasion of desert into a non-desert areas. It includes degradation of the ecosystems within as well as outside the natural deserts. The Sonoran and Chihuahuan deserts are about a million years old, yet they have become more barren during the last 100 years. So, further desertification has taken place within the desert.

## Causes of Desertification :

Formation of deserts may take place due to natural phenomena like climate change or may be due to abusive use of land. Even the climate change is linked in many ways to human activities. The major anthropogenic activities responsible for

desertification are as follows:

i) Deforestation: The process of denuding and degrading a forested land ~~process~~ initiates a desert producing cycle that feeds on itself. Since there is no vegetation to hold back the surface run-off, water drains off quickly before it can soak into the soil to nourish the plants or to replenish the groundwater. This increases soil erosion, loss of fertility and loss of water.

ii) Overgrazing: The regions most seriously affected by desertification are the ~~pos~~ cattle producing areas of the world. This is because the increasing cattle population heavily graze in grasslands or forests and as a result denude the land area. When the earth is denuded, the microclimate near the ground becomes inhospitable to seed germination. The dry barren land becomes loose and more prone to soil erosion. The top fertile ~~soil~~ layer is also lost and thus plant growth is badly hampered in such soils. The dry barren land reflects more of the sun's heat, changing wind patterns, driving away moisture laden clouds leading to further desertification.

iii) Mining and quarrying: These activities are also responsible for loss of vegetal cover and denudation of extensive land areas leading to desertification. Deserts are found to occur in the arid and semi-arid areas of all the continents. During the last 50

years about 900 million hectares of land have undergone desertification over the world. This problem is especially severe in Sahel region, just south of the Sahara in Africa. It is further estimated that if desertification continues at the present rate, then by 2020, it will affect such lands which are presently occupied by 20% of the human population.

Among the most badly affected areas are the sub-Saharan Africa, the Middle East, Western Asia, parts of Central and South America, Australia and the Western half of the United States.

It is estimated that in the last 50 years, human activities have been responsible for desertification of land area equal to the size of Brazil. The UNEP estimates suggest that if we don't make sincere efforts now then very soon 63% of forestlands, 60% of rain-fed croplands and 30% of irrigated croplands will suffer from desertification on a worldwide scale, adding 60,000 km<sup>2</sup> (square km) of deserts every year.

Therefore, environment management, awareness of mass people, sustainable development and ecofriendly technological development etc. are essential. Save tree and save environment plant trees etc. slogans should be made popular and effective among general people.