**Desertification**  Name:

Geography 12 Period:

Environmental Degradation

**Facts and figures**

* 2.6 billion people depend directly on agriculture, but 52% of the land used for agriculture is moderately or severely affected by soil degradation.
* Land degradation affects 1,5 billion people globally.
* Arable land loss estimated at 30 to 35 times the historical rate.
* Due to drought and desertification each year 12 million hectares are lost (23 hectares/minute!), where 20 million tons of grain could have been grown.
* 74% of the poor (42% of the very and 32% of the moderately poor) are
directly affected by land degradation globally.

*Source:*[*UNCCD Brochure*](http://www.unccd.int/Lists/SiteDocumentLibrary/WDCD/DLDD%20Facts.pdf)**

Desertification is a phenomenon that ranks among the greatest environmental challenges of our time. Yet most people haven't heard of it or don’t understand it.

Although desertification can include the encroachment of sand dunes on land, it doesn’t refer to the advance of deserts. Rather, it is the persistent degradation of dryland ecosystems by human activities — including unsustainable farming, mining, overgrazing and clear-cutting of land — and by climate change.

What Causes Desertification

Desertification occurs when:

* the tree and plant cover that binds the soil is removed. It occurs when trees and bushes are stripped away for fuelwood and timber, or to clear land for cultivation.
* animals eat away grasses and erode topsoil with their hooves.
* intensive farming depletes the nutrients in the soil.
* Wind and water erosion aggravate the damage, carrying away topsoil and leaving behind a highly infertile mix of dust and sand. It is the combination of these factors that transforms degraded land into desert.

Impact of Desertification: Desertification is a global issue, with serious implications worldwide for biodiversity, eco-safety, poverty eradication, socio-economic stability and sustainable development. Drylands are already fragile. As they become degraded, the impact on people, livestock and environment can be devastating. Some 50 million people may be displaced within the next 10 years as a result of desertification.

The issue of desertification is not new though — it played a significant role in human history, contributing to the collapse of several large empires, and the displacement of local populations. But today, the pace of arable land degradation is estimated at 30 to 35 times the historical rate.

Desertification and Poverty: Some two billion people depend on ecosystems in dry land areas, 90% of whom live in developing countries. A downward spiral is created in many underdeveloped countries where overpopulation causes pressure to exploit drylands for farming. These marginally productive regions are overgrazed, the land is exhausted and groundwater is overdrafted. When rural land becomes unable to support the local population the result is mass migrations to urban areas. The increased frequency and severity of droughts resulting from projected climate change is likely to further exacerbate desertification.

Towards Sustainable Development: Desertification, along with climate change and the loss of biodiversity, were identified as the greatest challenges to sustainable development during the 1992 Rio Earth Summit. Established in 1994, the [United Nations Convention to Combat Desertification (UNCCD)](http://www.unccd.int/) is the sole legally binding international agreement linking environment and development to sustainable land management. Parties to the Convention work together to maintain and restore land and soil productivity, and to mitigate the effects of drought in drylands — the arid, semi-arid and dry sub-humid areas where some of the most vulnerable ecosystems and peoples can be found.

What can be done?

* Reforestation and tree regeneration
* Water management — saving, reuse of treated water, rainwater harvesting, desalination, or direct use of seawater for salt-loving plants
* Fixating the soil through the use of sand fences, shelter belts, woodlots and windbreaks
* Enrichment and hyper-fertilizing of soil through planting
* Farmer Managed Natural Regeneration (FMNR), enabling native sprouting tree growth through selective pruning of shrub shoots. The residue from pruned tress can be used to provide mulching for fields thus increasing soil water retention and reducing evaporation.

*Source: http://www.un.org/en/events/desertificationday/background.shtml*

**Answer the following questions on a separate sheet of paper.**

1. In your own words define desertification.
2. Explain what causes desertification.
3. Why is desertification ranked one of the greatest environmental challenges of our time?
4. Why do you think solutions to reduce desertification can be difficult to administer?