Academic Essay Source Texts

Title **Many of the world's land ecosystems are being damaged by human activity, this includes the reduction in soil fertility. Discuss the increasing problem of desertification focusing on the causes, and local and global effects.**

[Text 1] Dry Lands and Desertification: A Global Problem

The effects of desertification can be felt globally by millions of people living far from the affected areas. One effect is the mass migration of people from rural areas to already overpopulated cities. For example, it is estimated that 50 million people will be displaced by desertification in the next decade. Much of the urban to rural migration in Mexico and migration from Mexico to the USA results from desertification.

Another effect is enormous dust storms. These storms from desertification in central Asia create poor air conditions and have a negative health impact especially on children and the elderly. One particular dust storm in China in April 2013 reduced visibility so much that cars and buses had to use headlights in the middle of the day, major airports were closed and hospitals saw a dramatic increase in admissions for breathing difficulties. The storm lasted 3 weeks.

The consequences of desertification can be felt on a global level. Investigations into the causes of the global food crisis of 2008 point to desertification as one of its sources. Destruction of available farmland contributes to less food production and higher prices for staple crops like rice, wheat and corn. In March 2008, the price of wheat was up 130 percent from a year before and the price of soy was up 87 percent. Those countries that cannot produce their own food due to loss of soil through desertification can no longer afford to import.

Increasing human demands lead to desertification through overgrazing and deforestation. Grazing animals damage the vegetation holding soils together. When herds of animals walk on the soil, it becomes hard. This makes it less able to soak up rain. Consequently, it is easily washed or blown away by the water and wind. This erosion leads to desertification. Also, deforestation damages the vegetation. Cutting trees for firewood leaves soil unshaded and so the temperature of the soil increases. This results in an increase in the rate of evaporation of water close to the surface and this increases the amount of salt in the soil. The high levels of salt reduce plant growth.

Source: Sanders, S.P. (2014). Dry lands and desertification: A global problem. Cambridge, England: Cambridge University Press..

[Text 2] Human Contributions to Desertification

Overgrazing

"Overgrazing" is a result of too much livestock being kept on one area of land resulting in the loss of vegetation or food. As overgrazing continues, the loss of vegetation cover often results in soil erosion. Overgrazing was not as large a problem long ago because animals would move in response to rainfall. People would move with the animals so it prevented overgrazing. Now, humans have a steady food supply so they do not have to move about. Therefore, people use fences to keep their animals in one place, which can cause overgrazing.

Collecting Fuel-wood

An important way of stabilizing the dry lands on the edge of deserts is the presence of trees. In many regions where desert and dry lands are found, the most common form of fuel used for cooking and heating is wood. This fuel wood is provided by trees that grow on the edge of deserts. The growth in urban populations has created a demand for fuel wood that cannot be met, and has led to the so-called "fuel-wood crisis" which is characteristic of many dry lands in the developing world. The collection of fuel wood from the Sahel, which is the most severely affected region, has resulted in the almost total loss of trees around major cities, for instance, Ouagadougou (Burkina Faso) and Dakar (Senegal). The radius of the treeless zone around Khartoum in Sudan is 90 km..

UNEPA. (n.d.). Human contributions to desertification. Retrieved from www.UNEPA.org/unitednationsenvironmentalprotectionagency/archive/docs/doi:10.1108/0309

[Text 3] Facts about Desertification

- Nearly one-third of the earth is classed as arid or semi-arid desert.
- An estimated six million hectares of productive land are lost every year because of desertification.
- More than 110 countries are affected by desertification.
- Over 250 million people are directly affected by desertification and one billion people are at risk. These people include many of the world's poorest citizens.
- The African continent is most affected by desertification. Two-thirds of the continent is desert or dry lands, almost three-quarters of which are degraded to some degree.

- Desertification and drought lead to major famines. In Sudan in the mid 1980s an estimated 100,000 people died from starvation caused in part by desertification.

- Roughly 27 per cent of the China's land mass is desertified, with an average of 2,460 square kilometres of land being lost to advancing deserts each year. Nearly 400 million people live in these areas, and the economic loss to China has been estimated at around US$6.5 billion a year.

- It is estimated that US$42 billion is lost worldwide each year through desertification.. As a result, there is concern that dehorning can leave rhinos unable to protect themselves in the wild.

Source: Littlewood, C.T. (2009, October 27). Who's concerned about desertification? The New York Times. Retrieved from http://nytimes.com.

[Text 4] Desertification, Soil Erosion and its Impact

Desertification reduces the ability of land to support life, affecting wild plants and animals, domestic animals, agricultural crops and people. The reduction in plant cover that is associated with desertification leads to a negative cycle of soil erosion by wind and water.

As vegetation cover and soil layers are reduced by desertification water run-off from rain increases. Water is lost off the land instead of soaking into the soil and plants die. A reduction in plant cover also reduces the quantity of humus and plant nutrients in the soil, and plant production decreases even further. As protective plant cover disappears, floods become more frequent and more severe causing even more soil erosion and destruction. For example, South Africa is losing approximately 300-400 million tones of topsoil every year.

An overwhelming 90 percent of the people who live in dry land ecosystems -- those areas most prone to soil degradation and desertification -- are citizens of developing countries. This adds up to 2 billion people, mostly poor, who are immediately affected by the deadly consequences of desertification.

Experts estimate that more than 24,000 people die every day from starvation. The worst sufferers are populations living in the dry land regions of sub-Saharan Africa and Central Asia. One of the great human tragedies occurred in the Sahel region of Africa in the 1970s when combination of widespread desertification and drought led to a famine, which killed 200,000 people. It is estimated that today more than 70 percent of dry lands in Africa, Asia and Latin America that are being used for agricultural purposes are experiencing the effects of desertification. .

Source: Brown, D. (2000). Dry land zones and the consequences of desertification. In J. S. Bough and G. B. DuBois (Eds.), Environmental Crises: Whose problem? NY, New York: Longman..

[Text 5] The Impact of Desertification

When desertification takes place, the soil is the biggest victim. It becomes less usable. It can be blown away by wind or washed away by rain. Nutrients in the soil can be removed by wind or water. Salt can build up in the soil which makes it harder for plant growth.

People also suffer from the degradation of the land. It is a major cause of local famine and, on a global level, food shortages. Where desertification has taken place, the soil is not suited for growing food; therefore the amount of food being made will decline. As the world population grows, there is greater demand for the food that is available.

Further wider-scale effects of desertification include flooding, poor water quality, dust storms, and pollution. All of these effects can hurt people living near an affected region..

Source: The impact of desertification. (2011). Retrieved from http://desertlands.com

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[Text 6] What is Desertification?

When desertification takes place, the fertile or productive land becomes infertile, or non-productive. It normally affects land in arid or semi-arid regions. It does not take place in naturally occurring deserts. It is a gradual process of the loss of soil productivity and the thinning out of the vegetative cover resulting from human activities and climatic variations such as prolonged droughts and floods. This can take place over just a few years. Two major human causal factors are over-grazing and deforestation..

Source: The impact of desertification. (2011). Retrieved from http://desertlands.com

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Citations

Source references, formatted to APA citations, listed alphabetically

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