

UNIT 6

LET`S DISCUSS ECOLOGICAL PROBLEMS & HEALTH CARE



This discharge of dust and gas into the atmosphere returns to the Earth in the form of “acid rain” affects crop the quality of forests the amount of fish. To this we can add the rise of chemicals radioactivity noise and others types of pollution.

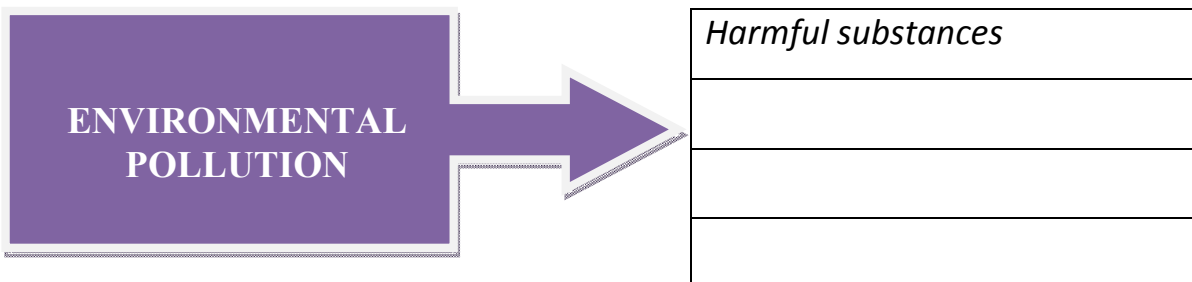
Economic, social technological and biological process has become so interdependent that modern produce on must seen as s complex economic system. It is wrong to see economy and ecology as diametrically opposed: such an approach inevitable leads to one extreme or the other.

Some progress has been already made in this direction more than 159 countries members of the UNO have set up environmental protection agencies. Numerous conferences have been held by these agencies to discuss questions of ecologically poor regions including the Aral Sea. The international organization “Green Pease” is also doing much to preserve the environment.

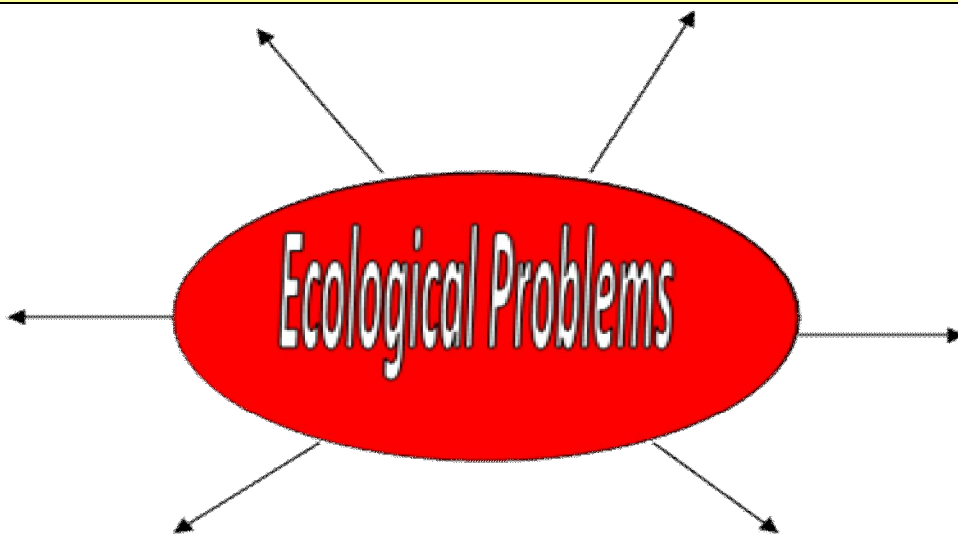
But these are only the initial steps and they must carry forward to protect nature, to save life on the planet not only for the sake of the presents but also for the future generations.

Step 2. Choose the words and word combinations concerning with the environment.

Harmful substances, education, university, nuclear power stations, newspaper, deforestation, teapot, mountains, wonderful, ozone depletion, plane, field, acid rains, global warming, society, conflict, natural, greenhouse effect, century, system industrial and nuclear waste.



Step 3. Fill in the following cluster. What have you comprehended about the theme?



Step 4. Continue the following sentences with your own words.

1. Ecological problems are developed day by day because of improving civilization. That's why people are becoming careless towards nature.
2. Number of rivers and lakes are drying up, because.....
3. As a result of increasing environmental pollution.....
4. Acid rain damage.....
5. Protecting environment....
6. "Green Peace" is.....
7. Destruction of nature....
8. Several conferences are held on Ecological problems and Environmental pollution.....

HELP DESK

WHAT DO THESE WORDS MEAN?

acid rain – acidic rainfall by atmospheric pollution that it causes environmental harm, chiefly to forests and lakes; the main cause is that industrial burning of coal and other fossil fuels, the waste gases from which contain sulphur and nitrogen oxides which combine with atmospheric water to form acids

reduce – make smaller or less in amount, degree, or size

disease – a disorder of structure or function in a human, animal, or plant, especially one that produces specific symptoms or that affects a specific location and is not simply a direct result of physical injury

destruction – the action or process of causing so much damage to something that it no longer exists or cannot be repaired

pollution – the presence in or introduction of a substance into the environment which has harmful or poisonous effects

utilization – the ratio of the actual output of an operating system to its designed capacity

equilibrium – a state in which opposing forces or influences are balanced

ecological crises – ecologic depression

harmony – a pleasing quality when things are arranged together well

SESSION 23

AFFORESTATION

⇒ **STARTER:** Look at this picture and tell your opinion about this theme.



Step 1. Read the following passages.

We have an interesting topic with you today. It deals with the main and actual for today problem – deforestation. Firstly, for the defining deforestation from the forestation it is important to understand what forestation (or afforestation) it is. So we have different kind of phenomena: forestation/afforestation, deforestation, reforestation etc. Let`s define them definitely. *Forestation/afforestation* is the establishment of a forest or stand of trees in an area where there was no forest. *Reforestation* is the reestablishment of forest cover, either naturally (by natural seeding, coppice, or root suckers) or artificially (by direct seeding or planting). And *deforestation*, in its part, is disappearance of a forest or breaking/burning of trees in an area where there was forest.

Many governments and non-governmental organizations directly engage in and support programs of afforestation to create forests, increase carbon capture and sequestration, and help to improve biodiversity anthropogenically (In the UK, afforestation may mean converting the legal status of some land to "royal

forest"). Special tools, e.g. tree planting bar, are used to make planting of trees easier and faster.

Gap dynamics refers to the pattern of plant growth that occurs following the creation of a forest gap, a local area of natural disturbance that results in an opening in the canopy of a forest. Gap dynamics are a typical characteristic of both temperate and tropical forests and have a wide variety of causes and effects on forest life.

In some areas of degraded soils, forests need help to reestablish themselves because of environmental factors. For example, in arid zones, once forest cover is destroyed, the land may dry and become inhospitable to new tree growth. Other factors include overgrazing by livestock, especially animals such as goats, cows, and over-harvesting of forest resources. Together these may lead to desertification and the loss of topsoil; without soil, forests cannot grow until the long process of soil creation has been completed – if erosion allows this. In some tropical areas, forest cover removal may result in a duricrust or duripan that effectively seal off the soil to water penetration and root growth. In many areas, reforestation is impossible because people are using the land. In other areas, mechanical breaking up of duripans or duricrusts is necessary, careful and continued watering may be essential, and special protection, such as fencing, may be needed.

As it was mentioned above, it is global matter for today to create forests, i.e. afforest and reforest areas for keeping our nature safe, natural and exotic and avoid deforestation.

Step 2. Name the pictures with the given words

harvest, afforestation, erosion, soil, biodiversity, livestock

HELP DESK

WHAT DO THESE WORDS MEAN?

topsoil – the top layer of soil

over-harvesting – high degree of crops

livestock – farm animals regarded as an asset

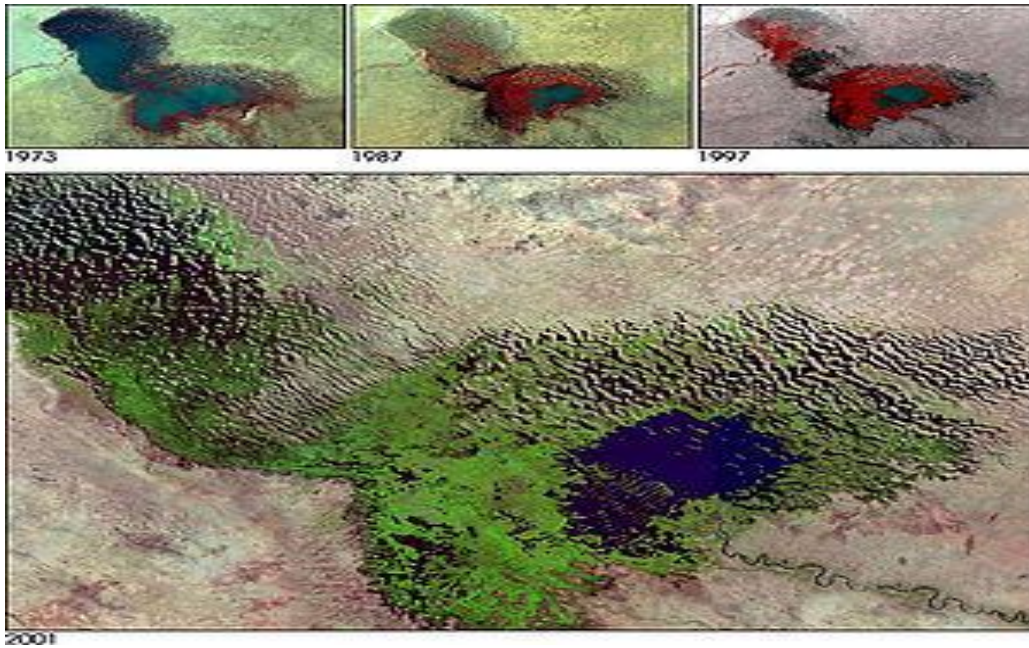
overgraze – graze (grassland) so heavily that the vegetation is damaged and the ground becomes liable to erosion

environmental – the natural world and the impact of human activities regarded as unwelcome or harmful and needing to be dealt with and overcome

biodiversity – the variety of plant and animal lives in the world or in a particular habitat, a high level of which is usually considered to be important and desirable

carbon capture – the process of trapping carbon dioxide produced by burning fossil fuels or other chemical or biological process and storing it in such a way that it is unable to affect the atmosphere

reforestation – reestablishment of forest in an area where there used to be a forest naturally or artificially



Step 2. Take some notes on history of desertification.

History

Do you want to know about the history of desertification? The world's great deserts have been formed by natural processes interacting over long intervals of time. During most of these times, deserts have grown and shrunk independent of human activities. Paleodeserts are large [sand seas](#) now inactive because they are stabilized by vegetation, some extending beyond the present margins of core deserts, such as the [Sahara](#), the largest hot desert.

Desertification has played a significant role in human history, contributing to the collapse of several large empires, such as Carthage, Greece, and the Roman Empire, as well as causing displacement of local populations.

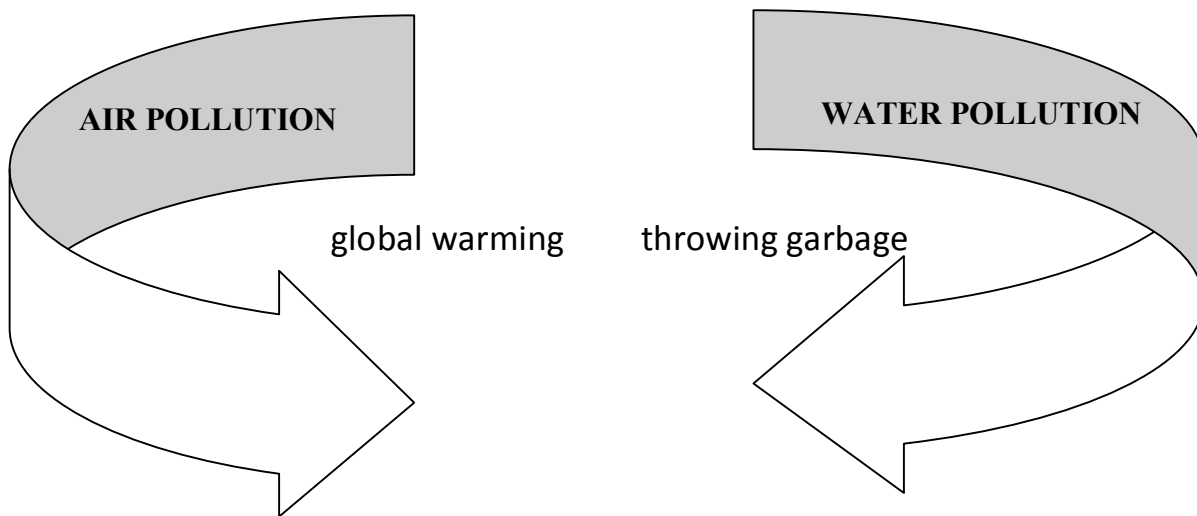
Step 3. Read the following statements and choose the correct words from the text.

1. Increasing of arid zones- *improving of dry land regions.*
2. Largest hot desert-
3. Large sand seas now none functional-
4. Several large empires which is connected with the history of desertification-

5. Desertification caused by...

Step 4. Reorder the examples of environmental pollutions in columns “Air Pollution” and “Water pollution”.

Throwing garbage, global warming, carbon dioxide, smelly, toxic chemicals, greenhouse gases, destruction of the ozone, untreated sewage, leaking oil and petroleum, smoke of cars.



Step 5. Regroup students into two groups. First group should be named Deforestation, and the second one is Desertification. Each group should tell as much information as they know. Wins the Group, which tells more information on their task.

Deforestation	Desertification
<i>Burning forests in fire</i>	<i>Enlarging arid zones</i>

HELP DESK

WHAT DO THESE WORDS MEAN?

wildlife – wild animals collectively; the native fauna (and sometimes flora) of a region

vegetation – plants considered collectively, especially those found in a particular area or habitat

environmental problem – the problem of the natural world and the impact of human activities

climate change – the change in global climate patterns apparent from the mid to late 20th century onwards, attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil

fuel – material such as coal, gas, or oil that is burned to produce heat or power

sand sea – sea which is covered with sand

dry land degradation – the condition or process of degrading or being degraded of a waterless land

SESSION 25

EROSION

⇒ **STARTER:** Look at the pictures and tell what is being described here.



Step 1. Read the following passage carefully

Erosion is the process by which soil and rock are removed from the Earth's surface by natural processes such as wind or water flow, and then transported and deposited in other locations.

While erosion is a natural process, human activities have dramatically increased (by 10-40 times) the rate at which erosion is occurring globally. Excessive erosion causes problems such as desertification, decreases in agricultural productivity due to land degradation, sedimentation of waterways, and ecological collapse due to loss of the nutrient rich upper soil layers. Water and wind erosion are now the two primary causes of land degradation; combined, they are responsible for 84% of degraded acreage, making excessive erosion one of the most significant global environmental problems we face today.

Industrial agriculture, deforestation, roads, anthropogenic climate change and urban sprawl are amongst the most significant human activities in regards to their effect on stimulating erosion. However, there are many available alternative land use practices that can curtail or limit erosion—such as terrace-building, no-till agriculture, and revegetation of denuded soils.

There are three primary types of erosion that occur as a direct result of rainfall—sheet erosion, rill erosion, and gully erosion. *Sheet erosion* is generally seen as the first and least severe stage in the soil erosion process, which is followed by *rill*

erosion, and finally *gully erosion* (the most severe of the three).

The impact of a falling raindrop creates a small crater in the soil, ejecting soil particles. The distance these soil particles travel (on level ground) can be as much as 2 feet vertically, and 5 feet horizontally. Once the rate of rain fall is faster than the rate of infiltration into the soil, surface runoff occurs and carries the loosened soil particles down slope.

Sheet erosion is the transport of loosened soil particles by surface runoff that is flowing downhill in thin sheets.

Rill erosion refers to the development of small, ephemeral concentrated flow paths, which function as both sediment source and sediment delivery systems for erosion on hill slopes. Generally, where water erosion rates on disturbed upland areas are greatest, rills are active. Flow depths in rills are typically on the order of a few centimeters or less and slopes may be quite steep. This means that rills exhibit very different hydraulic physics than water flowing through the deeper, wider channels of streams and rivers.

Gully erosion occurs when runoff water accumulates, and then rapidly flows in narrow channels during or immediately after heavy rains or melting snow, removing soil to a considerable depth.

Step 2. Match the definition of the word.

Erosion	<i>lasting a very short time</i>
Ephemeral	<i>a large rectangular piece of cotton or other fabric used as an article of bedding, commonly in pairs, with one below and one above the sleeper.</i>
Sheet	<i>the mechanical process of wearing or grinding something down (as by particles washing over it)</i>
Gully	<i>a small channel or gulley, such as one formed during soil erosion</i>
Rill	<i>the process of formation of sedimentary rocks</i>

Sedimentation	<i>A deep ditch or channel cut in the earth by running water after a prolonged downpour.</i>
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Step 3. Flow-chart completion. Choose the words from the text to complete the sentence.

Erosion is the process by which soil and rock are removed from the Earth's surface



Erosion is a natural process but ... have increased it 10-40 times



Sheet erosion is the transport of loosened soil particles by surface runoff that is flowing downhill in thin sheets



Sheet erosion occurs when ... faster than the rate of infiltration into the soil, surface runoff occurs and carries the loosened soil particles down slope.



Rill erosion refers to the development of small, ephemeral concentrated flow paths.



Rill erosion occurs when ... through the deeper, wider channels of streams and rivers



Gully erosion occurs when runoff water accumulates, and then rapidly flows in narrow channels

HELP DESK

WHAT DO THESE WORDS MEAN?

rill – a small stream ■ a shallow channel cut in the surface of soil or rocks by running water

ephemeral – lasting for a very short time

till – prepare and cultivate (land) for crops

terrace – 1) a level paved area next to a building; a patio 2) each of a series of flat areas made on a slope, used for cultivation

urban sprawl – the uncontrolled expansion of urban areas

road – a wide way leading from one place to another, especially one with a specially prepared surface which vehicles can use

ecological collapse – ecologic breakdown or failure

sedimentation – 1) the process of formation of sedimentary rocks 2) the deposition or production of sediment

SESSION 26	HEALTH CARE
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⇒ **STARTER:** Playing a game: “Seat-changing”. Teacher sticks the pieces of papers on students` backs. It is one of the wise-sayings of Navoi are still used every day on the streets of Uzbekistan and other parts of Central Asia.

to be honoured	speak	wish	you	if	if
less	you	to be healthy	less	eat	wish

Step 1. Teacher regroups students by the names: “Surgeons”, “Psychologists”, “Oculists” giving to the groups 3 paragraphs from the Reading Passage 1 and orders them to read it carefully (A). Participants must order them by numbering and make the whole topic (B).

A.

1. For much of recent Western history, health has been viewed in the physical sense only. That is, good health has been connected to the smooth mechanical operation of the body, while ill health has been attributed to a breakdown in this machine. Health in this sense has been defined as the absence of disease or illness and is seen in medical terms. According to this view, creating health for people means providing medical care to treat or prevent disease and illness. During this period, there was an emphasis on providing clean water, improved sanitation and housing.
2. The concept of health holds different meanings for different people and groups. These meanings of health have also changed over time. This change is no more evident than in Western society today, when notions of health and health promotion are being challenged and expanded in new ways.
3. In the late 1940s the World Health Organisation challenged this physically and medically oriented view of health. They stated that ‘health is a complete state of physical, mental and social well-being and is not merely the absence of disease’ (WHO, 1946). Health and the person were seen more holistically (mind/body/spirit) and not just in physical terms.

HELP DESK

WHAT DO THESE WORDS MEAN?

health – the state of being free from illness or injury

disease – a disorder of structure or function in a human, animal, or plant, especially one that produces specific symptoms or that affects a specific location and is not simply a direct result of physical injury

medical care – health service

sanitation – conditions relating to public health, especially the provision of clean drinking water and adequate sewage disposal

health promotion – the action to maintain the best possible health and quality of life of community members, both collectively and individually.

strictly – in a way that involves rigid enforcement or that demands obedience

rest-cure – a rest taken as part of a course of medical treatment, as for stress, anxiety, etc

treatment – medical care given to a patient for an illness or injury

headache – a continuous pain in the head

patient – a person receiving or registered to receive medical treatment

heartache – emotional anguish or grief, typically caused by the loss or absence of someone loved

SELF-CONTROL on UNIT 6 (total 15 points)

Step 1. VOCABULARY CHECK (5 points). These are the important words that you have studied in Unit 6.

acid rain	medical care
almond	oak
base level	overgraze
biodiversity	over-harvesting
boulder ephemeral	patient
carbon capture	pebble
climate change	permafrost
desertification	pollution
destruction	povert
disease	reduce
dry land degradation	reforestation
ecological crises	replant
ecological collapse	rest-cure
environmental	rill
environmental problem	sand sea
ephemeral	sanitation
equilibrium	slump
fuel	soil layer
flood	strictly
habitat destruction	terrace
harmony	till
headache	treatment

health	traction
health promotion	urban sprawl
heartache	utilization
landscape	vegetation
marginalization	wildlife
migration	

Step 2. TRUE-FALSE ACTIVITY (5 points). Which of the following bits of information is given (G) or not given (NG) in Unit 1?

1. 159 countries' members of the UNO have set up environmental protection agencies. _____
2. Forestation is the reestablishment of forest cover, either naturally. _____
3. Land degradation consists of desertification which is a significant global problem. _____
4. Erosion is an artificial process, human activities have dramatically increased the rate at which erosion is becoming global. _____
5. The concept of health holds different meanings for different people and groups, like students, workers etc. _____

Step 3. COMPREHENSION TASK (5 points). Read and explain the meaning of the following proverbs and wise-sayings on gardening and planting. Underline metaphorical and specific usage of some expressions.

1. As he who has health is young, so he who owes nothing is rich.
2. A man too busy to take care of his health is like a mechanic too busy to take care of his tools
3. A cool mouth and warm feet live long.
4. Health and cheerfulness mutually beget each other.
5. Health and understanding are the two great blessings of life.