

# Natural Resources

## Synopsis:

1. Management of resources is essential for their conservation and restoration.
2. Resources are usually local specific and local people need to have control over them.
3. People need to be motivated to reduce pressure on the environment by reducing utilization of resources and reusing some of them.
4. We must use our resources judiciously especially fossil fuel, coal and petroleum as they will be ultimately exhausted.
5. Interstate and intercountry disputes should not hamper availability of a resource.
6. Indiscriminate tapping of ground water in the state by too much drilling and construction of deep tubewells have resulted in over exploitation and depletion of ground water resources in certain areas.
7. A project of the center for world solidarity(Secunderabad) that addresses sustainability of ground water intervened to help in recharging wells that were drying up in the village.
8. Out of all the water on earth, salt water In oceans, seas and saline ground water constitute about 97%, only 2.5 to 2.75% is fresh water.
9. International Crop Research Institute for Semi Arid Tropics(ICRISAT) educated villages by large and provided technical support for cost efficient water storage and soil conservation structures.
10. Farmers are encouraged to use water resource jointly and irrigate land using micro-irrigation techniques.
11. Saplings of useful species were planted along the roads, field bunds and nallas.
12. According to United Nations Development Programme water resource is an area, where annual water supply drops below 1700 m<sup>3</sup> per person is becoming scarce!
13. By 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity.
14. Scientists are exploring alternatives to fossil fuels. They are trying to produce renewable biofuels to power cars and trucks.
15. The Indian tradition teaches us that all forms of life-human, animal and plant-are so closely interlinked that disturbance in one gives rise to imbalance in the other.

## Four Marks Questions and Answers

1. **The BP statistical Review of World Energy in June measured total global oil at 188.8 million tons. From proved oil resources at the end of 2010. This is only enough for oil to last for the next 46.2 years. What measures should be taken to conserve oil? What will happen if we do not conserve it?**

**Ans:** The measures should be taken to conserve the oil are as follows.

1. Exploring alternatives to fossil fuels like solar power, bio-fuel etc.

2. Large scale production of electricity use the sun, wind and water etc.
3. Turn of lights and other electricity use the sun, wind and water etc.
4. Purchase of energy efficient appliances.
5. Maximum usage of public transportation whenever possible.

If we do not conserve the oil, all the oil resources would be exhausted and the future generations even don't know about oil and its products. Apart from its use in vehicles many of its byproducts like plastics, synthetic rubber, fabrics like nylon, medicines, cosmetics, waxes, cleaning products and medical devices etc, would not be in use in the coming future.

**2. Here is a news strip, read it carefully and answer the following questions.**

**Villagers oppose sand mining project Santhabommali (Srikakulam) : People of more than 20 villages in two mandals of Srikakulam have raised a banner of revolt against the proposed beach sand mining project by a private company and threatened to intensify their agitation if the government does not cancel the project. The sand mining is being taken up to extract rich minerals from the area. The villages are located around the forest belt where mining was initiated.**

**i). Yes, the villagers are doing the right to agitate? Why?**

**ii) What resources are the villagers trying to save by their agitation ?**

**iii) Will the villagers be benefitted by the rich minerals extracted from sand ?**

**iv) Why does the private company want to carry out mining in the area?**

**v) How will mining in that piece of land affect people of the area?**

**Ans:** i) Yes, the villagers are doing the right thing to agitate against the mining activity. Because mining methods devastate the environment. They destroy soil, plants and animal habitats. Mining activities pollute water and air as toxic chemicals leak into the surrounding ecosystem.

ii) Mineral resources of the sand, natural animal habitats, fresh water resources and also the green forest cover.

iii) Some of them may get employment. Roads will be developed for the transportation of mineral activities.

iv) The sand mining is being taken up to extract rich minerals.

v) Yes, the Government has to play vital role in giving permissions to such projects. They have to do 'environment impact assessment' on these projects before giving permissions. Only 'eco - friendly' mining activities are allowed which can conserve the natural habitats.

vi) The people may suffer from water, soil and air pollution due to the mining activities. Due to the dust, which is produced during mining may lead to lung and eye diseases.

**3. What is sustainable development? How is it useful in natural resource management?**

**Ans:**

1. When we use the environment in ways that ensure we have resources for the future, it is called sustainable development.
2. If all the resources are carelessly managed, they will be used up. Through sustainable conservation, people can reduce waste and manage natural resources wisely.
3. Water should be conserved by implementing methods like drip irrigation, sprinkler methods. Restrictions are imposed on activities like refilling swimming pools, washing

vehicles and road etc.

4. The continuation of life as we know depends on the careful use of natural resources.
5. We should remember, that all the natural resources that we are enjoying now must be carry forward to the use of future generations. Thus "Sustainability" should be implemented in all aspects of natural resources, so that they would be available to our future generations.

**4. Write a detailed note on management of a natural resource.**

**Ans:**

1. The natural resources of our Earth include air, water, soil, minerals, fuels, plants and animals.
2. Conservation is the practice of caring for these resources. So that all living things can benefit from them now and in the future.
3. All the things we need to survive (food, water, air and shelter) come from natural resources. But in these days, people often waste natural resources, animals are overhunted, forests are cleared.
4. These result in soil erosion, decrease in soil fertility, depleted fuel supplies and water and air pollution.
5. The need to conserve resources often conflicts with other needs. The solution for this is "sustainable development".
6. Use of natural resources without affecting the needs of the future generations is the best solution for natural resource management.
7. Conservation of forests can be brought by implementing the methods like low-impact logging practices, harvesting with natural regeneration in mind and avoiding logging of valuable trees.
8. Recycling of paper can prevent the cutting down of trees for the production of paper.
9. Soil conservation can be achieved by contour strip cropping.
10. Conservation of biodiversity is most important thing. Protecting the natural habitats of animals by establishing national parks and sanctuaries and implementing strict laws on poaching are the solutions for the biodiversity conservation.
11. Using of renewable energies like solar, wind and hydal power to replace fossil fuels, is the best way to conserve our fossil fuels. Bio-fuel is also the solution for this problem.
12. Reduce, Reuse, Recycle (3'R) are the suitable and right methods to conserve the natural resources in an effective way.

**5. Suggest some ways of reusing a resource in your locality.**

**Ans:**

1. Materials such as glass containers, plastic bags, paper cloth etc., can be reused at domestic levels rather than being disposed. This can also reduce solid waste pollution.
2. We know that recycling of 1 ton of paper can save 17 trees.

3. Bags are prepared from the waste materials like cloth and paper.
4. Plastics need to be carefully sorted before they can be processed. They are also using in marking roads.

**6. Why should we conserve forests and wild life?**

**Ans:** Need to conserve forests:

1. . We should conserve forests because they provide raw materials for a number of industries like timber industry and sports equipment industry.
2. Forests prevent floods and soil erosion.
3. Forests help in bringing sufficient rainfall by maintaining a perfect water cycle in nature.
4. Forests also provide natural habit to wild animals and birds and help in their conservation.
5. Forests are essential for maintaining the ecological balance by preserving the biodiversity.

**Need to conserve wild life:**

1. .We should conserve wild life to maintain ecological balance in nature. For example, it is necessary to conserve wild animals like lions and tigers to maintain the forest ecosystem because they keep the population of herbivorous animals like deer under control and save the vegetation from over grazing.
2. Otherwise, over grazing destroys the green plants and reduces the rainfall in that area. Due to this, green forest can turn into a desert over a period of time.
3. Wild life should also be conserved to prevent the extinction of rare varieties of animals and birds from this earth.

**7. Suggest some approaches towards the conservation of forests.**

**Ans:**

The following measures can be taken for the conservation of forests.

1. The indiscriminate and unauthorized cutting of forest trees for timber, trade and fire wood should be curbed immediately.
2. In case of Government permitted cutting of forest trees, for every acre of forest cut down, an equal area of land should be planted with saplings of trees to make up for the loss in the long run.
3. Overgrazing of forest vegetation by the cattle of local people should be prevented.
4. Measures should be taken to prevent and control forest fires.
5. The local people of villages in and around forest should be involved in the conservation of forests by giving employment in silvi culture and harvesting operations of the forest.

**8. Natural resources are decreased more rapidly. Guess what will be the consequences?**

**Ans:**

1. . The natural resources are decreasing more rapidly due to human activities. They lead to very serious consequences on human life.

2. There would be ecological imbalance and human life become difficult to live.
3. All the fossil fuels would be exhausted and the people suffer a lot for transportation and petroleum products like cleaning agents, fabrics, pesticides etc.
4. Due to deforestation, the land would be exposed to the wind and soil erosion occurs. The fertility of soil is reduced. Crop production decreases. People suffer from starvation.
5. When the forests were totally vanished, there would be no rains, leads to water scarcity. Ground water table declines rapidly and people suffer from thirst.

**9. Prepare a questionnaire to conduct interview the petrol filling station personnel about consumption of fossil fuels?**

**Ans:**

1. . How many vehicles come every day to your petrol filling station?
2. How many litres of petrol is sold every day?
3. What is the quantity of diesel that you sold daily in your petrol station?
4. What is the average sale of these fuels in a month?
5. Do you notice the demand for these fuels are increasing gradually? Yes or No?
6. If yes, what is the reason for this sudden increase in demand of the fuels?

**10. Prepare model for rain water harvesting or energy saving or soil management. That reflect your innovative thoughts.**

**Ans:**

1. In urban areas, most of the ground is covered with buildings, concrete pavements and metal roads due to which only little rainwater seeps into the ground naturally.
2. So, rain water harvesting is necessary in city areas. Rain water harvesting by making more supplying water are located. This is to make sure that the tube wells will never go dry.
3. The rain water harvesting is done by constructing percolation pits covered with concrete slabs having holes in them, and connected to a recharge well through a pipe.
4. The recharge well is about 1 metre in diameter and 3 m deep.
5. The rain water falling in the open spaces around buildings goes into the percolation pit through the holes in its concrete slab over. After filtration in percolation pit, rain water enters the recharge well through the outlet pipe and gradually seeps into the soil.
6. The advantage of rain water harvesting is that it increases the availability of ground water and helps in overcoming water shortage.

**11. List out names of villages, farmers, procedure followed for restoration of any natural resource in your area.**

**Ans:**

S.No	Village Name	Farmer's Name	Procedure followed to restore
1	Kandlagunta	Ch.Ramaiah	Constructed recharge pits to

			restore under ground water
2	Kotappakonda	B.Bangar Raju	Constructed check dams to restore under ground water
3	Reddy Palem	T.Ranganadh	Recharged the well by building dykes in the nala
4	Uppalapadu	R.Sundaram	Motivated the villagers to construct percolation pits
5	Nagaram Palem	D.Raja Reddy	Removed silt from the tank.

12. **You might have heard the Natural Gas drillings near Kakinada by ONGC (Oil and Natural Gas Corporation). Collect information and prepare a note on the status of Gas production at basin.**

**Ans:** Kakinada is the base for ONGC Eastern offshore asset. Several oil companies use Kakinada for oil and gasoline shipments. Baker Hughes and Schlumberger are field –development companies working on offshore natural gas fields near the city. The Krishna –Godavary basin is considered the largest natural gas basin in India. Significant discoveries of oil and natural gas were made by ONGC, Gujarat state Petroleum Corporation and Reliance which has been extracting gas from KG D6 block off the Kakinada coast.

Reliance gas transportation infrastructure[RGTEL] has built a 1,440 km pipeline from Kakinada to Gujarat to transport 120 million cubic meters per day of natural gas from KG fields.

Oil, Gas exploration of Kakinada produces 6000 barrel a day while the natural gas is 18,00,000 cubic meters a day.

13. **Does your village or nearest city have a mechanism in place for recycling these waste materials? Find out how it is done and write in detail.**

**Ans:**

1. No, my village has not the facility of a recycling unit.
2. Recycling means that we should collect the used and discarded items of paper, plastic, glass and metals and send them to the respective industries for making fresh paper, plastic or glass or metal objects.
3. In order to recycle materials, we should first segregate our domestic wastes properly so that the materials which can be recycled do not get dumped along with other household wastes which are to be thrown away.
4. After separation from the wastes, these are send to the recycling units to get recycled products.

14. **Proper utilization of natural resources is the way to show gratitude to our nation. Can you support this statement? Give your argument.**

**Ans:**

1. . Yes, I support this statement.
  2. A system of controlling the use of natural resources in such a way as to avoid their wastage and to use them in a most effective way, is called management of natural resource.
  3. The natural sources are a “tool” of development for human beings but it should be “sustainable development”.
  4. The development which meets the current basic human needs and also preserves the resources for the needs of future generations is called sustainable development.
  5. To protect the environment from harm (or) destruction is said to “conserve” the environment.
  6. Hence, proper utilization of natural resources in a sustainable way is the way to show gratitude to our nation.
15. **Crop selection and cultivation should be based on availability of water. Prepare a slogan to make aware of farmers about this.**  
**Ans:** “Select the crop – Based on availability of water”  
“Harvest rain water – It will enhance your crop yields”
16. **Prepare a questionnaire with the help of your friends on different ways in which water is used?**  
**Ans:**
1. How much water is required for your family for domestic purposes?
  2. What is the source of water for drinking?
  3. How much water is required for drinking?
  4. Do you observe any wastage of water?
  5. Do you feel that water is a valuable resource?
  6. How do you feel about the wastage of water?
  7. How do you save water in your house?
  8. Do you feel, “water is life”?
  9. How do you harvest the rainwater in your house?
  10. Do you have rainwater harvesting structure in the open space between your houses?

### **Two Marks Questions and answers**

1. **What are effects of deforestation?**

**Ans.**

1. Deforestation destroys wildlife habitats and increases soil erosion.
2. It releases green house gasses into the atmosphere.
3. It contributes to global warming.

4. It harms people who depend on the forests for their survival, hunting, gathering and harvesting forest products.

**2. Give an example of recycling of paper by the people? What is use of recycling of paper?**

**Ans.**

1. People in China and Mexico reuse much of the ir waste paper, including writing paper, wrapping paper and card board.
2. If half of the worlds's paper were recycled much of the world wide demand for new paper would be fulfilled, saving many of the trees.
3. We can also replace some wood products with alternatives like Bamboo.

**3. What are the causes for soil erosion?**

**Ans.**

1. It is caused by poor farming methods such as repeatedly planting the same type of crop in the same place.
2. These methods deplete nutrients in the soil.
3. Soil erosion is by water and wind increases, when farmers plough up and down hills.

**4. What is Biodiversity?**

**Ans.**

1. It is the variety of living things that populate the earth.
2. The products and benefits that we get from nature depend on biodiversity.
3. We need a rich mixture of living things to provide foods, building materials and medicines, as well as to maintain a clean and healthy landscape.

**5. What are three R's mantra to save the environment?**

**Ans.** The three R's are Reduce, Reuse, and Recycle.

**Reduce:** The material that is useless can be reduced. For example repairing leaky taps and avoiding a shower or switching off unnecessary lights and fans.

**Reuse:** Things that often tend to throw away like paper that would minimize pollution.

**Recycle:** By recycling the waste materials we can reduce the pollution.

**6. Do you think one needs laws for distribution of water and its use? Why/why not?**

**Ans.**

1. Yes, laws are needed for distribution of water and its use.
2. Otherwise all the people may not have self discipline to conserve water.
3. As water is key resource for life, competition may arise between people and or states or countries.
4. Laws help to control this kind of disputes and use it judiciously.

**One Mark Questions and Answers**



1. **What happens if we damage a forest resource?**

**Ans.** The benefits of development need to be weighed against the harm to animals that may be forced to find new habitats. If we damage the forest resource indiscriminately, the depletion of resources occur and we may have to face problem for water and timber in future.

2. **What is sustainable development?**

**Ans.** When we use the environment in ways that ensure resources for the future, it is called 'sustainable development'.

3. **What are the other products made from petroleum?**

**Ans.** The other products made from petroleum are plastics, synthetic rubber, fabrics like nylon, medicines, cosmetics, waxes, cleaning products, medical devices etc.,

4. **What are the alternate sources of energy?**

**Ans.** Sun, wind and water are the other alternate sources of energy.

5. **What are fossil fuel?**

**Ans.** Fossil fuels are produced from remains of ancient plants and animals. They include coal, petroleum[oil], and natural gas.

6. **What is IUCN? How is it planning to protect wildlife and habitats?**

**Ans.** IUCN stands for International Union for the Conservation of Nature. It is founded by private groups to protect wildlife and habitats. It monitors the status of endangered wildlife, threatened national parks and reserves.