

## CHAPTER – 16

# MANAGEMENT OF NATURAL RESOURCES

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# NATURAL RESOURCES

A NATURAL RESOURCE IS ANYTHING THAT PEOPLE CAN USE WHICH COMES FROM NATURE. PEOPLE DO NOT MAKE NATURAL RESOURCES, BUT GATHER THEM FROM THE EARTH. EXAMPLES OF NATURAL RESOURCES ARE AIR, WATER, WOOD, OIL, WIND ENERGY, IRON, AND COAL.



## **1) Natural resources :-**

Natural resources are the resources available in a nature like air, water, sunlight, soil, minerals, forests, wild life etc.

Natural resources are of two main types. They are renewable and non-renewable natural resources.

### **i) Renewable natural resources :-**

Those resources which can be replenished in a short period of time like air, water, sunlight, forests etc.

### **ii) Non-renewable natural resources :-**

Those resources which cannot be replenished in a short period of time like minerals (coal, petroleum, natural gas, metals etc.) because they take millions of years to be formed.

Human activities produce a lot of waste materials which are thrown away into the environment. These wastes cause pollution of natural resources like air, water and soil.



# WHY DO WE NEED TO MANAGE OUR RESOURCES

- 1) Many natural resources are limited in supply (non-renewable). This means we are limited in how much coal we mine, for example.
- 2) Many natural resource harvesting industries are heavy polluters. By managing our natural resource consumption, we can reduce the amount of pollution these industries produce.
- 3) Natural resource management can be very cost effective. By streamlining harvesting and production processes we can save industries money. Better technologies can be both economically and pollution friendly.



### **3) Need for management of natural resources :-**

All the things we use and consume are obtained from natural resources. Due to increase in population, industrialisation and urbanisation the demand for natural resources is increasing and their availability is limited . So there is a need for proper management of natural resources.

The proper management of natural resources consists of :-

- i) Judicious use of natural resources and avoiding wastage of natural resources.
- ii) Long term planning for the use of natural resources so that it last not only for the present but also for future generations.
- iii) The exploitation of natural resources should not be for the benefit of a few people but should be distributed equally for all.
- iv) While extracting and using natural resources we should also plan for the safe disposal of wastes and avoid pollution so that no damage is caused to the environment.

# ENVIRONMENTAL PROBLEMS

WE OFTEN HEAR OR READ ABOUT ENVIRONMENTAL PROBLEMS.

THESE ARE OFTEN GLOBAL-LEVEL PROBLEMS AND WE FEEL HELPLESS TO MAKE ANY CHANGE THESE ARE INTERNATIONAL LOWS REGULATION, AND THEN THERE ARE OUR OWN NATIONALS LOWS AND ACTS OF ENVIRONMENTAL PROTECTION.

THERE ARE ALSO NATIONALS AND INTERNATIONAL ORGANISATION

WORKING TOWARDS PROTECTING OUR ENVIRONMENT.





# MANAGEMENT OF NATURAL RESOURCES

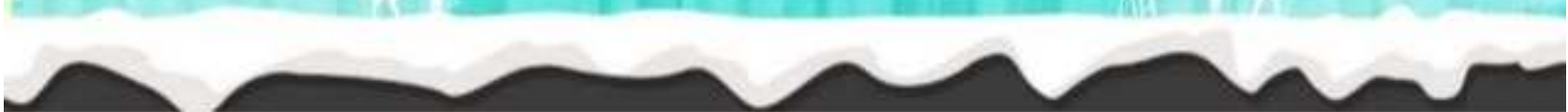


**WE LEARNT ABOUT SOME NATURAL RESOURCES LIKE SOIL, AIR AND WATER AND HOW VARIOUS COMPONENTS ARE CYCLED OVER AND OVER AGAIN IN NATURE.**

**MAY BE WE SHOULD ALSO THINK ABOUT HOW WE OUGHT TO BE USING ARE RESOURCES SO AS TO SUSTAIN THE RESOURCES AND CONSERVE OUR ENVIRONMENT.**

**WE SHALL BE LOOKING AT OUR NATURAL RESOURCES LIKE FORESTS WILD-LIFE, WATER, COAL AND PETROLEUM.**

**SEE WHAT ARE THE ISSUES AT STAKE IN DECIDING HOW THESE RESOURCES ARE TO BE MANAGED FOR SUSTAINABLE**





# NATURAL RESOURCES





# **POLLUTION OF THE GANGA**



**THE GANGA RUNS ITS COURSE OF OVER 2500 KM GANGOTRI IN THE HIMALAYAS TO GANGA SAGAR IN THE BAY OF BENGAL, IT IS BEING TURNED INTO A DRAIN BY MORE THAN A HUNDRED TOWNS AND CITIES IN UTTAR PRADESH, BIHAR AND WEST BENGAL THAT POUR THEIR GARBAGE AND EXCRETA INTO IT, LARGELY UNTREATED SEWAGE IS DUMPED INTO THE GANGA EVERY DAY , IN ADDITION, THINK OF A POLLUTION CAUSED BY OTHER HUMAN ACTIVITIES LIKE BATHING, WASHING OF CLOTHES AND IMMERSION OF ASHES OR UNBURNT CORPSES AND THEN, INDUSTRIES CONTRIBUTE CHEMICAL EFFLUENTS TO THE GANGA'S POLLUTIONS LOAD AND THE TOXICITY KILLS FISH IN LARGE SECTIONS OF THE RIVER**



# GANGA ACTION PLAN

**AWARENESS ABOUT THE PROBLEMS CAUSED BY UNTHINKINGLY EXPLOITING OUR RESOURCES HAS BEEN A FAIRLY RECENT PHENOMENON IN OUR SOCIETY.**

**ONCE THIS AWARENESS RISES, SOME ACTION IS USUALLY TAKEN .**

**YOU MUST HAVE HEARD ABOUT THE GANGA ACTION PLAN.**

**THIS MULTI-CRORE PROJECT CAME ABOUT IN 1985 BECAUSE THE QUALITY OF THE WATER IN THE GANGA WAS VERY POOR**



# GANGA ACTION PLAN

The Ganga Action Plan or GAP was a program launched by Rajiv Gandhi in 1986 in order to reduce the pollution load on the river.

**Human waste-** domestic usage like bathing, laundry and public defecation

**Industrial waste-**dumping untreated waste into it.

**Religious events** -During festival seasons, people bathe in the Ganges to cleanse themselves from their sins.. A Hindu belief is that dropping the ashes of cremated bodies (at Varanasi) in the Ganges would give Moksha (liberation) to the jiva (soul).

# WHAT ARE COLIFORM BACTERIA?

**COLIFORM BACTERIA ARE ORGANISMS THAT ARE PRESENT IN THE ENVIRONMENT AND IN THE FECES OF ALL WARM-BLOODED ANIMALS AND HUMANS. COLIFORM BACTERIA WILL NOT LIKELY CAUSE ILLNESS. HOWEVER, THEIR PRESENCE IN DRINKING WATER INDICATES THAT DISEASE-CAUSING ORGANISMS (PATHOGENS) COULD BE IN THE WATER SYSTEM**



# 3R

**BUT WE NEED NOT TO FEEL POWERLESS OR OVERWHELMED BY THE SCALE OF THE PROBLEMS BECAUSE THERE ARE MANY THINGS WE CAN DO TO MAKE A DIFFERENCE.**

**YOU MUST HAVE COME ACROSS THE THREE R'S TO SAVE THE ENVIRONMENT**

**REDUCE, RECYCLE, REUSE.**



**REUSE**  
**REDUCE**  
**RECYCLE**



## 2) The Three R's to save the environment :-

The three R's to save the environment are Reduce, Recycle and Reuse.

- i) **Reduce** :- means using less of natural resources and avoiding wastage of natural resources.
- ii) **Recycle** :- means the materials like paper, plastic, glass, metals etc used for making things can again be used for making new things instead of synthesising or extracting new paper, plastic, glass or metals.
- iii) **Reuse** :- means using things again and again like the plastic bottles in which we buy jams, pickles etc can be again used for storing things in the kitchen.

### RECYLED PAPER ARTICLES





# REDUCE

**THIS MEANS THAT YOU USE LESS  
YOU SAVE ELECTRICITY BY SWITCHING  
OFF UNNECESSARY LIGHTS AND FANS .**

**YOU SAVE WATER BY REPAIRING LEAKY  
TABS.**

**YOU DO NOT WASTE FOOD**





# REUSE

-THIS IS EVEN BETTER THAN RECYCLING BECAUSE THE PROCESS OF RECYCLING USES SOME ENERGY.

-IN THE 'REUSE' STRATEGY, YOU SIMPLY USE THINGS AGAIN AND AGAIN .

-INSTEAD OF THROWING AWAY USED ENVELOPES, YOU CAN REVERSE IT AND USE IT AGAIN.





THIS MEANS THAT YOU COLLECT PLASTIC, PAPER, GLASS AND METAL ITEMS AND RECYCLE THESE MATERIALS TO MAKE REQUIRED THINGS.

INSTEAD OF SYNTHESISING OR EXTRACTING FRESH PLASTIC, PAPER, GLASS OR METAL

IT IS ECO- FRIENDLY WITH NATURE



## **4) Forests :-**

### **a) Importance of forests :-**

- i) Forests help to preserve biodiversity.
- ii) Forests are natural habitats of plants and animals.
- iii) Forests provide timber, wood, fuel, medicines, fodder, etc.
- iv) Forests help to maintain ecological balance.
- v) Forests help to control climate and rainfall.
- vi) Forests help to prevent soil erosion and controls floods.
- vii) Forests help to maintain the oxygen–carbon dioxide balance in nature.

### **Forests are 'biodiversity hot spots'**

Biodiversity measure by – Number of species found there.

- range of different life forms present.

Conservation means- preserve the biodiversity we have inherited

Loss of diversity may lead to loss of ecological stability.

## **b) Stake holders of forests :-**

**People who are associated with forests directly or indirectly are :-**

- i) People living in and around forests depend on forests for their livelihood.**
- ii) Industrialists who use the raw materials from forests for manufacturing paper, medicines, furniture etc.**
- iii) Forest Department of the Government who owns the forests and controls the resources from the forests.**
- iv) Nature and wild life organisations who want to conserve and preserve forests.**

### **c) Conservation of forests :-**

Forests can be conserved by :-

- i) Afforestation – planting of more trees.
- ii) Preventing or reducing deforestation.
- iii) Preventing over grazing by cattle.
- iv) By setting up wildlife sanctuaries, national parks, biosphere reserves etc.
- v) Undertaking social forestry programs like Van Mahotsav, Chipko movement for planting and protecting trees on a large scale.



## **5) Wildlife :-**

### **a) Importance of wildlife :-**

- i) Wildlife helps to preserve biodiversity.**
- ii) Wildlife helps to maintain food chains and food web.**
- iii) We get useful products from wildlife like food, medicines, leather, bones, honey, lac etc.**

### **b) Conservation of wildlife :-**

- i) Preserving the natural habitats of animals.**
- ii) Banning poaching of animals.**
- iii) Protecting endangered species of animals.**
- iv) Setting up of wildlife sanctuaries, national parks, biosphere reserves etc.**



**Local people work traditionally for conserving the forest**

In 1731 Amrita Devi, a Bishnoi woman who, along with more than 363 other Bishnois, died for the protection of Khejari trees near Jodhpur in Rajasthan.

**'Amrita Devi Bishnoi National Award for Wildlife Conservation'** by Indian Government.

**Prejudice against the traditional use of forest area has no basis.**

**Himalayan National Park incident**

-alpine meadows grazed by sheep in summer.

-This practice was put to an end when national park was formed.

-grass grows very tall and falls over preventing fresh growth.



## Chipko Andolan (Hug the trees movement)

- Chipko movement started in the early 1970s in the Garhwal Himalayas of Uttarakhand
- when a group of peasant women in Reni village, acted to prevent the cutting of trees and reclaim their traditional forest rights that were threatened by the contractor system of the state Forest Department.



## People's participation in the management of forests.

Far-seeing forest officer, A.K. Banerjee in the Arabari forest range of Midnapore district Mr. Banerjee involved the villagers in the protection of 1,272 hectares of badly degraded Sal forest.

In return for help in protection, villagers were allowed **fuel wood and fodder collection on payment of a nominal fee and given employment in both silviculture and harvesting operations, 25 per cent of the final harvest was given to the village community.** The result was the active and willing participation of the local community. The Sal forests of Arabari underwent a remarkable recovery by 1983; a previously worthless forest was valued Rs. 12.5 crores.