

MODULE-4

HUMAN POPULATION

HEALTH AND SOCIAL ISSUES

CONTENTS

- Population Growth, population explosion, population pyramid among nations
- Family Welfare Programme
- Human Rights
- Value Education
- HIV / AIDS
- Woman and Child Welfare

Population

It is defined as a group of individuals belonging to the same species, which live in a given area at a given time

Population density

Population density is defined as numbers of individuals per unit area or per unit volume of environment.

Parameters affecting population size

1. Birth rate

It is the number of live birth per 1000 people in a population in a given year

2. Death rate

It is the number of deaths per 1000 people in a population given year

3. Immigration

It denotes the arrival of individuals from neighboring

4. Emigration

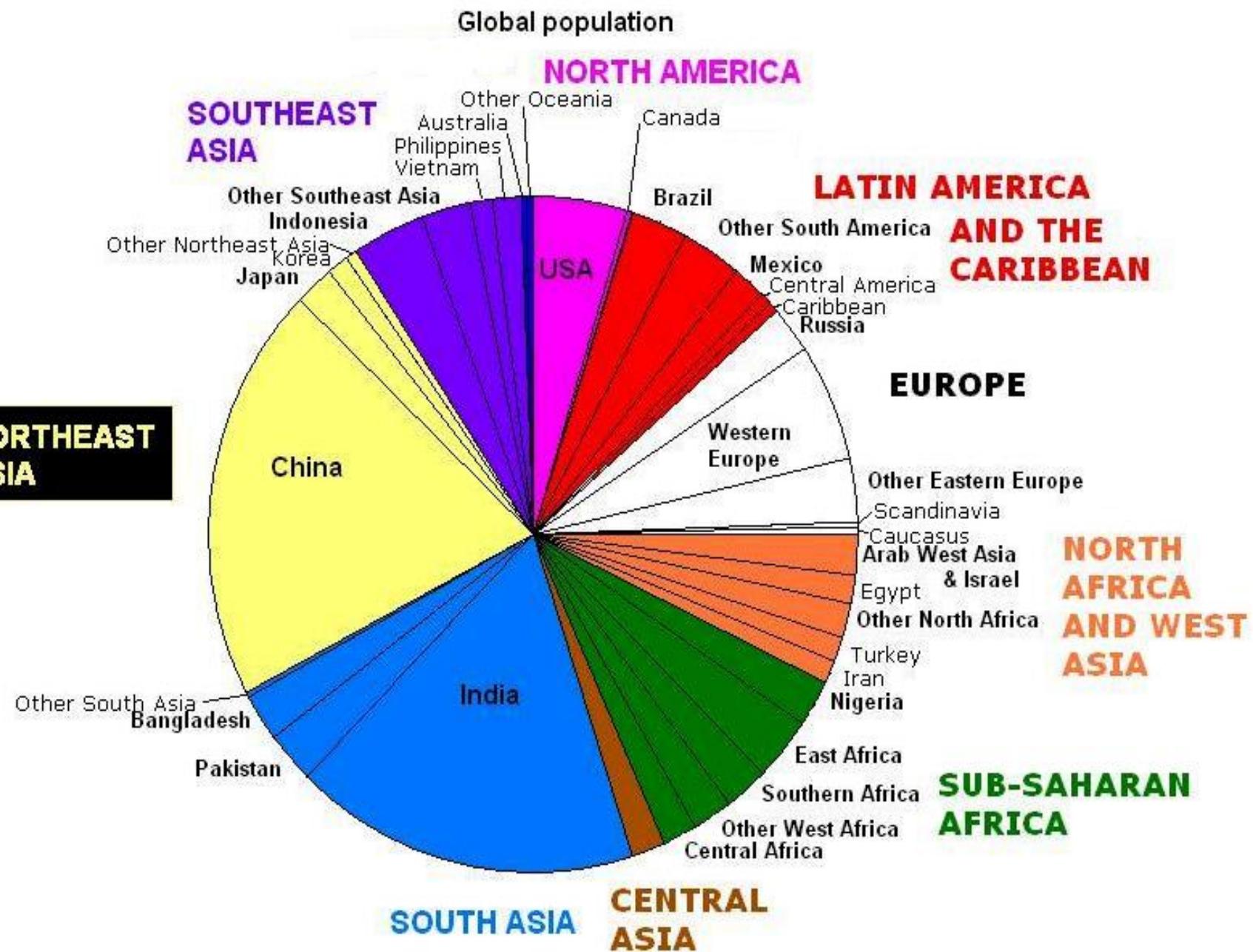
It denotes the dispersal of the individuals from the original population to new areas

Population growth

The global population **for** the past 100 years results from the difference between the rate **of** birth and death. **the** population growth is explained graphically. In 1800, It was about 1 billion people. It took 130 years (**In** 1930) **to** reach 2 billion. But the population reached to 4 billion within 45 years (**In** 1975). Now crossed 13.8 billion and reach **about** 20 billion by 2050.

In china 140.21 crores

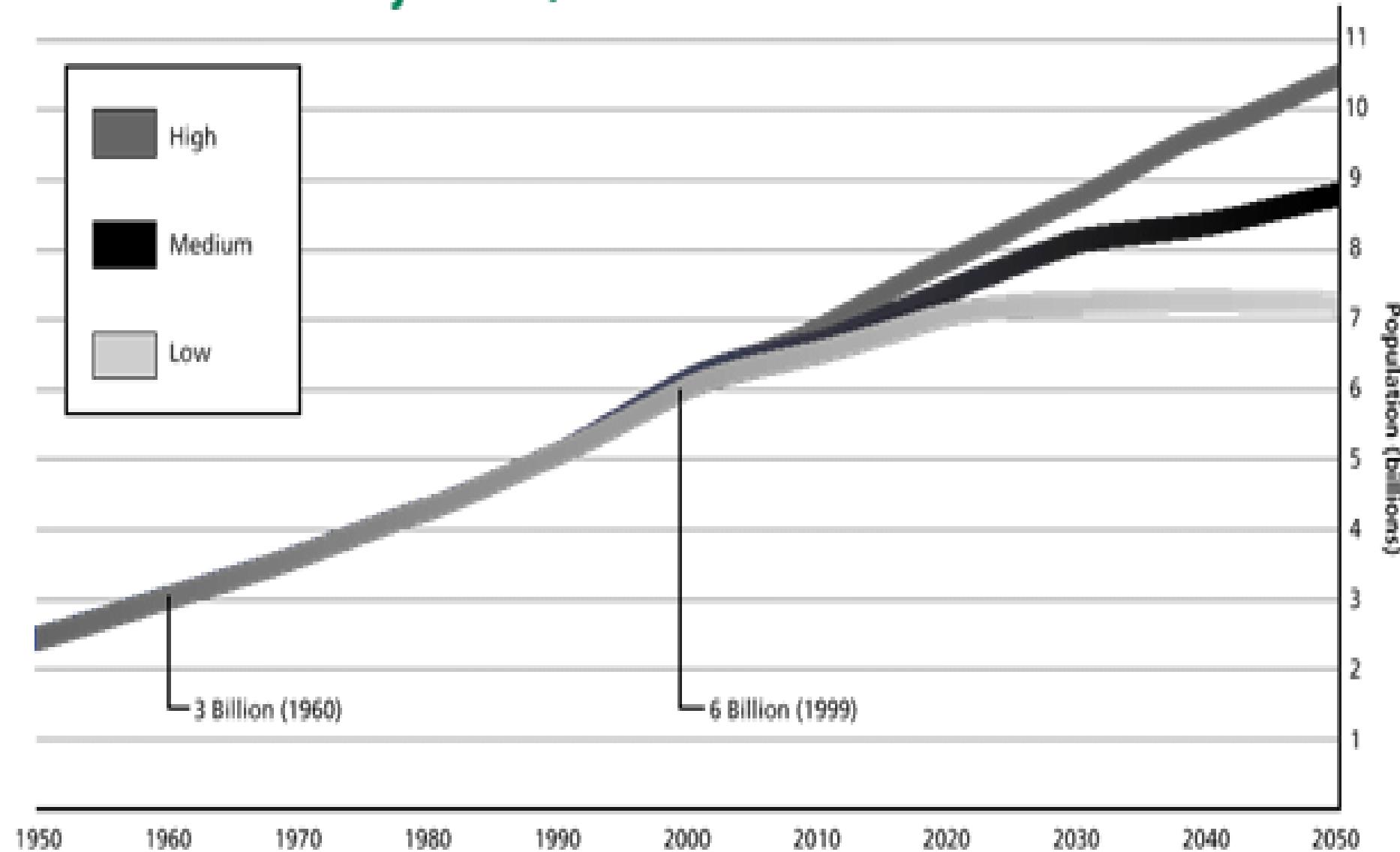
In TN 8.37 crore (2020), 6.79 (2012)



Causes of rapid population growth

1. decrease in death rate and increase in birth rate
2. The availability of antibiotics immunization, increase food production, clean water and air decrease the famine-Related deaths and infant mortality.
3. In agricultural based countries, children's are required to help parents in the fields that is why the population increases in the developing countries.

World Population Growth, Actual and Projected, 1950-2050



Characteristics of population growth

1.Exponential growth

Population growth occurs like $10, 10^2, 10^3, 10^4$, etc

This is called as exponential growth.

2.Doubling time

Time required for a population to double its size
at constant annual rate

$$T_d = 70/r$$

r- annual growth rate

3.Infant mortality rate

Percentage of infants died out of those born in one year

This % is decreased in last 50 years

4.Total fertility rate(TFR)

This is average number of children delivered by a women in her life time.

It is 2 in developed countries

It is 4.7 in developing countries

5.Replacement level

Two parents bearing two children will be replaced by their offspring

Due to infant mortality this replacement level is changed

It is very high in developing countries

6. Male female ratio

The ratio of boy and girl should be fairly balanced in society to flourish

This ratio is upset in many countries including China and India.

The China ratio of girls and boys is 100:140

7. Demographic transition

Population growth is related to economic development

Birth and death rates fall due to improved living conditions

This phenomenon is called Demographic transition

Problems of population growth

1. Increasing demand for food and natural resources
2. Inadequate housing and health services
3. Loss of agricultural lands
4. Unemployment and socio political unrest
5. Environmental pollution

Dubai in 2005 and 1991



- **Variation of population among nations**
- . The most developed countries like USA, Canada, Australia, the population increases at the rate of less than 1% per year.
- In less developed countries like South America, Africa and Asia, the population increases at the rate greater than 1% per year.

Variation of population based on age structure

Structure of population can be divided in to three classes

1. Pre- productive population (0-14 years)
2. Reproductive population (15-44 years)
3. Post Reproductive population (above 45 years)

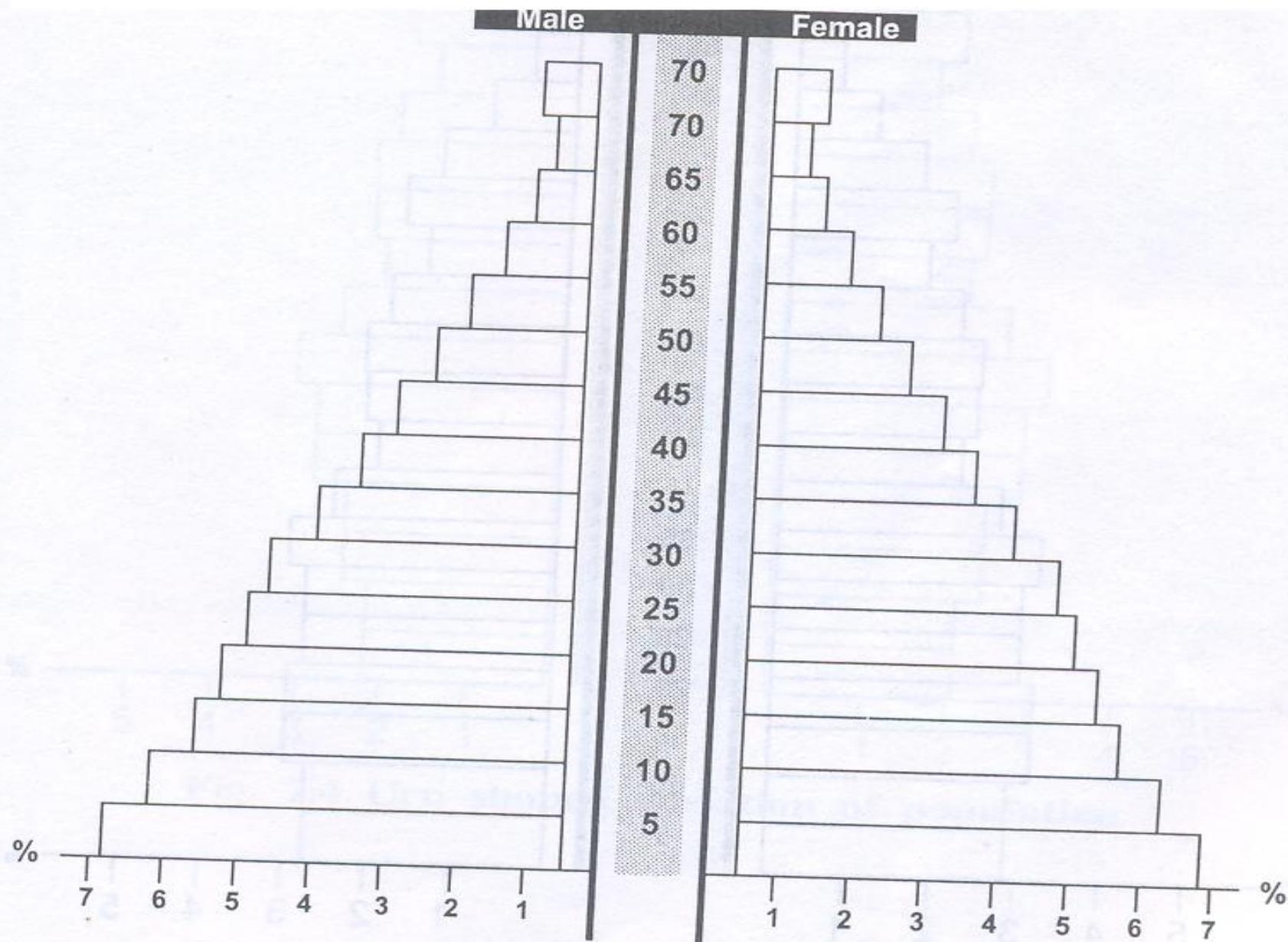
1. Pyramid shaped variation of population

Examples

India, Bangladesh, Ethiopia, Nigeria

The pre – productive age group population is more, indicated at the base of the pyramid

- Post Reproductive population (above 45 years) is less, indicated at the top of the pyramid
- Reproductive population (15-44 years) will enter soon, which increase the population growth

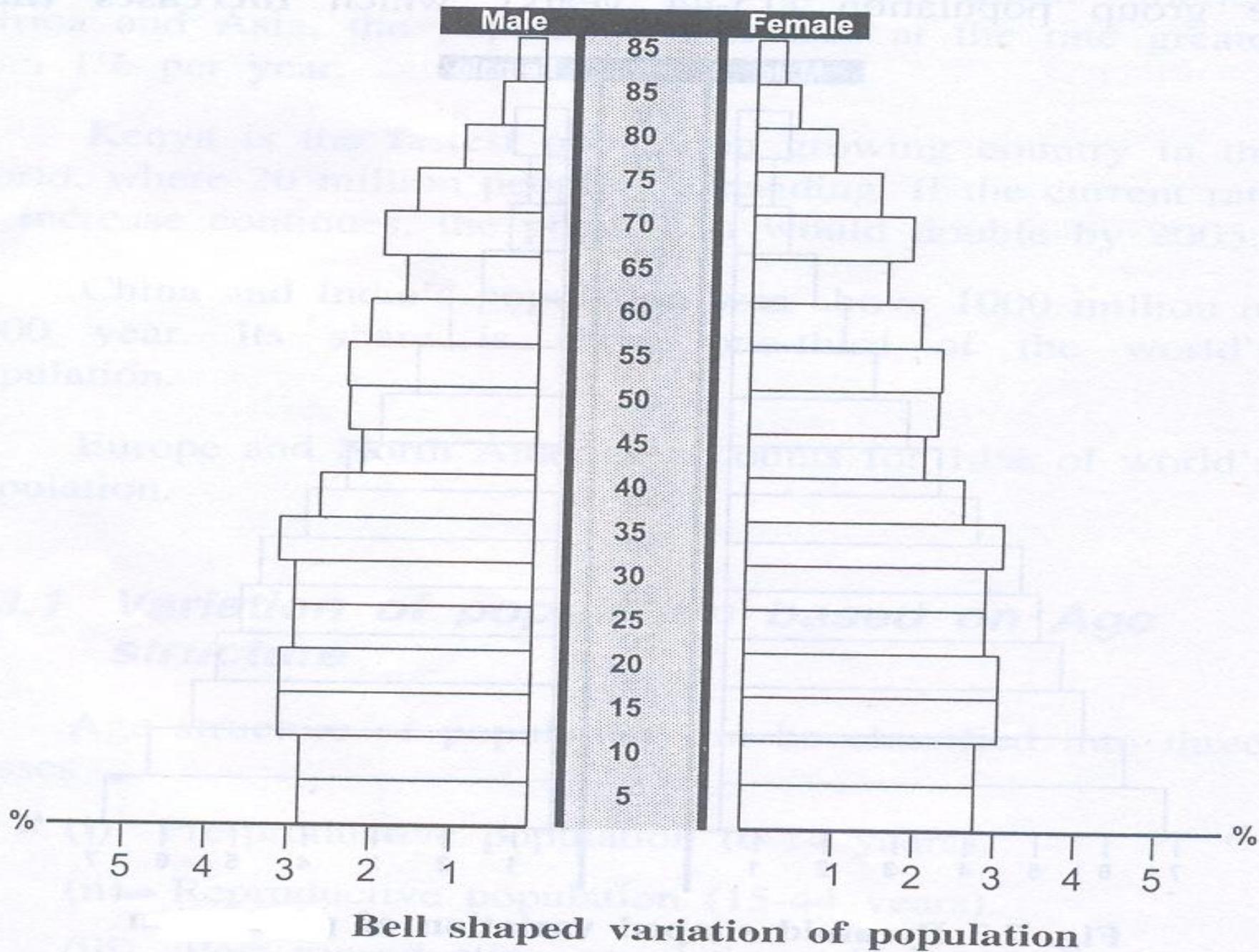


Pyramid shaped variation of population

2. Bell shaped variation of population

Germany, Italy, Sweden, Japan

Pre-productive population (0-14 years) and reproductive population (15-44 years) are more or less equal. So the people entering in to the reproductive age group will not change the population. Therefore the population growth is stable.

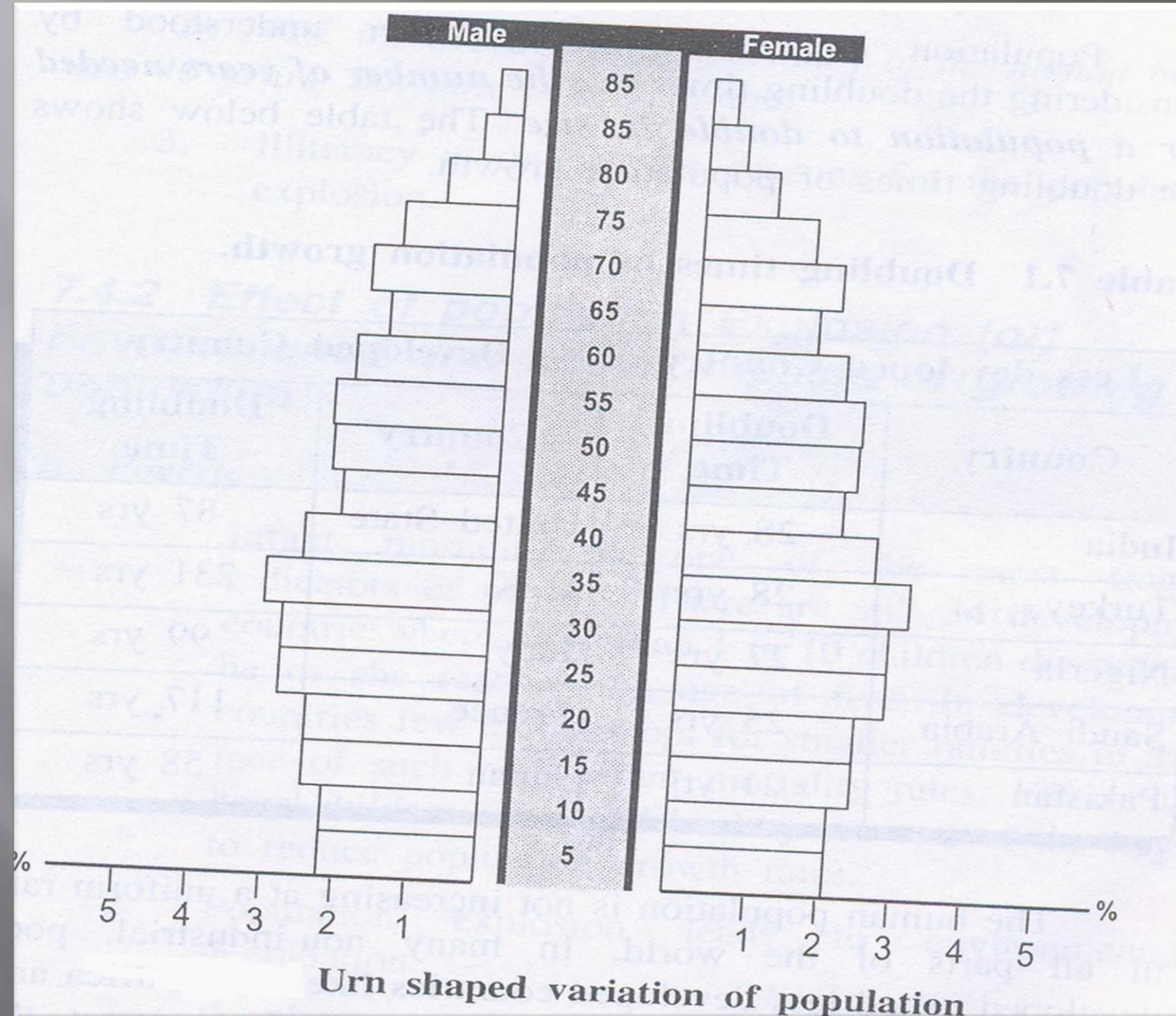


3. Urn shaped variation of population

Examples

France, USA, UK, Canada

The pre - productive age group population is smaller than the reproductive age group population .In the next 10 years , The number of people in the reproductive age group is less than the before, resulting in the decrease in the population growth.



Population Explosion

The enormous increase in population, due to low death rate and high birth rate , is termed as population explosion. The human population is not increasing at a uniform rate in all parts of the world.

Doubling time

The number of years needed for a population to double in size.

Doubling times of population growth

| Less developed countries | | Developed countries | |
|--------------------------|---------------|---------------------|---------------|
| country | Doubling time | country | Doubling time |
| India | 28 Years | United State | 87 Years |
| Turkey | 28 Years | U K | 231 Years |
| Nigeria | 27 Years | Italy | 99 Years |
| Saudi Arabia | 25 Years | France | 117 Years |
| Pakistan | 21 Years | Japan | 58 Years |

Causes of population explosion

1. Invention of modern medical facilities reduces the death rate and increases the birth rate
2. Increase of life expectancy is another important reason for the population explosion

Example

In 1950, the average life expectancy of human being was 40 years, but it is 61 years.

Illiteracy is one of the reasons for the population explosion

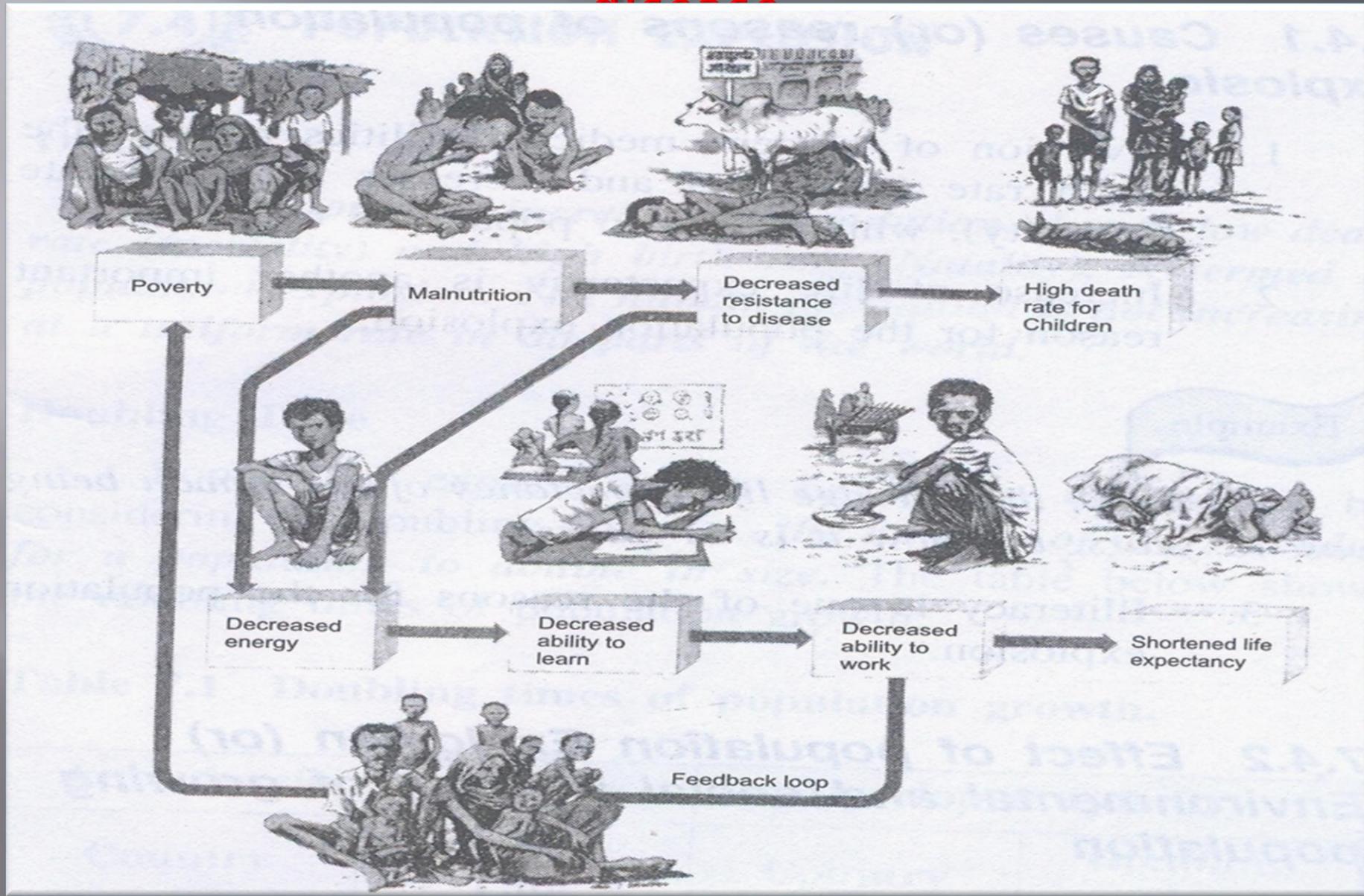
Effect of population Explosion (or) Environmental and social impacts of growing population

Poverty:

1. Infant mortality is the indicators of poverty.
2. Population explosion leads to environmental degradation.
3. Population explosion causes over exploitation of natural resources.
4. Many of the renewable resources like forests, grass lands, are also under threat.
5. Overcrowding of cities leads to development of slums.
6. Unemployment and low living standard of people.

Remedy: We should reduce the fertility rate through birth control programs

Interaction between poverty, malnutrition and disease



FAMILY WELFARE PROGRAMME

- It was implemented by the Government of India as a voluntary program me.
- It is an integral part of overall national policy of growth covering human health, maternity, family welfare, child care and women's right.

Objectives of family welfare programming

1. Slowing down the population explosion by reducing the fertility.
2. Pressure on, the environment, due to over exploitation of natural resources, is reduced.

- **Population stabilization ratio**

The ratio is derived by dividing crude birth rate by crude death rate.

Developed countries

- . The ratio of the developed countries is 1& more or less stabilized, indicating zero population growth.

Developing countries

- The ratio of the developing countries is nearing 3, which is expected to lower down by 2025.

- Stabilization in developing countries is possible only through family welfare programmes

- ✓ **FAMILY PLANNING PROGRAMME**
 - Provides information on birth control and health care for pregnant women and infants.
- ✓ Reduce the number of legal and illegal abortions per year
- ✓ Decrease the risk of death from pregnancy.



Objectives of Family Planning Programme



1. Reduce infant mortality rate to below 30 per 1000 infants.
2. Achieve 100% registration of births, deaths, marriage and pregnancy.
3. Encourage late marriages and later child-bearing.
4. Encouraging breast feeding.

- 5. Enables to improve women's health, education, employment.
-
- 6. Making family planning available to all women, who wanted to choose the number of children and the spacing of births.
-
- 7. Constrain the spread of AIDS / HIV.
-
- 8. Prevent and control **of communicable** diseases.
-
- 9. Promote vigorously the small family norms.
-
- 10. Making school education up to age 14 free and compulsory.

Fertility control methods (or) methods of family planning

- **(I) Traditional method**

It includes some traditions like, taboos and folk medicine.

- **(ii) Modern method**

- 1. It includes some important birth control techniques like mechanical barriers, surgical methods, chemical pills and physical barriers to implantation

- 2. More than 100 contraceptive methods are on trial.

- **Family Planning Programme in India**

- 1. In 1952, India started the family Planning programme.

- 2. In 1970's Indian Government forced family planning campaign all Over the country.

- 3. In 1978, the government legally raised the minimum age of marriage for men from 18 to 21 years and for women 15 to 18 years.

- 4. In 1981, census report showed that there was no drop in Population. Since then funding for family planning programme has been increased further.

HUMAN RIGHTS

- Human rights are the fundamental rights, which are possessed by all human beings irrespective of their caste, nationality, sex and language.

- India is a democratic country. The aim of our government is to ensure happiness to all the citizens with equal rights, opportunities and comforts.

- Every citizen must enjoy certain rights and also has certain duties towards the country.

□ **Universal Declaration of Human Rights**

Universal Declaration of Human Rights (UNDHR) by the UN was established in 1948.

1. Human right to freedom.
2. Human right to property.
3. Human right to freedom of religion.
4. Human right to culture and education.
5. Human right to constitutional remedies.
6. Human right to equality.
7. Human right against exploitation.
8. Human right to food and environment.
9. Human right to good health.



1) **Human right to freedom**

1. Every citizen has the freedom to express his views freely.
2. Citizens can assemble at any place to express their views.
3. They have freedom to form unions or associations.
4. They have freedom to build their houses where ever they like.
5. They have full right to start any profession.

- **2. Human right to property**

Every human beings has the right to earn property.

- 3. Human right to freedom of religion**

Every citizen has the freedom to choose their religion according to his wishes, All religions are equal before the law.

- 4. Human right to culture and education**

All the citizens have equal rights both in culture and education. The minority communities like Christians, Muslims have their own rights to conserve the culture, language, and to establish educational institutions of their own choice.

5. Human right to Constitutional remedies

If a citizen is denied any of these fundamental rights, he or she can go to the court for protection. The court has the power to protect the basic rights of the citizens.

6. Human right to equality

All citizens are equal before the law. There is no any discrimination on grounds of religion, caste, sex (or) place of birth. All are given equal opportunity for employment.

- **7. Human right against exploitation**

Children should not be employed as labors.

Every citizen has the right to fight against exploitation.

- **8. Human right to food and environment**

All human beings have the right to get sufficient healthy food, safe drinking water and healthy environment.



- **9. Human right to good health**

All human beings have the right to have very good physical and mental health.

Indian Constitution

Indian Constitution provides for civil, social, cultural, educational and political rights including the right to judicial enforceability.

(I) Article 14

It provides for equality before law.

(ii,) Article 15

If prohibits discrimination On the grounds of race, religion, caste, sex or place of' birth.

(iii) Article 16

It provides for equal Opportunity for all citizens matters related to employment.

(iv) Article 19

It provides for freedom of speech and expression, forming associations and unions and so on.



□ **(v) Article 20**

It provides for protection from conviction except in accordance with the law of the land.

(VI) Article 22

It lays down the rights of a person in custody.

(vii,) Article 23

It prohibits traffic in human beings and all other forms of forced labor.

(viii) Article 24

It prohibits the exploitation of labor children.

- **(IX) Article 25**

It guarantees freedom to profess, practice and propagate a religion of one's choice.

- **(x) Article 26**

It authorizes the right to establish and maintain charitable and religious institutions.

(xi) Article 27

It prohibits compulsion to pay any tax meant for promotion of any religion etc.,

(Xii) Article 28

It guarantees the secular character of instruction in educational institutions etc.

(Xiii) Article 29

It guarantees to the minorities the right to conserve their language etc.

□ **VALUE EDUCATION**

Education

Education is nothing but learning, through which knowledge about the particular thing Can be acquired.

- With the help of Our knowledge and experience we Can identify Our values to understand ourselves and Our relationship with others and their environment.

- **Types of Education**

Formal education:

- All learning process are self related.
- All people will read, write, get good jobs and tackle any problems only with the help of formal education.

Value education:

- Value education is used to analyze our behavior and provide direction to our youths.
- It teaches them the distinction between right and wrong, to be compassionate, helpful, loving, generous and tolerant.

- **Example**
- If a person is highly qualified well employed and rich living style, sometimes lie does not know how to behave properly with his environment. But, value education does this.

(iii) Value based environmental education

- Environmental education provide knowledge about the principles of ecology, fundamentals of environment & biodiversity
- It creates a sense of duty to care for the natural resources and to manage them in a sustainable way.

Objectives of value education

1. To improve the integral growth of human being.
2. To create attitudes and improvement towards sustainable lifestyle.
3. To increase awareness about our national history, our cultural heritage, constitutional rights, national integration, community development and environment.
4. To create and develop awareness about the values and their significance and role.
5. To understand about our natural environment in which how land, air and water are interlinked.
6. To know about various living and non-living organisms and their interaction with environment.

Types of values:

1. Universal values (or) Social values

- These values tell us about the importance of human conditions.
- It is reflected in life, joy, love, compassion, tolerance, service, truth, etc.,

2. Cultural values

Cultural values varies with respect to time and place.

- These values are concerned with right and wrong, good and bad, true and false and behaviour of human beings.
- It is reflected in language, aesthetics, education, law, economics, philosophy etc.,

□ **3. Individual values**

Individual values are our personal principles and the result of individual personality and experiences.

- Parents and teachers are the main key to shape our individual values. It is reflected in individual goals, relationships, commitments, etc.,

□ 4. Global values

- Global values stress the concept, that the human civilization is a part of the planet
- Nature and natural phenomena over the earth are interconnected and inter-linked with special bonds of harmony.
- If this harmony is disturbed anywhere there will be an ecological imbalance leading to catastrophic results

□ 5. Spiritual values

- Spiritual values promote conservationism and transform our consumerist approach
-
- It is reflected in self-restraint, self-discipline, contentment reduction of wants, etc.,

ENVIRONMENT AND HUMAN HEALTH

- A physically fit person, not suffering from any disease, is called a **healthy person**.
- The factors like nutritional, biological, chemical or psychological, which cause harmful changes in the body's conditions, are called **disease**.

Factors influencing human health:

- Nutritional factors
- Biological factors
- Chemical factors
- Psychological factors

Important Hazards and their health effects

| Physical Hazards | Health Effects |
|-------------------------|--|
| Radio active radiations | Affects cells in body Affects glands and organs cancer |
| UV radiations | Skin cancer |
| Global warming | Temperature increases cause famine and mortality |
| Chloro fluoro carbons | Damage Ozone layer, Skin Cancer |
| Noise | Painful damage to ear |

Chemical Hazards and their effects

| Chemical Hazards | Health effects |
|--|---|
| Combustion of fossil fuels liberates SO ₂ ,CO ₂ ,NO ₂ and particulate matters | Asthma,bronchitis and other lung diseases |
| Industrial effluents (Toxic) | Kill cells and cause cancer and death |
| Pesticides like DDT and chlorinated pesticides | Affect the food chain |
| Heavy metals like Hg,Cd,Pb,fluoride and nitrate | Contaminate water cause ill effects |
| Biological Hazards | Health effects |
| Bacteria,viruses and parasites | Diarrhoea,malaria,parasitic worms,anemia,respiratory disease, cholera |

Preventive measures

- Wash your hand before sitting for food
- Cut short and clean your nails systematically.
- Maintaining the skin, teeth, hair of our body.
- Drinking chemically treated and filtered water.
- Eat food always while it is in hot condition.
- Before cooking wash the raw vegetables and fruits with clean water.
- Try to avoid plastic containers and aluminum vessels.
- Do physical exercise to have proper blood circulation in the body.

Airborne diseases

- ◻ Airborne disease can spread when people with certain infections cough, sneeze, or talk, spewing nasal and throat secretions into the air.
- ◻ Some viruses or bacteria take flight and hang in the air or land on other people or surfaces.

Types of airborne diseases

- Many diseases are spread through the air, including these:
- **Coronavirus and COVID-19**
- **The common cold**
- **Influenza**
- **Chickenpox** : is caused by the varicella-zoster virus. If you have chickenpox, you can spread it for a day or two before you get the telltale rash. It takes up to 21 days after exposure for the disease to develop.
- **Mumps**
- **Tuberculosis (TB)**

Waterborne diseases

- Diseases caused by ingestion of water contaminated by human or animal excrement, which contain pathogenic microorganisms
Include cholera, typhoid, amoebic and bacillary dysentery and other diarrheal diseases

Disease Causing Agents

- Giardiasis (Protozoan)
- Shigellosis (Bacteria)
- Viral Gastroenteritis (Virus)
- Escherichia coli (Bacteria)
- Vibrio cholera (Bacteria)
- Salmonella typhi (Bacteria)
- Hepatitis A virus
- Poliovirus

Other chemicals

- In addition, water-borne disease can be caused by the pollution of water with chemicals that have an adverse effect on health.
- Arsenic
- Fluoride
- Nitrates from fertilizers
- Carcinogenic pesticides (DDT)
- Lead (from pipes)
- Heavy Metals

HIV / AIDS

AIDS is the abbreviated form for

Acquired immuno Deficiency Syndrome

caused by a virus called HIV (Human Immune deficiency virus).

Origin of HIV / AIDS

AIDS was discovered in 1983.

1. Through African Monkey

- AIDS has spread from Africa.
- HIV has transferred to humans from Africa monkey or Chimpanzees

2. Through Vaccine Programmes

- (a) HIV has spread in Africa through HIV contaminated polio vaccine, prepared from monkey's kidney.
- (b) It had spread through hepatitis B viral vaccine in Los Angels and New York.
- (c) It had also spread through small pox vaccine programme of Africa.

➤ **World Scenario**

- Nearly 90% of the people who are infected with AIDS live in developing countries.
- 13% of world's population live in Africa, almost all states of African countries were affected by HIV.
- About 3 million people so far died due to HIV/AIDS in 2003. AIDS is rapidly spreading in eastern Europe and Asia.
- India ranks II in the world with 5.1 million HIV/AIDS affected people. The percentage is lower than Thailand, Myanmar and South Africa.

- **Scenario in India**
- The largest number of infected cases have been found in Maharashtra and Tamil Nadu, followed by Delhi, UP, Karnataka and Goa.
- In Tamil Nadu alone, till September 2003 a total of 24,667 cases of AIDS have been found out.
- **Factors influencing modes of Transmission of HIV**
- Through blood contact, generally during unprotected sex with infected person.
- Using needles or syringes, contaminated with small quantities of blood from HIV positive person, also transmit HIV to others.
- HIV can pass from infected mothers to their babies during pregnancy, delivery or breast feeding.

- Blood transfusion from the infected person, at the time of accidents or pregnancy also results in HIV/ AIDS.
- Biologically the male to female transmission of HIV is 2 to 4 time more efficient than female to male transmission.
- Women around 18-20 years are at more risk, since their cervical tissue is more vulnerable to invading HIV.
- Since the majority of HIV infections occur in women of child-bearing age, transmission of HIV to their new born babies happen easily.

- **Factors Not influencing transmission of HIV**

HIV is not spreading by tears, food and air, cough, handshake, mosquito, flies, insect- bites, urine, sharing of utensils, cloths, toilet, bathroom etc.,

- Functions of HIV in human body**

AIDS itself does not kill humans.

- The death occurs due to the attack by diseases because of the weakening of immune system.
- White Blood Cells (WBC) are, responsible in the formation of antibodies, are called T-helper cells.

- ◻ T-helper cells are the key infection fighters in the immune system.
- ◻ The HIV enter into the human body and destroy the T-cells.
- ◻ various types of infection diseases occur.
- ◻ Even cancer can develop in the HIV infected persons.

Symptoms for HIV/AIDS

- ◻ Many people have no symptoms, when they are first infected with HIV. But some people get fever, headache and fatigue.
- ◻ During this time, HIV is present in large amounts in semen and vaginal fluids and it is very easy to pass the infection to another person.

- ◻ HIV is very active inside a person's body.
- ◻ The virus multiples and kills more and more T-cells of the immune system.
- ◻ Consumption of alcohol increases the susceptibility to infection and progress of AIDS

Minor symptoms

- I. Persistent cough for more than one month.
2. General skin disease.
3. Viral infection.
4. Fungus infection in mouth and throat.
5. Frequent fever, headache, fatigue

Major symptoms

1. Fever for more than one month.
2. Diarrhea for more than one month.
3. Cough & TB for more than 6 months.
4. Fall of hairs from the head.
5. 10% of body weight get reduced within a short period.

□ Control And Preventive Measures of AIDS

1. Education

- Health education enables people to avoid indiscriminate sex and encourages the use of condoms.**
- One should avoid the use of sharing razors, needles and syringe.**

2. Prevention of Blood borne HIV Transmission

- People in high risk groups should not donate blood
- Blood should be screened for HIV before transmission.
- strict Sterilization practices should be followed in hospitals.

3. Primary Health Care

- AIDS awareness programmes should be encouraged
- Voluntary health agencies should participate in large.
- Training programmes to doctors and paramedical workers should be conducted

4. Counseling Services

Counseling services should be Provided either in person or through telephone.

5. Drug Treatment

- Testing HIV positive does not mean the end.
- They can still stay healthy leading productive lives for many years.

Effects of HIV/AIDS

1. Large number of deaths Occurs, which affect environment and natural resources.
2. Due to large number of deaths, there is loss of labor and level of production decreases.
3. More water is required for maintaining hygiene in AIDS affected locality.
4. The people affected by HIV, cannot perform work well due to lack of energy and frequent fever and Sweating.

Endocrine Disrupting Chemicals

- We live in a world in which man-made chemicals have become a part of the life.
- It is impossible to imagine any products which can be manufactured without the use of chemical.
- However though many of the chemicals are useful and beneficial but some of the chemicals are highly toxics and are extremely harmful to human health and environment.
- Further some of these chemicals can affect the endocrine (hormonal) system and interfere with important developmental processes in humans and wildlife species.
- These chemicals are mostly termed as the Endocrine Disrupting Chemicals (EDCs).

- An endocrine disruptor is an exogenous substance or mixture that alters functions of the endocrine system and consequently causes adverse health effects in an intact organism or its progeny or populations.
- Endocrine disruptors are chemicals generally interfere with hormone action by altering the endocrine system thus having adverse impact on the human beings and other fauna including wild life.

- BPA (Bisphenol A) leeches out from the feeding bottles after dishwashing, boiling or bruising contaminating other products and makes the babies more vulnerable to EDCs.
- Dermal contact of the personal care products applied such as hand lotion, creams, moisturizers, scented products, etc contain EDCs.

- ▣ Similarly, the BPA-free sippy cups used for babies, sold at a relatively higher price in the market, also contain BPA.
- ▣ The baby teethers have some preservatives like paraben, which also affect the endocrine system.
- ▣ BPA and other chemicals even leached out of brands labeled BPA-free or non-toxic and found more than 15 to 20 toxic chemicals in baby tethers of different brands.

- The chemicals used in the personal care products have properties of EDCs that include parabens, triclosan, triclocarbon, phthalate, formaldehyde releasing agents, ethanolamines, butylated hydroxyanisole, propylene glycol etc.
- Generally these chemicals act as antimicrobial agents, stabilizers, solvents, dispersants, lubricants, binders, emulsifying agents, suspending agents, skin penetration enhancers in the products.
- These chemicals are also used as antibrittleness and anti-cracking agents in nail polishes and sealants, as anti-foaming agents in aerosols, and act as a creamy texture and foaming action in creams and face wash.
- The chemicals used in the personal care products are mostly fat-soluble and do not get rapidly flushed out of the body, but are stored in the fat and gradually bio-accumulated into the food chain.

How endosulfan (organochlorine pesticide and endocrine disruptor) affected Kerala?

- India is the world's largest producer of endosulfan.
- It is one of the cheapest pesticides available in the world market.
- Endosulfan, a highly toxic was sprayed in the cashew plantations in Kasaragod District since 1978, till 2001 regularly three times every year.
- The aerial spraying of Endosulfan was undertaken to contain the menace of the tea mosquito bug.
- As the plantations are mostly in mountainous areas, the pesticide drained and got washed down the slopes during rains into drinking water below.

- Children were found to be the worst affected with congenital anomalies, mental retardation, physical deformities, cerebral palsy, epilepsy, hydrocephalus etc.
- Men and women were also affected with various chronic ailments, many irreversible and difficult to treat. From the mid of 1990's, the community living near plantations had been complaining against the spraying of Endosulfan, finally realising that the pesticide might be the reason behind the anomalies.
- People are still dying from after-effects of the pesticide, while more than 1000 live in utter misery. The health of more than 9000 persons has been impaired by the pesticide.

Sustainable development

Definition

Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Optimum use of Natural resources with high degree of reusability, minimum wastage, least generation of toxic by products and maximum productivity

World summit on sustainable development

UNCED conducted conference on Environment and development in 1992

Earth summit held at Rio de Janeiro, Brazil

These conferences proposed that action on sustainable development in social, economic and environment context for the 21st century

Dimensions of sustainable development

It aims the benefits derived from the interaction between society, economy and environment

ECONOMY

SUSTAINABLE
DEVELOPMENT

SOCIETY

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ENVIRONMENT

THEORITICAL CONCEPT FOR SUSTAINABLE DEVELOPMENT

- ❑ Two key theoretical concepts in ecology related to sustainable development
 - Carrying capacity
 - Ecological footprint

- Carrying capacity :

“ The number of individuals in an environment can support without degradation.”

- Ecological footprint

“ The biologically productive area required to produce the natural resources we consume and the land required to dispose off the waste we generate.”

Aspects of sustainable development

1) Inter-generational equity

2) Intra-generational equity

1) Inter-generational equity

We should hand over a safe, healthy and resourceful environment to our future generation

2) Intra-generational equity

The technological development of rich countries should support the economic growth of the poor countries and help in narrowing the wealth gap and lead to the sustainability.

Concepts (or) Approaches(or)Significance for Sustainable Development

- i) Developing appropriate technology
- ii) Reduce, reuse and recycle approach
- iii) Providing environmental awareness and education
- iv) Consumption of renewable resources
- v) Conservation of non renewable resources
- vi) Population control

RESSETLEMENT AND REHABILITATION OF PEOPLE

Causes of displacement of people

1. Due to developmental activities

- a) Construction of dams, roads, mines, airports, ports, urban expansion etc...
- b) These activities cause large scale displacement of people.

Peoples loss their traditional occupation and profession

Dams in India

Hirahund dam

It has displaced more than 20000 people residing in about 250 villages

Tehri Dam

It has displaced more than 10000 residents

2. Due to disaster

Natural disaster

Disaster generated by the natural phenomena

Example : Cyclones, flood, landslides, earthquake

Man-made disaster

Resulting from man made hazards

Example : Accidents, pollution, fire

3. Due to conservation initiatives

This include National park, sanctuary, forest reserve, biosphere reserve

Resettlement

Relocation or displacement of human population

This process does not focus on their future welfare

Rehabilitation

- a) Making the system to work again
- b) Allowing the system to work naturally
- c) Replacing the lost economy
- d) Safeguard employment
- e) Provide safe land for building
- f) Restore social service
- g) Repair damaged infrastructures

Rehabilitation issues

Most of the displacement due to

- a) Developmental activities by the government
- b) Land requirements by the government
- c) Land Acquisition Act, 1897 for this purpose
- d) The government send notice to the people to vacate their land
- e) Provision of cash compensation to the displaced people.

- Tribal peoples are mostly affected, they loss their house, land prosperity,
- New environment give diseases and not match with their life
- Break up of families
- Women are mostly affected without any compensation
- Tribal peoples do not know the urban marketing by compensation
- Their social and cultural activities are completely affected
- Loss of link between the people and environment.

Rehabilitation policy

1. Before starting the project, damaging and suffering chances should be analyzed
2. Before the commencement of work all affected people should be rehabilitated
3. Peoples should be rehabilitated in adjacent area
4. Rehabilitation should balance the development of peoples
5. Beneficiary of the project should share the development of rehabilitation

Case studies

Sardor sarovar Dam



Name of the state and
% of tribal in project affected population

Gujarat

- 97.4

Maharashtra

- 100

Madhya Pradesh

- 29

- A total of 244 villages are to be affected by the construction of the dam,
- Only 4 villages will face 100% submergence of agricultural land
- The rest are partially affected and in many villages where the extent of submergence of agricultural land is less,
- Only the houses are required to be shifted to a new residential site, which are being developed with essential civic amenities.
- In Madhya Pradesh as many as 18000 affected families will lose only their houses and not their agricultural lands.

The Theri dam project

The Tehri Dam Project has affected around 125 villages including the old Tehri town.

Tehri Township along with 39 villages is going to be fully affected

Another 86 villages (number may possibly increase) would be partially affected.

Wherever less than 75 percent of the families are in the displaced category and have to be rehabilitated,

- That means that even where 74 families out of a total population of 100 families are eligible for rehabilitation,
- Around 5291 urban and 9238 rural families would be affected due to construction of Tehri Dam. 3810 rural families have been partially affected by the Dam.

- The number of urban families displaced by the dam has reached 5,500 and the number of rural displaced families is more than 12,000.
- The total number of affected persons is more than 1 lakh.
- Even 1605 families of government employees have been categorized as displaced families.

3. WOMEN AND CHILD WELFARE

- Women and child are usually soft.
- Suffer in a number of ways because they are weak, helpless and economically dependent

WOMEN WELFARE

Aim: To improve the status of the women by providing opportunities in education, employment and economic independence

Need of Women Welfare

- Women suffer gender discrimination and devaluation at home, at workplace, in matrimony, in public life and power .
- High number of cases of dowry deaths, rape, criminal offences and mental torture to women.
- The human rights of women are violated in the male dominated society.
- In policy making and decision making process, women are neglected.

Objectives of Women Welfare

To overcome the above problems, a sound national strategy is needed with the following objectives.

1. To provide education.
2. To impart vocational training.
3. To generate awareness about the environment.
4. To improve the employment opportunities
5. To aware problems of population.
6. To restore the dignity, status, equality and respect for women.

Objectives of A National Commission For Women

- (i) To examine constitutional and legal rights for women.
- (ii) To review existing legislations.
- (iii) To sensitize the enforcement and administrative machinery to women's causes.

Environmental Degradation And Women Welfare

The developmental work not only affects the natural environment but also affects the traditional, social, cultural and family life of women.

Ex:

- After losing the forest cover and getting rehabilitated from their native places, men usually migrate to towns for some job
- Women are left behind to look after their family with little resources

Various Organization Towards Women Welfare

- 1. The National Network for Women And Mining (NNWM)**
It is fighting for a “gender audit” of India’s mining Companies.
- 2. United Nations Decade for Women**
It witnessed several women welfare related Issues on international agenda.
- 3. International Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)**
It has created an international standard for the protection and promotion of women’s human and socio-economic upliftment .

- **4. Non-Government Organizations (NGO') As Mahula Mandals**

It creates awareness among women of remote villages to empower them, train them, educate them and help them to become economically self-dependent

- **5. Ministry for Women And Child Development**

It aims to work for the upliftment of women by family Planning, health care, education and awareness.

CHILD WELFARE

- Children occupy nearly 40% of total population.
- 20 million children in our country are estimated to be working as child labors in various hazardous industries like match industry, fire work industry, pottery industry

□ Reason for Child Labors

1. Poverty

Poverty is the main reason to force these children to work in unhealthy conditions.

2. Want of Money

Parents require money for their family, so they are in a position to send their children for work.



Various Organizations towards Child Welfare

1. UN Conventions on Rights of Child (or) International Law

It formulated a set of international standards and measures to promote and protect the well being of children in our Society.

Rights of the Child

The international law defines right of the child to survival, Participation development and protection.

- **(a) The right to survival**

It emphasizes on good standards of living, good nutrition and health.

- **(b) The right to participation**

It means freedom of thought and appropriate information to the child.

- **(c)The right to development**

It ensures access to education childhood care and Support, social security and recreation.

- **(d) The right to protection**

It means freedom from exploitation in human treatment and neglect



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2. World summit on children

It had focused agenda for the well being of the children targeted to be achieved in the beginning of the new millennium.

3. Ministry of Human Resource Development (MHRD)

It concentrates on child's health, education nutrition clean and safe drinking water, sanitation and environment.

- **Environmental degradation and child welfare**
- Children are most affected due to environmental pollution.
Water borne diseases are the biggest threat to children.
- Around 6 million children are affected by these disease in India.
- Even the child growing in the mother's womb, gets affected by environmental toxics.

Center for Science and Environment (CSE)

Its scientific report says, “children Consume more water, food and air than adults,

- and hence more susceptible to any environmental Contamination”

Environmental legislation & laws

The major environmental problems around us are

1. Air and water pollution by industries
2. Forestry
3. Land resources
4. Urbanization
5. Waste management

Important protection Acts

1. Water (Prevention and control of pollution) Act 1974&1978
2. Water Act (Prevention and control of pollution) Amendment Act 1987
3. Air (Prevention and control of pollution) Act 1981 Amended in 1987
4. Wild life protection Act, 1972
5. Forest conservation Act, 1980
6. Environment protection Act

6.20

WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974

This act provides for maintaining and restoring the sources of water. It also provides for preventing and controlling water pollution.

Objectives of the water act

- (i) prevention and control of water pollution.
- (ii) maintaining or restoring the wholesomeness of water.
- (iii) establishing central and state boards for the prevention and control of water pollution.

Important features of Water Act

1. This Act aims at, to protect the water from all kinds of pollution and to preserve the quality of water in all aquifers.
2. The Act further provides for the establishment of Central Board and State Boards for prevention of water pollution.
3. The States are empowered to restrain any person from discharging a pollutant or sewage or effluent into any water body without the consent of the Board.
4. Any contravention of the guidelines or standards would attract penal action including prison sentence ranging from three months to six years.
5. The Act is not clear about the definition of pollutant, discharge of pollutant, toxic pollutant which allows scope for misinterpretation at the time of decision whether the law is violated or not.

The Amendment Act of 1988 requires permission to set up an industry which may discharge effluent.

State Pollution Control Board

The consent of the State Pollution Control Board is needed to

- (i) Take steps to establish any industry or any treatment and disposal system or any extension or addition there to, which is likely to discharge or trade effluent into a stream or well or river or on land.
- (ii) Use any new or altered outlet for the discharge of a sewage.
- (iii) Begin to make any new discharge of sewage.

In the event of a violation of the conditions imposed, the State Board may serve on the offender a notice imposing any such conditions as it might establish, such outlet or discharge that is a violation of the conditions.

The Act further empowers the State Board to order closure or stoppage of supply or electricity, water or any other services to the polluting unit. Non-compliance of the order may attract imprisonment for a term of one and half years to six years and fine which may extend to Rupees five thousand for every day, if the default continues.

AIR (PREVENTION & CONTROL OF POLLUTION) ACT, 1981

- **Objectives:**
- To prevent, control and abatement of air pollution.
- To maintain the quality of air.
- To establish a board for the prevention and control of air pollution.

Important features

- The Central Board may lay down the standards for the quality of air.
- Violation of law is punishable with imprisonment for a term which may extend to three months.
- The operation of an industrial unit is prohibited in heavily polluted areas.
- The state boards are empowered to lay down the standards for emissions of air pollutants.
- The state boards are examining the manufacturing processes and the control of equipment.

Forest conservation Act, 1980

- That any reserved forest or any portion thereof shall cease to be reserved.
- That any forest land or any portion thereof may be used for any non-forest purposes.

Amendment act of 1988

- That any forest land or any portion thereof may be assigned by way of lease or otherwise to any private person or to any authority, corporation, agency or any other organization not owned, managed or controlled by Government.

- That any forest land or any portion thereof may be cleared of trees which have grown naturally in that land or portion, for the purpose of using it for reafforestation.

Explanation:

- For the purpose of this section, “Non – Forest purpose” means the breaking up or clearing of any forest land or portion there of for-
- The cultivation of cash crops defined in the Act.
- Any purpose other than reafforestation
- but does not include works related to conservation, development and management of forest and wildlife.

Wild life protection Act1972, Amended in 1983, 1986 and 1991

- Applicable all over India except Jammu and Kashmir which has its own Act.
- Hunting of any scheduled animal prohibited- Exceptions- mice, rats, common crow and fruit bats.
- Hunting- also includes capturing and trapping a wild animal
- Schedules I, II, III & IV list different protected species, the killing or trade of which prohibited.
- Schedule V lists vermin which may be killed
- Schedule VI lists protected plants
- A Schedule I offence can earn a repeat offender 6 years in prison and a fine of Rs.25, 000.
- Rules of a protected area

Environment protection Act 1986

1. Persons carrying on industry, operation, etc., not to allow emission or discharge of environmental pollutants in excess of the standards
2. Persons handling hazardous substances to comply with procedural safe-guards
- 3 .Furnishing of information to authorities and agencies in certain cases
- 4 .Powers of entry and inspection
5. Power to take sample and procedure to be followed in connection therewith

6. Environmental laboratories

7 .Government Analysts

8 .Reports of Government Analysts

9.Penalty for contravention of the provisions of
the Act and the rules, orders and directions

10.Offences by companies

11.Offences by Government Departments

- **ISSUES INVOLVED IN ENFORCEMENT OF ENVIRONMENTAL LEGISLATION:**
- **4.8.1. Problems in enforcing the legislation:**
- We have not achieved the target of bringing 33% of our land cover under forest.
- We lose our wildlife continuously.
- The rivers are now opened to sewer.
- The air in towns is badly polluted.
- There are many drawbacks in our environmental laws and their implementation.

Major issues related to legislation:

Drawbacks of the wildlife protection act, 1972

1. The Act has not included any locally evolved conservation measures and it seems to be fallout of Stockholm Conference held in 1972.
2. The ownership certificates for animal articles (tiger, leopard skins etc.) are permissible which very often serve as a tool for illegal trading.
3. The offender of the Act is not subject to very harsh penalties. It is just up to 3 years imprisonment or a fine of Rs. 25,000 or both.

Drawbacks of the Forest (Conservation) Act, 1980.

1. In this Act power has been centralized at the top. Local communities have been completely kept out from the decision making process regarding the nature of use of forest area.
2. The Act has failed to attract public support because it has infringed upon the human rights of the poor native people.
3. Very poor community participation in the Act remains one of the major drawbacks which affect proper execution of the Act.

Drawbacks in Pollution Related Acts.

1. The power and authority has been given to central government with little delegation of power to state government. Excessive centralization often hinders efficient execution of the provisions of the Acts in the states.
2. The chief enforcement person in these Acts is the Chairman of the State Pollution Control Board who should be professionally qualified and appointed on full time basis. However, several State Pollution Control Boards are headed by part time Chairman without requisite qualifications.
3. The Act does not include 'right to information' for the citizens. This greatly restricts the participation of the general publics

4. The provisions for penalties in the Act are very insignificant as compared to the damage caused by the big industries due to pollution.
5. Under Section 19, a person cannot directly file a petition in the court on a question of environment and has to give a notice of minimum 60 days to the central government.
6. Litigation, particularly related to environment is very expensive, tedious and difficult.
7. The State Boards very often lack adequate funds and expertise to pursue their objectives.
8. The pollution control laws are not backed by sound policy or guiding principles.