MODULE V

Human Population and the environment

5.6 Environment & Human Health

    5.6.1 Factors influencing Human Health

    5.6.2 Preventive measures

5.7 Human – Rights

5.8 Value Education

    5.8.1 Types of Value-education

    5.8.2 Objectives of Value-education

    5.8.3 Methods of imparting value-education

5.9 AIDS/HIV

6.0 Role of information technology in environment protection & Human

health.

MODULE V

Human Population & The environment

5.6 Environment & Human Health

Human health is directly related to the environment to which the people get constantly exposed.

5.6.1 Factors influencing Human Health

1)   Nutritional factors

2)   Biological factors

3)   Chemical factors

4)   Psychological factors

Due to vigorous population, our environment becomes heavily polluted. The man made activities causes environmental pollution leads to illness & death.

1)   Physical hazards & their health effect

a)   Radioactive radiations affects the body cells, glands function. It produces cancer.

b)   UV radiations produces skin cancer

c)   Global warming cause famine, mortality

d)   CFC causes depletion O_3 layer, allows more UV radiation, skin cancer.

e)   Noise produces painful & irreparable damage to human ear.

2)   Chemical hazards their health effects:

a) Combustion of fossil fuels liberates SO_2, NO_2, CO_2 & particular matters produces Asthma, bronchitis and other lungs diseases.

b) Industrial effluent affects body cells leads to death.

c) Pesticides affects food chain.

d) Heavy metals like Hg, Cd, Pb, fluoride & nitrate contaminated with H_2O produces ill effect.

3) Biological hazards and their health effect.

a) Bacteria, virus& parasites produces Diarrhea, malaria, anemia, cholera & respiratory diseases.

5.6.2 Preventive measures

1) Before eating, we should wash our hands

2) Maintaining skin, teeth, nail, and hair neatly.

3) Drinking chemically purified treated water.

4) Eat the food items which is in hot condition

5) Wash the vegetables & raw materials before cook

6) Try to avoid plastic containers & aluminum vessels.

7) Do the physical exercise, to have proper blood circulation in the body.

5.7 Human – Rights

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

Human right is the right for peaceful and healthy life.

Universal declaration of human rights:

1) Human rights to freedom

2) Human rights to property

3) Human right to freedom of religion

4) Human right to culture & education

5) Human right to equality

6) Human right against exploitation

7) Human right to good health

8) Rights of equal dignity.

9) Right of liberty & security

10) Right from torture (or) cruelty

11) Freedom from inhuman treatment

12) Freedom from slavery & forced labour

13) Freedom of movement & choice of residence

14) Right to privacy

15) Freedom of thought, conscience & religion.

16) Freedom of opinion & expression

17) Right to marry & found a family

18) Right of the child

19) Political rights.

20) Equality before the law

21) Rights of minorities

22) Right to do community development work

23) Rights should not curtail other rights.

5.8 Value Education

Value education imparts social, moral, cultural, spiritual and human values.

Value education is aimed at personality development, character building, moral development spiritual development, mannerism, patience, forgiveness, honesty, sincerity, courage, timely decision making. It's builds a person's overall character.

5.8.1 <u>Types of Value-education</u>

1) Formal education

2) Value Education

3) Value based environmental education

1) <u>**Formal education**</u>: Formal education is exam oriented. It provides a degree (or) diploma. It helps to get a job (or) business.

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It tells us about the care of natural resources and manage them in a sustainable way.

5.8.2 Objectives of Value-education

1) Improve the integral growth of human being.

2) Increasing awareness about our national history, cultural heritage, constitutional rights, community development & environment.

3) Developing moral discipline, good citizenship

4) Developing tolerance & moral decisions

5) Developing spirit of patriotism.

5.8.3 Methods of imparting value-education

1. **Telling** : It is a process of developing values to enable a pupil to have a clear picture of a value-laden situation by means of his own narration of the situation.

2. **Modeling** : The individual perceived an ideal values is presented to the learners as a model.

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This method makes use of the lives of the great man as the subject matter for trying to elicit their good deeds and thoughts worthy for emulation.

5.9 **AIDS/HIV**

AIDS : Acquired Immuno Deficiency Syndrome. It is a viral disease. It is a sexually transmitted disease (STD). Due to THE INFECTION OF RNA Virus on Lymphocytes, it decreases the activity of T-helper cells in the body. This leads to suppress the immune system called immunes deficiency.

It was discovered in America in 1981. About 4 million people in India are affected by HIV.

HIV – Human Immune Deficiency Virus. (RNA virus)

Causes of AIDS (Infection)

1) AIDs is caused by a HIV-RNA virus.

2) HIV Virus transmitted through blood contact, unprotected sex

3) Injection with unsterile Syringes & needles

4) Intravenous drug using

5) Pass from infected mother to their babies during pregnancy, delivery (or) breast feeding

6) Blood transfusing at the time of accident & pregnancy time.

7) Illegal sexual contact with many people

8) Using a single blade for shaving many people.

Symptoms of AIDS

Minor symptoms

a) Persistent cough for more than one month

b) General skin disease

c) Viral infection

d) Fungus infection in mouth & throat

e) Frequent fever, head ache, fatigue.

More Symptoms

a) Fever for more than one month

b) Diarrhea for more than one month

c) Cough & TB for more than six months

d) Hair fall from the head

e) Loss of body weight 10% within a short period.

Consequence of HIV/AIDs

1) Large number of deaths occurs, which affect environment & natural resources.

2) There is loss of labour & production level decreases.

3) More H_2O required for maintaining hygiene in AIDS affected locality.

4) The HIV affected people cannot perform work well due to lack of energy & frequent fever & Sweating.

Preventive Measures of AIDS

1) **Education** : Health education represents to avoid unprotected sexual contact, and encourage the usuage of condoms, syringes & needles should be used only one time.

2) **Prevention of blood borne HIV Transmission**

3) Blood containing HIV should not be donated. Strict sterilization practices should be followed in hospitals.

4) Primary Healthy Care

Conducting awareness programmes via voluntary health agencies. Training Programmes to doctors and paramedical workers should be conducted.

5) Counselling Services

Counseling Services should be provided either in person (or) through telephone.

6) Drug treatment

By taking nutritious diet, drug the immune system has to be kept boosted and maintaining a stress-free mind.

Diagnosis of AIDS

It is diagnosed by 2 methods.

1) ELISA – Enzyme Linked Immune Sorbent Agency

2) Western Blotting.

6.0 Role of information technology in environment protection & Human health.

Information Technology helps to study, environmental issues using computer, internet, satellites. It helps people to monitor the environmental problems in the following ways.

1) It has a number of data bases for environment. Some of the data bases are the following:

GIS : Geographical Information System

GRID : Global Resource Information Database

NEDS : National Emission Data system

ENVIS: Environmental Information system.

1) The Science using information technology to study,Environmental problems is called Environmental Informatics

2) Geometrics is an field of IT. It deals with geographic information. It involves surveys of mapping, remote sensing.

3) It helps to announce the occurrence of earthquake.

4) The daily range of temp of the entire world, rainfall, is predicted with the help of IT resources can be detected.

5) Non renewable energy resources can be detected and controlled by IT.

6) Remote sensing helps to determine bio diversity

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Role of IT in human health

IT plays a vital role in human health.

1.   Bio informatics

Bio informatics is the application of information technology on molecular biology of man & animals. This field is applied in medicine, agriculture.

2.   Human Genome Project:

It mapping of the genes of man on a computer. It monitor human diseases like cancer.

3.   Invasive surgery:

It is the surgery using endoscope. It needs only a small hole.(Ex) gall bladder decease. In this technology there is no bleading and short recovery.

4.   Drug manufacturing:

Drug manufacturing industries use bio sensors, gateway sensors, soft wares to control quality & quantity.

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MODULE -V

Human Population and the environment

5.1   Population growth

5.1.1 Population Density

5.1.2 Parameters affecting population

5.1.3 Causes of rapid population growth

5.1.4 Variation of Population among nations

5.2 Population explosion

5.2.1 Causes of population explosion

5.2.2   Effects of population explosion

Human Population & the environment

5.1 Population growth

Human population refers to a group of people living in a particular area at a given

time.

The individuals of the population belong to one species.

5.1.1 Population density

It is expressed as the number of individuals of the population per unit area (or)

per unit volume. The density of population is measured by census.

5.1.2 Parameters affecting population

1)   Birth rate (or) Natality : It is the number of live birth per 1000 people in a

population in a given year.

2)   Death rate (or) Mortality   : It is the number of deaths per 1000 people in

a population in a given year.

3)   Immigration: It denotes the arrival of individuals from neighboring population.

4)   Emigration : It denotes the dispersal of individuals from original population

to new areas.

5.1.3 Causes of rapid population growth:

1) The rapid population growth is due to decrease in death rate and increase in birth rate.

2) The availability of antibiotics, immunization, increased food production, clean H_2O & air decreases the famine related deaths and infant mortality.

Problems of rapid Population growth

1) Increasing demands for food & natural resources.

2) Inadequate housing & health services

3) Loss of agriculture lands

4) Unemployment & socio-political unrest.

5) Environmental pollution

5.1.4 Variation of Population among nations

At present the world's population has crossed 6 billion. The existing population is not evenly distributed. Less developed countries have 80% population and the developed countries have 20%.

Less developed countries like Africa, Asia, South America have 80% of the total world population. Here the rate of population increases is greater than 1% per year.

But in most developed countries like U.S.A. Canada, Australia, the rate of population increases is less than 1%.

China & India's population was above 1000 million in 2000 years. It's share is about 1/3 of the world's population.

Variation of population based on Age structure

Age structure of population can be classified into 3 types.

i)   Pre-productive population (0-14 years)

ii)   Reproductive population (15-44 years)

iii)   Post reproductive population (above 45 years)

(1)   Pyramid shaped variation of population (increase)

(Ex) India, Bangladesh, Ethiopia, Nigeria.

The fig. Indicates that the

- Pre-productive age group population (0-14 years) is more, indicated at the base of pyramid.

- Post-reproductive age group population (above 45 years) is less, indicated at the top of pyramid.

- The large number of young age people will enter into reproductive age group population (15-44 years) which increases the population growth.

(2)   Bell shaped variation of population (Stable)

(Ex) France USA, UK, Canada

The fig shows that

- The pre-productive age group population (0-14 years) and reproductive age group population (15-44 years) are more (or) less equal.

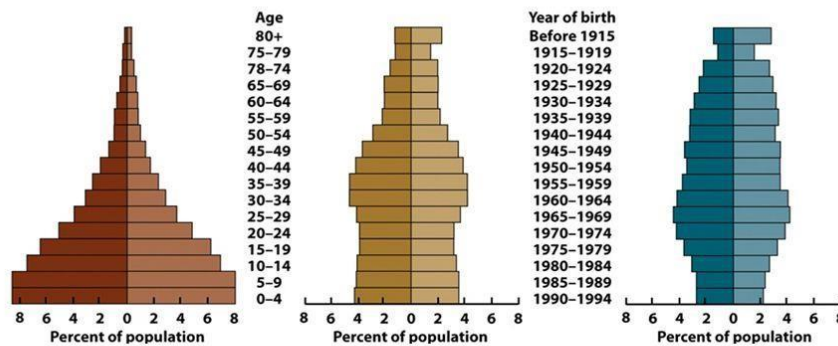- so people enter into the reproductive age group will not change the population. So population growth is stable.

3) __Urn shaped variation of population (decreases)__

(Ex) Germany, Italy, Sweden, Japan.

- The pre-production age group population (0-14 years) is smaller than the reproductive age group population (15-44 years)

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

Age Structure

Pyramid shaped (India)
Pre reproductive age group is more. A large group of young age people will enter in to the reproductive age group which will increase the pop growth. Less no of old age people – less death

Bell shaped (France)
Pre reproductive age group population and reproductive age group population is more or less equal. So the people enter into reproductive age group will not change. Thus population growth is stable.

Urn shaped (Germany)
Pre reproductive age group population is smaller then reproductive age group population. In the next 10 years the people enter into reproductive age group will be less than before resulting in decrease of population

5.2 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.

During population explosion the doubling time is less. 'Doubling time' is the number of years needed for the population to become the double of its size.

The doubling time is high in developed countries low in developing countries.

5.2.1 Causes of population explosion

1) High birth rate

2) Less death rate

3) Ill literacy

4) Increase of life expectancy (living age)

5) Increase in fertility.

5.2.2 Conscience of population explosion

1) Poverty

2) Environmental degradation

3) Over exploitation of natural resources

4) Increasing diseases, economic inequality & communal war

5) Unemployment problem.

6) Reduction in the area of vegetation, forest & cultivation.

7)   Low living standards

8)   Low percapita income

9)   Water scarcity

10)   Lack of sanitation, education & health

11)   Migration to urban areas in search of job

12)   Development of slums in cities.

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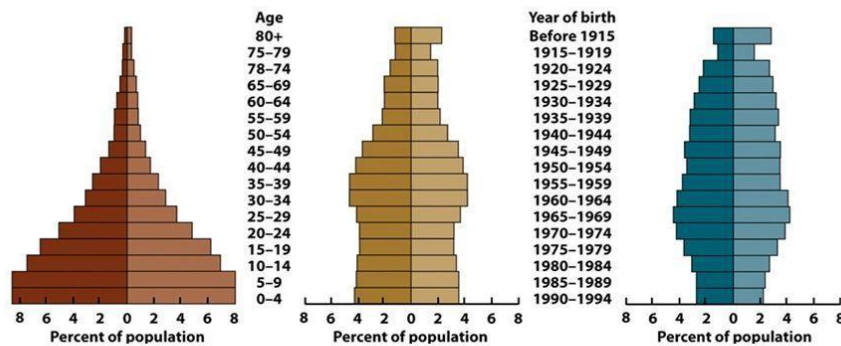- so people enter into the reproductive age group will not change the population. So population growth is stable.

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UNIT-V

Human Population and the environment

5.3 Family Planning Programme

    5.3.1 Objectives

    5.3.2 Family Planning Programs – Method (or) Sterilization

    5.3.3 Family Planning programme in India.

5.4 Women Welfare Programme

    5.4.1 Objectives

    5.4.2 Acts supposed for women welfare

5.5 Child Welfare Programme

    5.5.1 Objectives

    5.5.2 Acts supposed for Child welfare

Human Population and the environment

5.3 Family Planning programme

Family Welfare Programme is a programme launched by the Government of India to reduce population growth.

Originally it was named as Family Planning programme. Later it was renamed as Family Welfare Programme.

5.3.1 Objectives:

1) Reducing the birth rate to the extent necessary to stabilize the population at the level consistent with the requirement of the national economics.

2) To reduce birth rate below 30 per 1000 infants.

3) To reduce population growth.

4) To prevent population explosion

5) To reduce death rate

6) To extend the age of marriage

7) To insist only one child for a couple

8) To care the women's health, education & employment.

9) To encourage & implement immunization schedule for children.

10) To creates polio free population

11) To prevent AIDs/HIV

12) To encourage breast feeding

13) Making school education up to age 14 free & compulsory.

5.3.2 Family Planning Programs – Method (or) Sterilization

1) **Permanent method (or) Sterilization** : It is done by a minor surgery

(a) Tubectomy : It is female sterilization method done by tying the tubes that carry the ovum to the uterus.

(b) Vasectomy : It is male sterilization method done by tying the tubes that carry sperms.

Both are very simple minor operation under local anesthesia, which are painless.

2) **Temporary Methods**:

a) **Condoms :** Condoms are used by males to prevent sperms

b) **Copper T :** Copper T is a 'T' shaped plastic device inserted into the Uterus. It prevents pregnancy. It does not disturb any function in woman's life

c) Oral Contraceptive pills and injectable drugs are available that prevent sperms from fertilizing the ovum.

5.3.3 Family Planning programme in India.

1) In 1952, India started the family planning programme.

2) In 1970, Indian Government forced family planning programmes all over the country.

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

5.4 Women Welfare

The main aim of women welfare is to improve the status of the women by providing opportunities in education, employment & economic independence.

Need of Women Welfare

Generally women faces the following problems, in the society.

1) Female infanticide

2) Polygamy

3) Bride burning

4) Sati

5) Gang raping

6) Eve teasing

7) Denial of property right

8) Child prostitution.

9) Child marriage

10) Dowry

11) Dowry torture

12) Prostitution

13) Child raping

14) Acid throwing

15) Gender inequality.

5.4.1 Objectives of women welfare (or) necessity of formation of women self help group

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

1) To provide education

2) To generate awareness about the environment.

3) To give vocational training

4) To improve the employment opportunities

5) To aware problems of population

6) To restore the dignity, status, equality and respect for women.

5.4.2 Acts supposed for women Welfare

1) Integrated child development services provide nutritional supplement and health services for pregnant & lactating women.

2) Commission of Sati prevention Act – 1987

3) The equal remuneration Act 1976

4) The Dowry prohibition Act 1961, 1984, provides 2 years imprisonment and a fine of Rs.10,000 for offenders.

5) The IPC (Indian penal code) section 498 (A) penalizes the person forcing the bride to commit suicide.

6) Widow marriage is legalized (widow Remarriage Act)

7) 33% reservation for women in education & employment

8) Women empowerment year – 2001.

Organizations on women welfare

1) Ministry for women & child development

2) United nations decade for women

3) Convention on the Elimination of All forms of Discrimination Against women (CEDAW)

4) National Network for women & mining (NNWM)

Present Status of women

1) Equal rights in education

2) Womens are given 33% reservations

3) Female infanticide is abolished

4) Eve-teasing was reduced through Eve-Teasing preventing Act.

5) Harassing & torturing for dowry were reduced through Dowry prohibition Act 1961

6) Indira Avas Yojana Scheme of Central Government provides free houses for widows & unmarried women.

7) The women are well organized through self-Help Group (Suya Uthavi Kuzhu). They get attractive financial assistance.

5.5 Child Welfare

Children occupy 40% of total population.Out of 21 million children born every year in India, 20 million children are estimated to be working as child labours in various hazardous industries like match industry, fire work industry and pottery industry.

Reason for child Labour

1) Poverty

2) Want of money

Need of child welfare

Generally the child faces the following problems.

1. Female child infanticide

2. Child labour

3. Child rape

4. Child beggars

5. Child prostitution

6. Eve teasing

7. Sale of children

8. Child marriage

9. Throwing acids on girls

10. Mal nutrition

11. Poverty

12. Denying education

13. Child sacrifice in Pujas.

5.5.1 Objectives of child welfare programme

To overcome the above problems, the following steps should be taken for the welfare of children.

1) Nutritious & balanced diet should be given

2) Mid-day meals scheme in schools must be made more effective

3) Vitamins must be given

4) Compulsory & free education in schools & colleges

5) Free medical facility

6) Free polio drops

7) Prevention of child labour & sale of children

8) Prevention of child marriage, eve teasing, child sacrifice, child rape.

Organizations on child welfare

1. UNICEF   -   United Nations International
                          Children Emergency Fund-1946

2. WHO   -   World Health Organization

3. ICUW   -   International Union for Child Welfare

5.5.2 Acts for Child Welfare:

1. Child Labour prohibition & Regulation Act 1986

2. Employment of Children Act 1938

3. Child marriage Resistant Act 1929

4. Vaccination Act 1980