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**SAIRAM**  
DIGITAL RESOURCES

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**II**

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**IV**

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**ENVIRONMENTAL SCIENCE AND ENGINEERING**

**UNIT NO 5**

**HUMAN POPULATION AND THE ENVIRONMENT**

**5.2.1 FAMILY WELFARE PROGRAMME**  
**5.2.2 ENVIRONMENT AND HUMAN**  
**HEALTH**

**SCIENCE & HUMANITIES**



## INTRODUCTION

Family planning means planning by an individual or couples to have only the children they want, when they want them, this is responsible parenthood.

Family welfare includes not only planning of birth, but the welfare of whole family by means of total family health care.

This programs vary from culture to culture, but provide information on birth spacing, birth control, and health care for pregnant women and infants.

It also reduces the number of legal and illegal abortions per year and thereby decrease the risk of death from pregnancy

The family welfare programme has high priority in India because its success depends upon the quality of life of all citizens.

## HISTORY OF FAMILY WELFARE PROGRAMME •

- It was started in the year 1951.
- In 1977, the government of India redesignated the NATIONAL FAMILY PLANNING PROGRAMME as the NATIONAL FAMILY WELFARE PROGRAMME and also changed the name of the ministry of health and family planning to ministry of health and family welfare.

India is the first country in the world, that implemented the family welfare programme at government level.

**The concept of welfare is basically related to quality of life.**

- It includes education, nutrition, health, employment, women's welfare and rights, shelter, safe drinking water-all vital factors associated with the concept of welfare.
- It is centrally sponsored programme. For this, the states receive 100% assistance from central government.

## AIMS AND OBJECTIVES OF FAMILY PLANNING PROGRAMMES:

The government of India in the ministry of health and family welfare have started the operational aims and objectives of family welfare programme as follows:

- To promote the adoption of a small family size norm, on the basis of voluntary acceptance.
- To ensure adequate supply of contraceptives to all eligible couples within easy reach.
- Using the means of mass communication and interpersonal communication to overcome the social and cultural hindrances in adopting the programme or extensive use of public health education for family planning.

- Reduce infant mortality rate to below 30 per 1000 infants.
- Achieve 100% registration of births, deaths, marriage and pregnancy.
- Encourage late marriages and later child bearing.
- Encourage breastfeeding.
- Enables to improve women's health , education, employment.
- Making family planning available to all women, who wanted to choose the number of children and spacing of births.

- Constrain the spread of HIV/ AIDS.
- Prevent and control of communicable diseases.
- Promote vigorously the small family norms.
- Making school education upt age 14 free and compulsory.

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# FERTILITY CONTROL METHODS (OR) METHODS OF FAMILY PLANNING (Sterilization)

## WHAT IS CONTRACEPTION?

Contraception is the use of various devices, drugs, agents, sexual practices, or surgical procedures to prevent conception or impregnation (pregnancy).

Contraception helps women plan if and when they want a baby. The condom is currently the only contraceptive device that helps protect sexual partners from sexual transmitted diseases.



## BIRTH CONTROL:

Birth control involves one or more actions, devices, sexual practices or medications followed to intentionally prevent or reduce the likelihood of pregnancy.

### METHODS OF BIRTH CONTROL :

- **TRADITIONAL METHOD**
- **MODERN METHOD**
  - ❖ Permanent method
  - ❖ Temporary method

## 1.PERMANENT METHOD:

Permanent method (or) sterilization is done by a minor surgery.

### (a) Tubectomy:

Tubectomy, also known as tubal sterilization, is a permanent method of contraception in women. It is a surgical process that blocks the fallopian tubes, thereby preventing the egg released by the ovary from reaching the uterus.

## VASECTOMY:

**(b) Vasectomy** is a surgical procedure for male sterilization or permanent contraception.

During the procedure, the male vasa deferentia are cut and tied or sealed so as to prevent sperm from entering into the urethra and thereby prevent fertilization of a female through sexual intercourse.

Both are very simple procedures ,done under local anesthesia, which are painless and patients have no post operative problems.

## 2..TEMPORARY METHOD:

- (a) **Condoms** are a "barrier" method of **contraception**. They are made of very thin latex (rubber), polyurethane or polyisoprene and are designed to prevent pregnancy by stopping sperm from meeting an egg.
- (b) **Copper Ts**: The **copper** intrauterine device (IUD) is a small 'T-shaped' plastic and **copper** device placed by a doctor in the uterus.

The **copper IUD** works by stopping the sperm and egg meeting and changing the lining of the uterus/womb. This makes it difficult for a fertilised egg to stick to the lining to start a **pregnancy**. When it is first inserted (put in) it starts working straight away to **prevent pregnancy**.

### (c) Oral contraceptive pills and injectable drugs:

Birth control pills, also called oral contraceptives, are medications you take by mouth to prevent sperms from fertilizing the ovum . They're an effective method of birth control.



Injectations containing hormone formulation are given periodically to women to prevent pregnancy.

## FAMILY PLANNING PROGRAMME IN INDIA :

In 1952, **India** became the first country in the developing world to create a state-sponsored **family planning program**, the National **Family Planning Program**. The **program's** primary objectives were to lower fertility rates and slow population growth as a means to propel economic development.



- In the 1970's Indian Government forced family planning campaigns all over the country.
- 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.
- In 1981, census report showed that there was no drop in population. Since then funding for family planning programmes has been increased further.

## Family Welfare Programme in India

- Sterilization Programme.
- IUD Programme (Intrauterine Device)
- Contraceptive Programme.
- Family Planning Insurance Scheme.
- Janani Suraksha Yojana.
- Nutrition programme.
- Urban Family welfare programme.
- Urban revamping Scheme.



## ENVIRONMENT AND HUMAN HEALTH:

Environment is defined as man along with his surroundings, which consists of biotic, abiotic and sociological components. Therefore, when we cause danger to these components, which surrounds us, they in turn affect our health.





The environmental dangers created by man are many:

- Population explosion
- Unregulated urbanization
- Creating water, air and landscape pollution
- Deforestation
- Desertification
- use of pesticides in agriculture etc.

- Health hazards may be arising from: water contamination or pollution, air pollution, use of pesticides enters through food chain, radiation effect of nuclear water, diseases caused from improper disposal of solid wastes and also due to noise pollution.
- Every one of these has implications for the health of the individual as well as society as a whole. None can be ignored because the scale of potential calamity is increasing day by day.

A physically fit person not suffering from any disease is called a **healthy person**.

According to **World Health Organization (WHO)** health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

## FACTORS INFLUENCING HUMAN HEALTH

Human health is influenced by many factors like

- Nutritional
- Biological,
- Chemical
- Psychological.

These factors may cause harmful changes in the body's conditions called disease.

## ENVIRONMENTAL DEGRADATION DUE TO POPULATION EXPLOSION:

The concept of population growth is tricky because populations can grow exponentially – similar to the way a bank or credit card company compounds interest.

The formula for exponential population growth is  $N = N_0 e^{rt}$  where  $N_0$  is the starting population,  $r$  is the rate of growth (birth rate minus death rate), and  $t$  is time.

This concept might be easier to visualize with actual figures. From the beginning of time on Earth to the start of the 20th century, the population of the planet grew from zero to 1.6 billion. Then, thanks to many factors, the population increased to 6.1 billion in just 100 years, which is an almost fourfold increase in the number of humans over a relatively short period.

Population growth is the increase in the number of people living in a particular area. Since populations can grow exponentially, resource depletion can occur rapidly, leading to specific environmental concerns such as global warming, deforestation and decreasing biodiversity. Populations in developed countries trend toward using substantially more resources, while populations in developing countries feel the impacts of environmental problems more quickly.

### Populations and Environmental Issues

More people require more resources, which means that as the population increases, the Earth's resources deplete more rapidly. The result of this depletion is deforestation and loss of biodiversity as humans strip the Earth of resources to accommodate rising population numbers. Population growth also results in increased greenhouse gases, mostly from CO<sub>2</sub> emissions.



For visualization, during that same 20th century that saw fourfold population growth, CO<sub>2</sub> emissions increased twelvefold. As greenhouse gases increase, so do climate patterns, ultimately resulting in the long-term pattern called climate change.



## IMPORTANT HAZARDS AND THEIR HEALTH EFFECTS: PHYSICAL HAZARDS AND THEIR HEALTH EFFECTS:

Energy can enter our **body**. Excessive energy exposure can cause pain and injury. If exposure occurs day after day, we may develop a disease and possibly a disability. **Physical hazards** include exposure to slips, trips, falls, electricity, noise, vibration, **radiation**, heat, cold and fire.



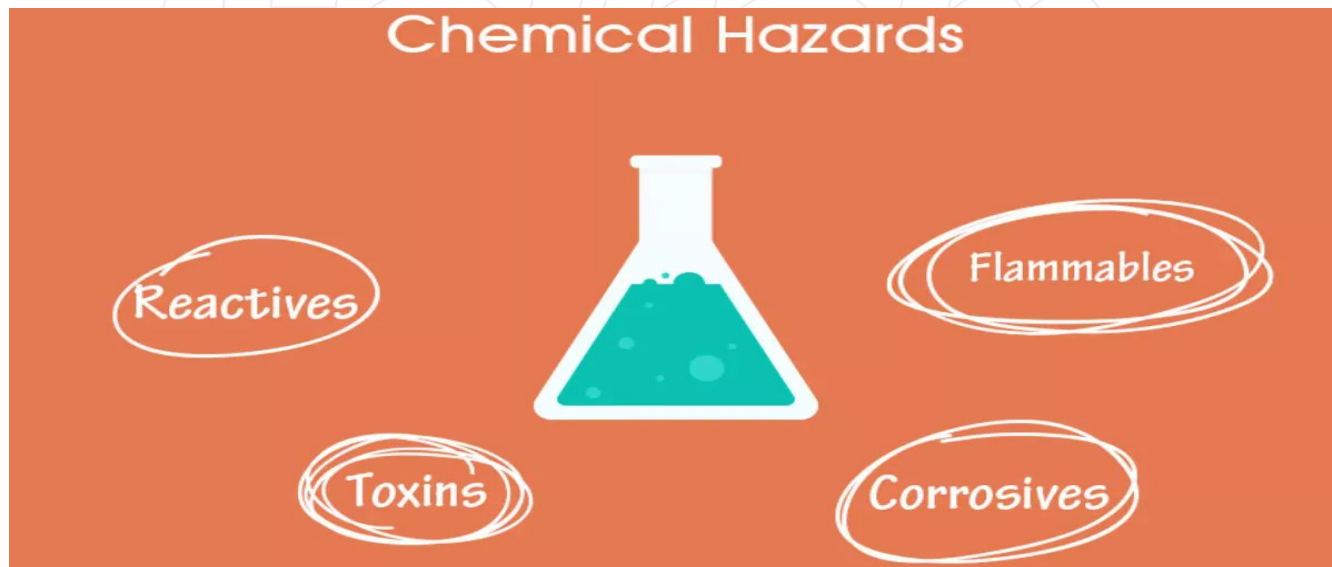


## PHYSICAL HAZARDS AND THEIR HEALTH EFFECTS:

S.NO	PHYSICAL HAZARDS	HEALTH EFFECTS
1	Radioactive radiations	Affects the cells in the body and function of glands and organs
2	UV radiations	skin cancer
3	Global warming	Temperature increase, famine, mortality
4	Chloro fluorocarbons	Damage O3 layer, allows more UV rays, cause skin cancer.
5	Noise	Painful and irreparable damage to human ear.

## CHEMICAL HAZARDS AND THEIR HEALTH EFFECTS:

Exposure to **chemicals** in the workplace can cause acute or long-term detrimental health **effects**. **There** are many types of **hazardous chemicals**, including neurotoxins, immune agents, dermatologic agents, carcinogens, reproductive toxins, systemic toxins, asthmagens, pneumoconiotic agents, and sensitizers.

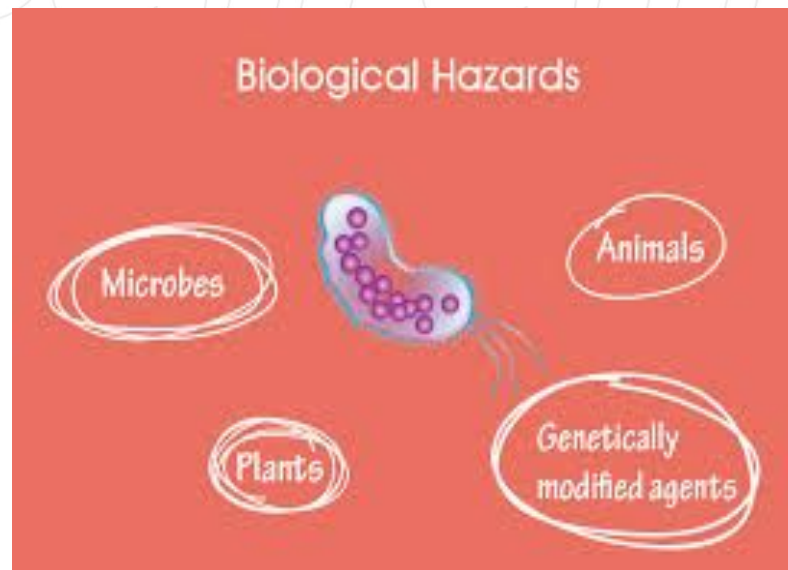


**IMPORTANT HAZARDS AND THEIR HEALTH EFFECTS:**

S.NO	CHEMICAL HAZARDS	HEALTH EFFECTS
1	Combustion of fossil fuels SO <sub>2</sub> , NO <sub>2</sub> , CO <sub>2</sub> , and particulate matters	Asthma, bronchitics and other lung diseases
2	Industrial effluents	Kill cells and cause cancer and death
3	Pesticides like DDT and Chlorinated pesticides	Affect food chain
4	Heavy metals like Hg, Pb, Cd, fluoride and nitrate	Contaminate water, cause ill effects

## BIOLOGICAL HAZARDS AND THEIR HEALTH EFFECTS

BIOLOGICAL HAZARDS	HEALTH EFFECTS
Bacteria, viruses, insects, plants, birds, animals, and humans	Diarrhoea, malaria, parasitic worms, anaemia, skin irritation and allergies to infections , respiratory diseases, cholera



## Preventive measures:

1. Always wash your hand before eating.
2. Cut short and clean your nails systematically.
3. Drinking chemically treated and filtered water.
4. Eat food always in hot condition.
5. Wash the vegetables and fruits a with clean water before cooking.
6. Avoid plastic containers and Al vessels.
7. Do physical exercise to have proper blood circulation
8. Maintaining the skin,teeth, hair of our body.



YOUTUBE LINK

ENVIRONMENT AND HUMAN HEALTH:

<https://youtu.be/4UMCSidQLy0>

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**THANK YOU**