



Harmful Microorganism

Harmful Microorganisms

While many microorganisms are useful, some are harmful and can cause diseases, food spoilage, and other problems. These are called harmful microorganisms or pathogens (when they cause diseases).

i. Disease-Causing Microorganisms (Pathogens)

They can cause diseases in:

- Humans
- Animals
- Plants

In Humans:

Disease	Microorganism Type	Caused By	Spread Through
Tuberculosis (TB)	Bacteria	Mycobacterium tuberculosis	Air
Cholera	Bacteria	Vibrio cholerae	Contaminated water
Typhoid	Bacteria	Salmonella typhi	Contaminated food/water
Malaria	Protozoa	Plasmodium (by mosquito)	Mosquito bite
Dengue	Virus	Dengue virus	Aedes mosquito bite
COVID-19	Virus	Coronavirus	Air, contact

In Animals:

Disease	Caused By
Foot and Mouth Disease	Virus
Anthrax	Bacteria



In Plants:

Plant Disease	Caused By	Affects
Citrus Canker	Bacteria	Lemon, orange trees
Rust of Wheat	Fungi	Wheat crop
Late blight of potato	Fungus	Potato crop

ii. Food Spoilage

- Some bacteria and fungi grow on food and spoil it, making it unsafe to eat.

Example: Bread mould, sour milk, rotting fruits

- Spoiled food may cause food poisoning.

iii. Contamination of Water and Air

- Harmful microbes in dirty water or polluted air can cause diseases like cholera, dysentery, and flu.
- This is why we boil water and cover our mouth when sneezing or coughing.

Prevention Tips:

- Wash hands before eating
- Drink clean, boiled or filtered water
- Eat properly cooked food
- Cover food to prevent microbial growth
- Vaccination (e.g. Polio, COVID-19)

Summary Table:

Problem Caused	Microorganisms Involved	Examples
Human diseases	Bacteria, Virus, Protozoa	TB, Malaria, COVID-19
Animal diseases	Bacteria, Virus	Anthrax, Foot-and-mouth disease
Plant diseases	Bacteria, Fungi	Rust of wheat, Citrus canker
Food spoilage	Bacteria, Fungi	Bread mould, rotten milk