



## General Studies-2; Topic: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

### Zoonotic Diseases

#### Introduction

- The Covid-19 pandemic has impacted human lives and resulted in socio-economic disruption of unimaginable scales.
- While several hypotheses and even conspiracy theories about the likely origin of Sars-CoV-2 are in circulation, the one indicating its zoonotic origin remains the most plausible one.

#### Zoonosis

- A zoonosis is an infectious disease that has jumped from a non-human animal to humans.**
- Zoonotic pathogens may be bacterial, viral or parasitic, or may involve unconventional agents and can spread to humans through direct contact or through food, water or the environment.
- They represent a **major public health problem** around the world due to our close relationship with animals in agriculture, as companions and in the natural environment.
- Zoonoses can also cause disruptions in the production and trade of animal products for food and other uses.

#### Scale and spread of Zoonotic Diseases

- The **interspecies spillovers of zoonotic diseases from animal to human** are not new.
- They impact humankind since the beginning of its association with animals.
- The scale and spread of these diseases are so high that every year, at the global level, the top 13 zoonotic diseases lead to nearly 2.4 billion cases of human illness, and 2.2 million human deaths.
- Out of all the human disease-causing pathogens identified so far, over 60% are of animal origin.**
- These include several well-known human and livestock diseases such as Tuberculosis, Brucellosis, Anthrax, Leptospirosis, and Rabies. Covid-19 is the newest addition to this list.

- With the new and emerging Infection Diseases, against which neither we nor our immune system are fully prepared.
- Other than their enormous impact on human health, their footprints on global and national economies are noticeable.

## Our response to Zoonotic Diseases

- While they are so prevalent, our responses towards these diseases have been far from satisfactory.
- The problem of such devastating potential has failed to elicit the required support from policymakers and resource allocators.
- Despite repeated warnings from conservationists and public health professionals about the possibility of zoonotic diseases causing large scale disruptions in human lives, they were not considered, either in our planning or in action.
- It ultimately took a global pandemic of the current scale, coming with an enormous human cost, to spotlight the long-pending discussion on zoonotic diseases and the drivers behind them.

## Zoonotic Disease and Environmental Degradation

- **Scientific investigations have established that the increased incidences of zoonotic diseases in recent times are a direct consequence of the ongoing abuse of nature.**
- The following actions have provided the enabling conditions for such disease spillovers
  - large scale deforestation and encroachment of pristine natural ecosystems;
  - reckless land-use changes either to enhance agriculture and livestock productions, or to provide land for infrastructure and industrial developments; and
  - unsustainable consumption, coupled with unregulated trade of wildlife and their derivatives, often via a long and unhygienic supply chain.
- These activities expose humans and their livestock to distant wild animals and the pathogens they carry.
- **Since such diseases are the outcomes of a complex interaction between the ecosystem, animals, and humans, a selective approach of dealing with only human health cannot succeed.**
- After closely witnessing the ongoing global struggle against the virus, it is clear that humanity cannot afford to deal with individual pathogens on a case-by-case basis, and cannot bear the cost of more such pandemics coming in quick succession.

## Way Forward

- To minimise the risk of future pandemics and mitigate its impact, a **long-term and holistic approach for ensuring wholesome planetary health, involves humans, animals, and natural ecosystem's health needs to be pursued.**
- A comprehensive approach, recognized as **One-Health**, should be the target of all our preparedness and responses against the future pandemics of zoonotic origin.
- If we wish to aspire to a safe and disease-free future, we have to immediately start repairing our fractured relationship with nature.
- The time for doing this is fast running out, as the next pandemic might be around the corner.