

# Neglected Tropical Diseases

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## Manifest Pedagogy

Disease related topics in Health needs to be studied from two aspects. One as a Science and the governance issues in it. For instance Orphan Diseases has science aspects and also various provisions by the government for it. Science aspects are more relevant for prelims.

## In news

Innovation deficit in the Neglected tropical diseases

## Placing it in the syllabus

Indian Society- Health (Not explicitly mentioned)

Indian Polity

## Static dimensions

- What are Neglected Tropical Diseases
- Examples of such diseases

## Current dimensions

- Growth of research in NTDs
- Deficit in the Innovation regarding NTDS
- Solutions

## Content

### What are Neglected Tropical Diseases?

The neglected tropical diseases (NTDs) represent a group of more than a dozen major chronic infectious diseases, most of

them parasitic infections(They are caused by a range of pathogens, including viruses, bacteria, protozoa, and helminths), with high endemicity in the developing countries of Africa, Asia, and the Americas.

**Some examples** of neglected diseases are malaria, tuberculosis, leishmaniasis (kala-azar), dengue, leprosy, lymphatic filariasis, and diarrhoeal diseases. Twenty neglected tropical diseases are prioritized by the World Health Organization (WHO), though other organizations define NTDs differently. Chromoblastomycosis and other deep mycoses, scabies and other ectoparasites and snakebite envenoming were added to the list in 2017.

### **History and growth of research on Neglected Tropical Diseases**

- Neglected diseases are mostly tropical infectious diseases, and due to their limited geographical incidence, the market size of drugs for such diseases is small.
- To highlight the common problem of drug, diagnosis, vaccine, and lack of innovation for this basket of diseases, **WHO began to address these as neglected diseases from the late 1980s.**
- **The conceptual framework of the NTDs was formulated in the years following the 2000 launch of the UN Millennium Declaration. Both the Millennium Declaration and its eight Millennium Development Goals (MDGs) for sustainable poverty reduction were instrumental in shaping global health policy over the next decade, and they provided a platform and basis for large-scale donor support from both public and private sources.**
- These diseases (NTDs) face a deficit in innovation as they are **neglected in the pharmaceutical industry's research and development** efforts. However, this innovation deficit is not only faced by neglected diseases in the developing world. Several rare diseases affecting developed markets are known as “orphan

diseases.”

- These are called orphans because it is not profitable for the pharmaceutical industry to develop and market products for only a small number of patients who suffer from rare diseases.
- **Drug discovery developed towards the end of the 19th century** as a key component of modern medicine. This was mostly done in **academic settings** until the mid-20th century.
- It became an endeavour, largely driven by pharmaceutical companies, by the mid-20th century.
- Consolidation of pharmaceutical entities led to multinational pharmaceutical companies driving **innovation in the pharmaceutical sector** in the second half of the 20th century.
- **Orphan diseases** include diseases that are both rare and neglected. They are orphans of research focus, market interest, and even public health policies.
- Because these diseases are confined to a particular region and receive less return in investments. If the market size is not attractive, the industry will not invest in such cases.

## What needs to be done

- **Providing policy support:** When the market fails, to address the issue, public policies need to be put in place. For instance the Governments and patient organizations in developed markets have highlighted the need for policy incentives to encourage innovation in developing solutions for patients with “orphaned” rare diseases(Europe, USA and Denmark)
- **Incentive in research:** The focus of research funding should be followed by policies that encourage industry to engage in drug development

- **Establishing a biomedical observatory that records and monitors ongoing R&D in neglected diseases will help the government ensure that limited resources are efficiently disbursed, identify research gaps and take corrective action.**