

# Health challenges facing the developing world



**D.K. Aswal**

National Physical Laboratory, New Delhi, India

# WHAT IS HEALTH?

**Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity**



*Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19–22 June 1946; signed on 22 July 194*

# CATEGORIES OF ILL HEALTH

## Communicable diseases



## Maternal, perinatal conditions & nutritional deficiencies

## Non-communicable diseases

- e.g.:
- Cardiovascular diseases & malignant neoplasms
  - Injuries
  - Neuropsychiatric disorders
  - Congenital abnormalities.

# THE HEALTH AND ENVIRONMENT NEXUS

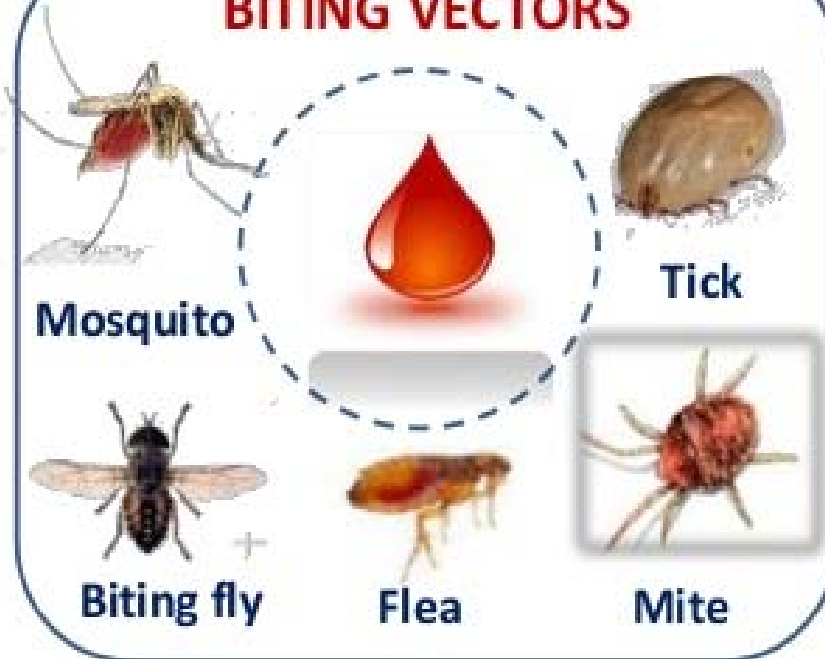
Environmental hazards/ecosystem degradation are a root cause of a significant health burden:

- The urban environment
- Vector-borne disease
- Indoor air pollution
- Water pollution
- Climate change
- Toxic substances



**VECTORS** are common **INSECTS** that carry & transmit diseases causing bacteria, viruses & parasites

### BITING VECTORS



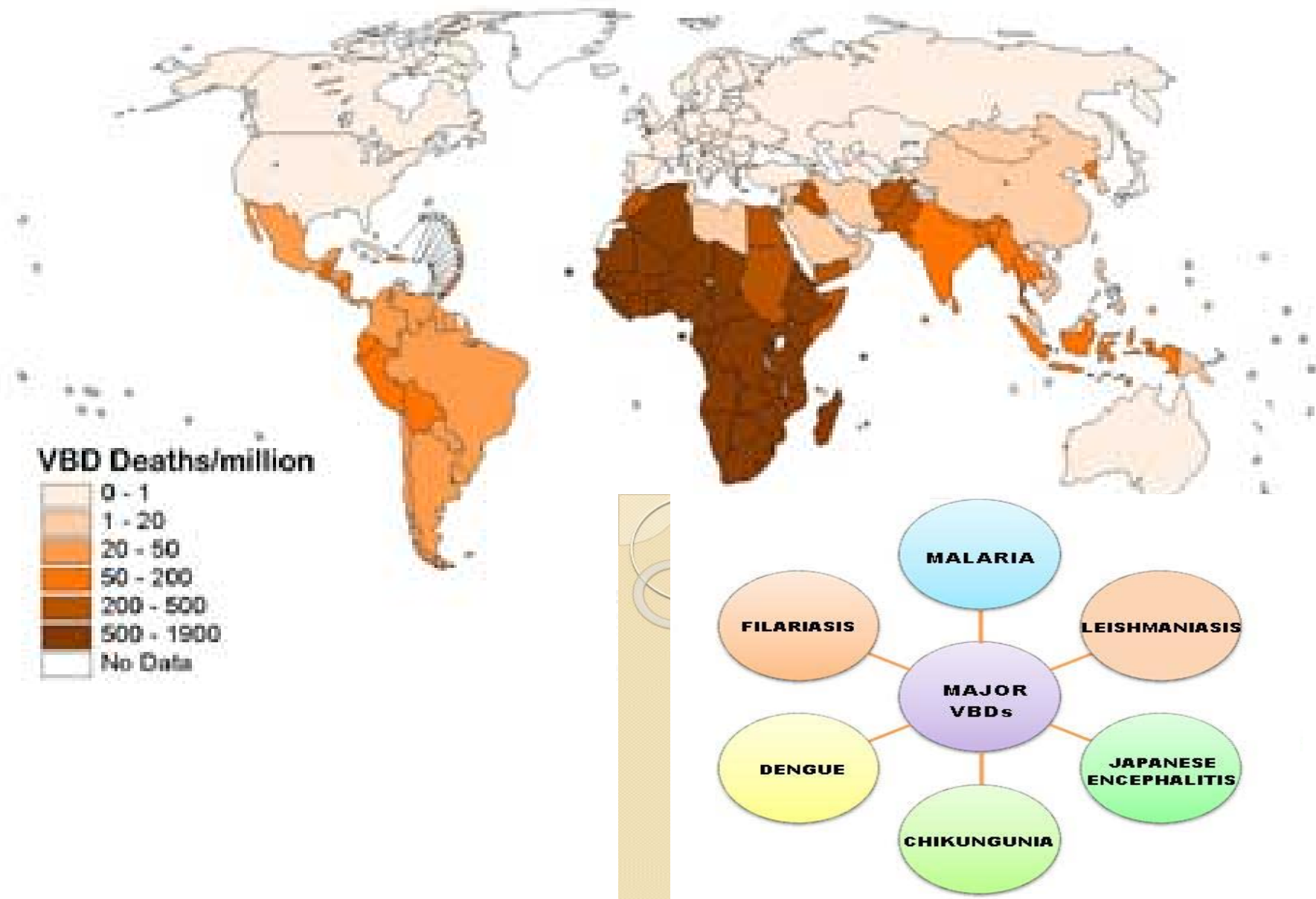
### CARRIER VECTORS

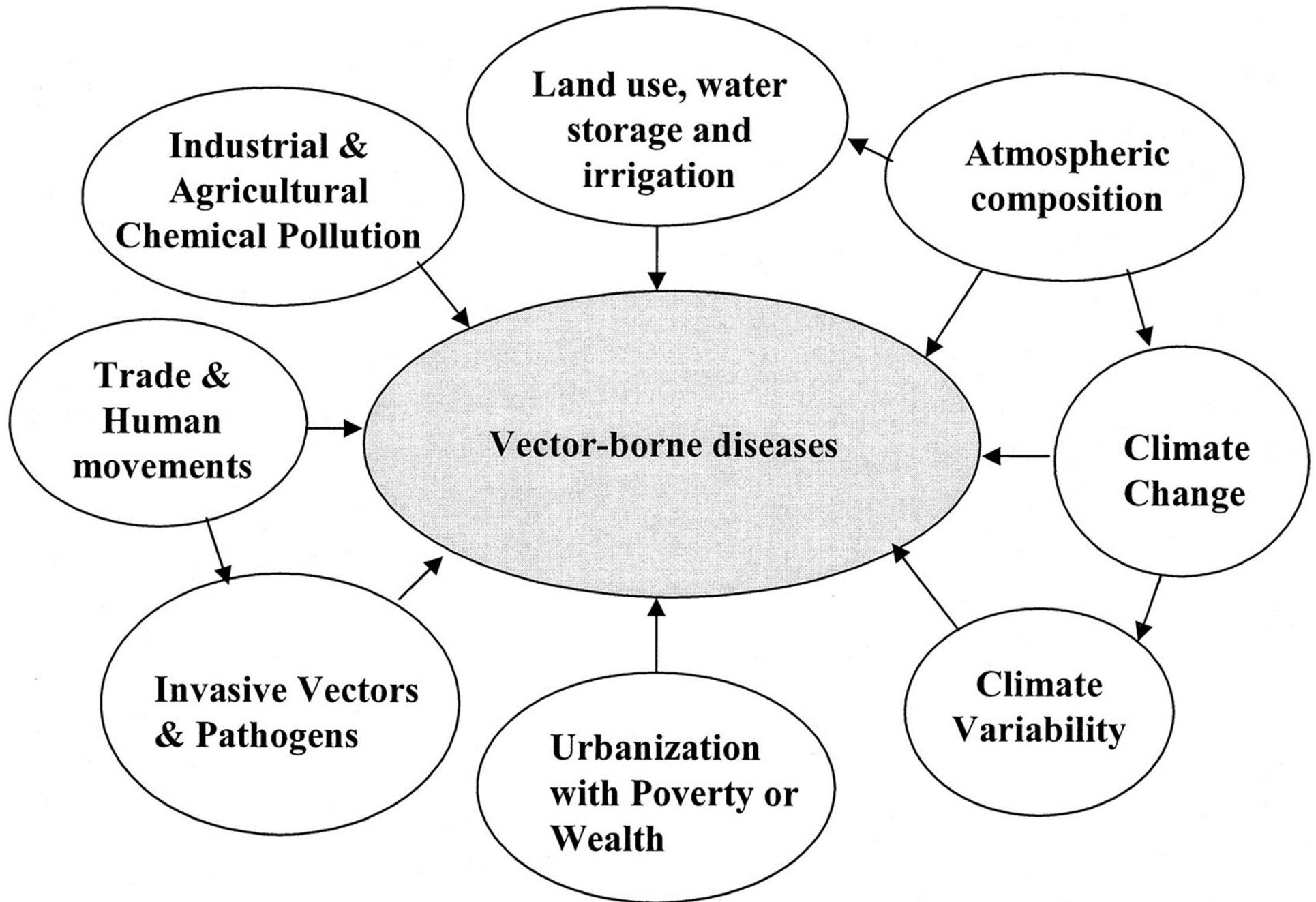


Transmit more than 250 food borne diseases leading to

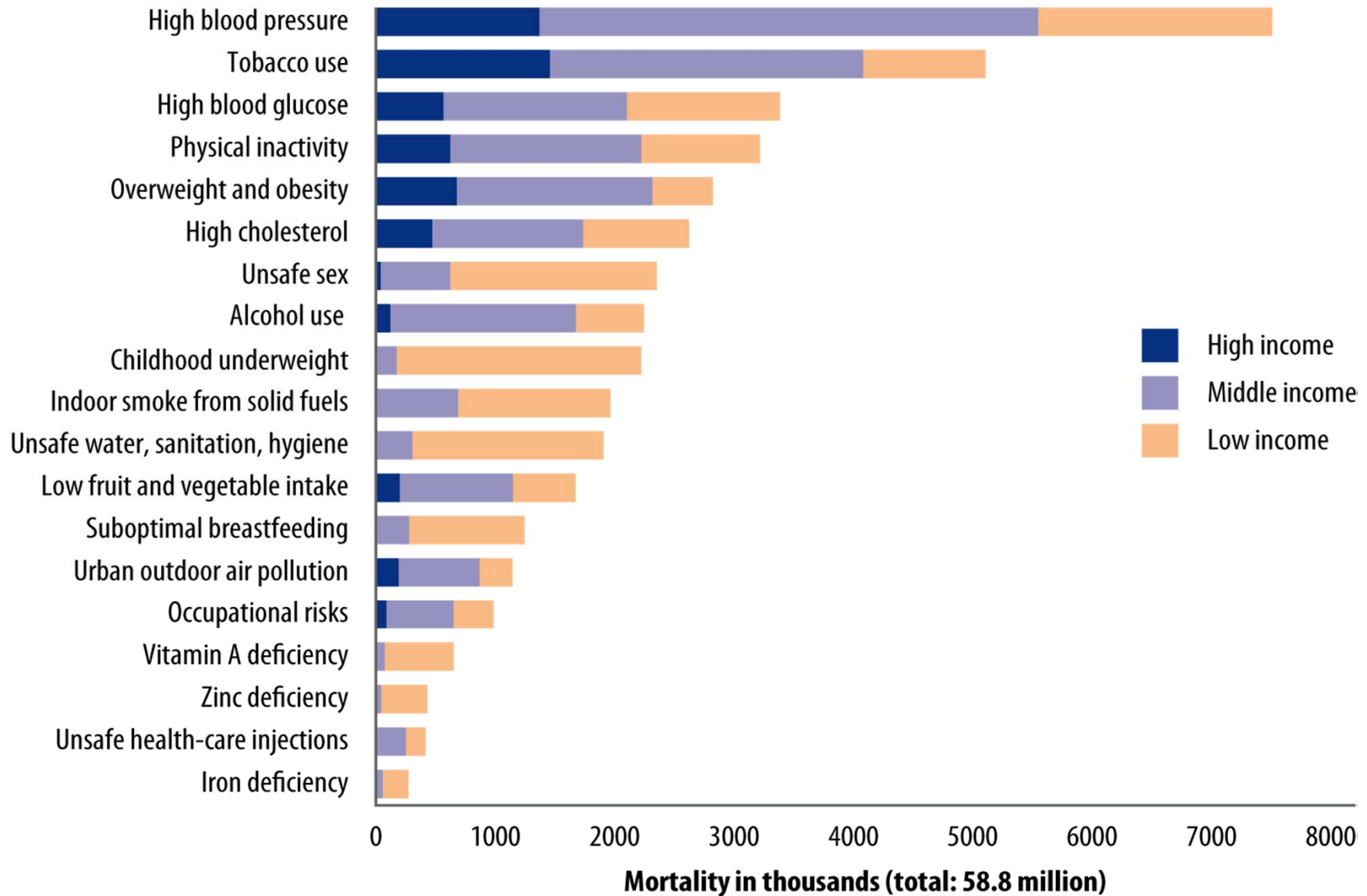
- Nausea, vomiting and diarrhoea
- Malaise, headache, fever
- Deaths: Globally- **19 Lakhs/year**  
South-East Asia- **10 Lakhs/year**

# Deaths from vector-borne disease



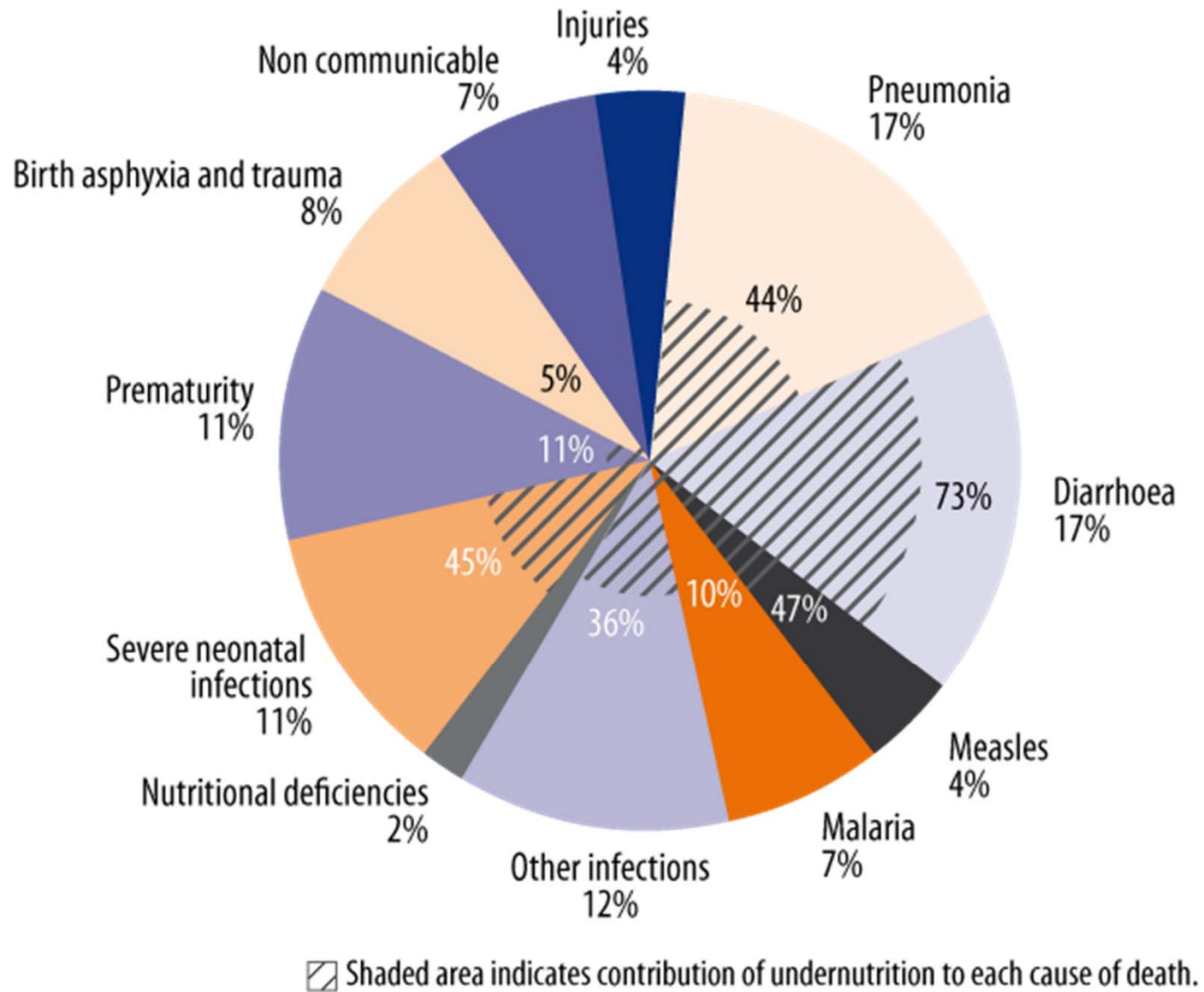


## Deaths attributed to 19 leading factors, by country income level, 2004





## Major causes of death in children under 5 with disease-specific contribution of undernutrition, 2004



**Air**

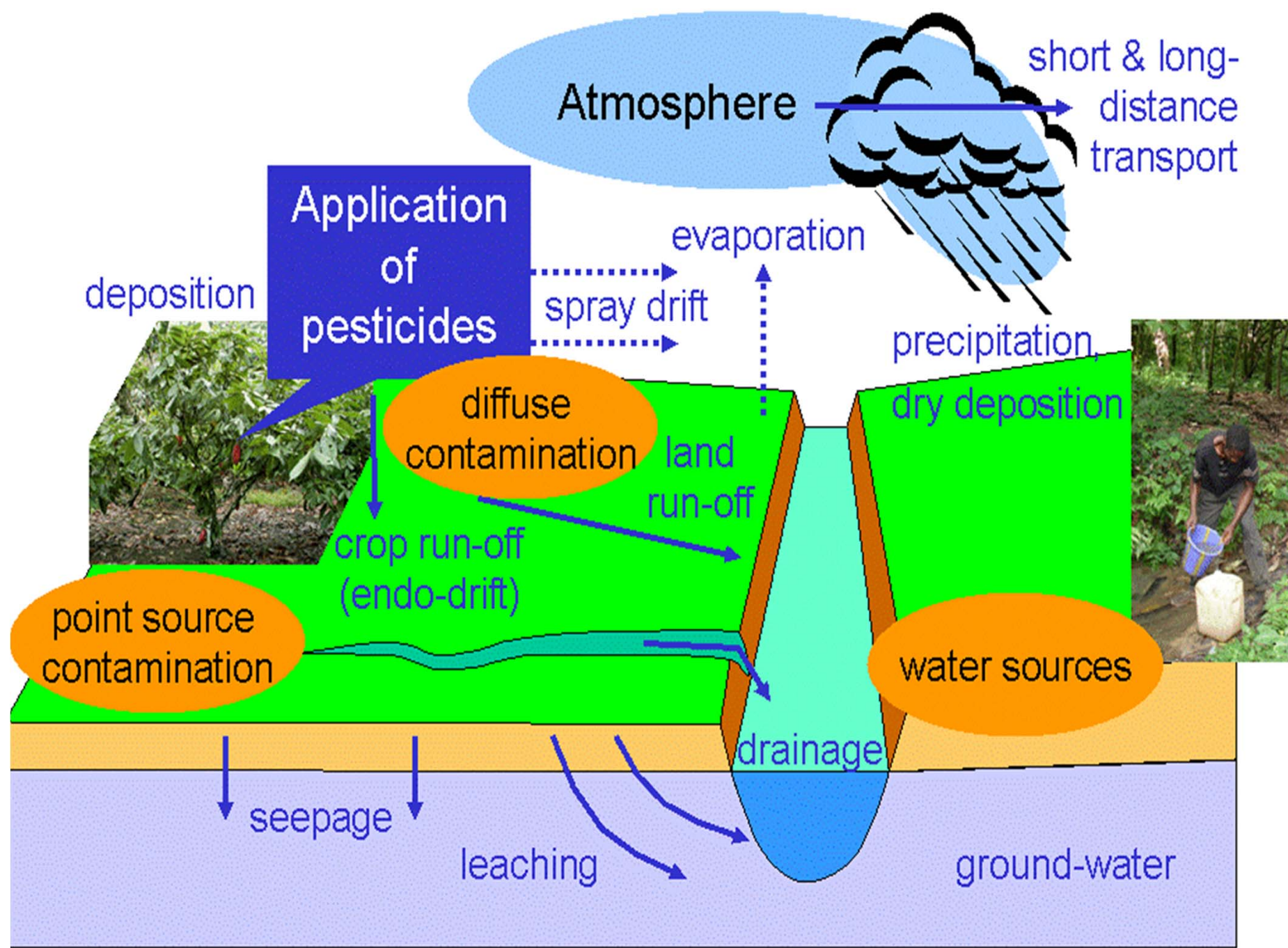
**Water**

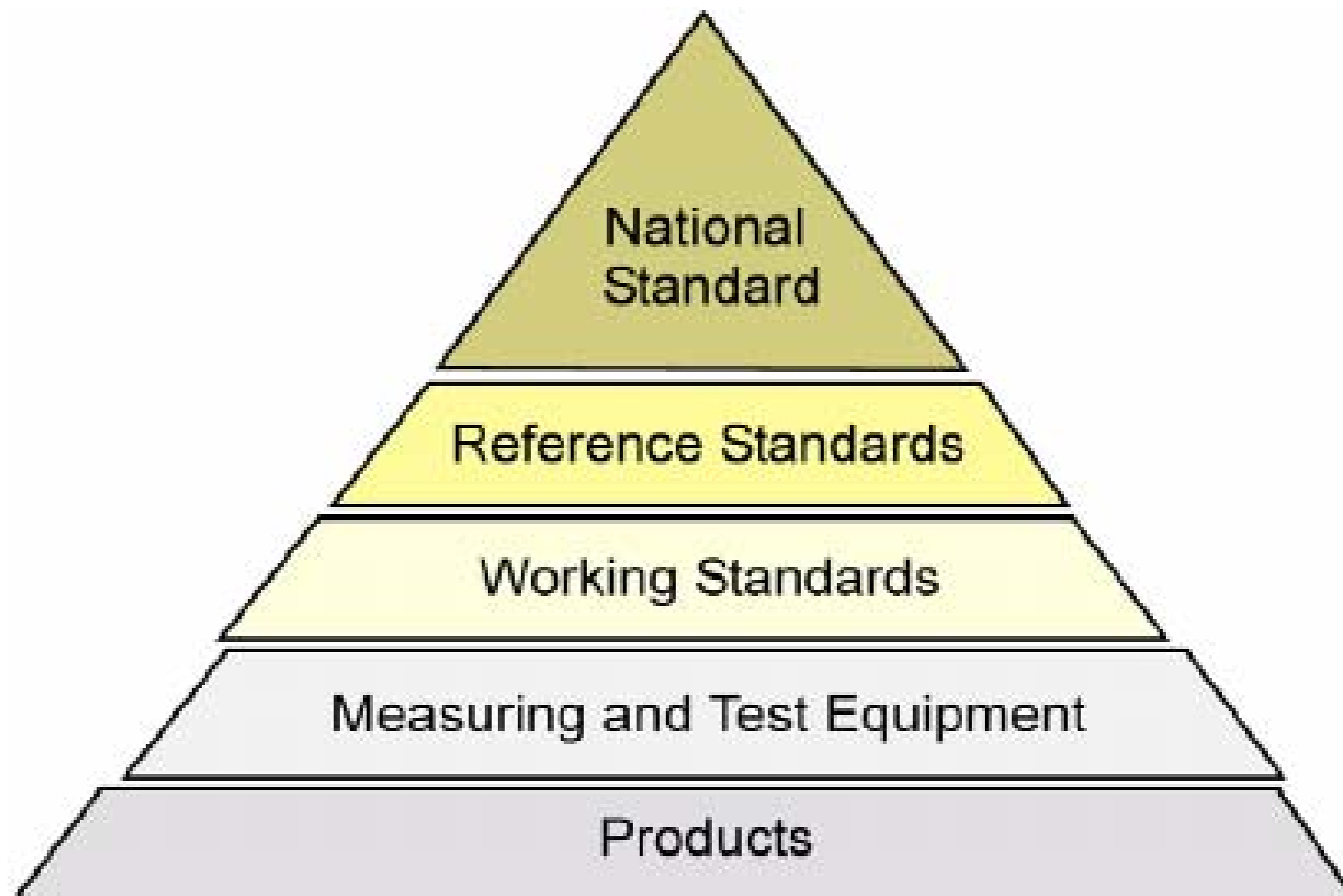
**Metrology**

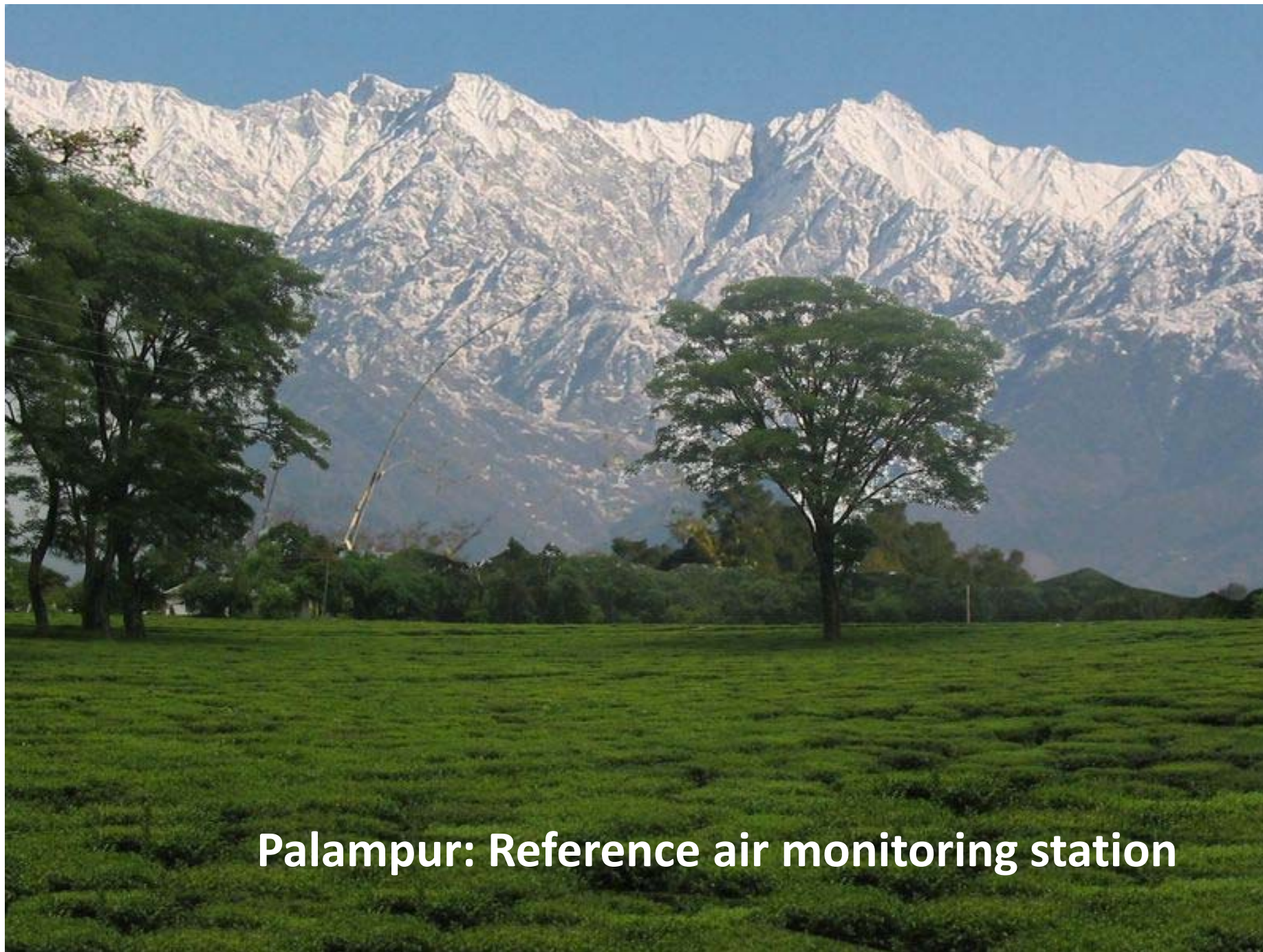
**Food**

Quality of Life?

**Soil**







**Palampur: Reference air monitoring station**



**Thanks....**

**.....You invited to NPL-India**