

## ENVIRONMENT

nearly 25 percent of all deaths and total disease burden can be attributed to environmental factors.

The majority of environmental health problems occur to people in low-income countries; they have more than 80% of all burden of disease related to environmental health because developed countries have improved environments

world environment day (5th June )

2011 : forests

2017: im with nature

2018: if you cant reuse it, refuse it.

2021: ecosystem restoration

For the first time, world leaders promise to end deforestation by 2030, and to reduce emissions by 30% by 2030 (compared to 2020 levels).

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## AIR POLLUTION

Air pollution is the fourth-largest threat to human health, after high blood pressure, dietary risks and smoking.

❖ 4.2 million deaths every year as a result of exposure to ambient (outdoor) air pollution.

❖ 3.8 million deaths every year as a result of household (Indoor air pollution) exposure to smoke from dirty cookstoves and fuels (in 2012, WHO).

❖ 11.6% of all global deaths – more than the number of people killed by HIV/AIDS, tuberculosis and road injuries combined

❖ Air pollution did cost the globe an estimated (\$8.1 trillion ) in 2019 in lost labor and income, equivalent to( 6.1 % of global GDP).

❖ 95 % of deaths caused by air pollution occur in low and middle-income countries .

More than nine out of 10 of the world's population ( 92%) live in places where air pollution exceeds safe limits (WHO).

.. Around 3 billion people (more than 40% of the world's population) still do not have access to clean cooking fuels and technologies in their homes (causing indoor air pollution).

.. WHO estimates that: 80% of these deaths were due to ischemic heart disease and strokes 14% of deaths were due to chronic obstructive pulmonary disease or acute lower respiratory infections 6% of deaths were due to lung cancer

Electricity generation plants (most widely air pollution sources)

Carbon dioxide (CO<sub>2</sub>): fourth most common atmospheric gas(naturally)

Greenhouse gases= CO<sub>2</sub> + CH<sub>4</sub> + N<sub>2</sub>O (nitrous oxide)

photochemical smog= VOCs + NO<sub>2</sub>

acid rain= NO<sub>2</sub>+ SO<sub>2</sub> (react with water)

✓ PM affects more people than any other pollutant (Greatest threat to health among air pollutants)

✓The most health-damaging particles are those with a diameter of 10 microns or less, (≤ PM<sub>10</sub>), which can penetrate and lodge deep inside the lungs .

Three main sources of air pollution:

1) Transportation 57%

2) Power plants: electricity generating

3) Industry 12%

\*fuel combustion except in vehicles 21%

\*miscellaneous 10%

The earth's temperature has increased by 0.8 degrees Celsius over the past century.

Most polluted capitals in the world In 2018: India / DELHI , Bangladesh/ Dhaka

#### •Indoor Air Pollution

- Around 3 billion people cook and heat their homes using open fires and leaky stoves, and burning biomass (wood, animal dung and crop waste) and coal.
- Nearly 3.5 million people die prematurely from illness attributable to indoor air pollution from household solid fuel use (e.g. chronic obstructive respiratory disease).
- Nearly 50% of pneumonia deaths among children under five are due to particulate matter inhaled from indoor air pollution.
- Both women and men exposed to heavy indoor smoke are 2-3 times more likely to develop COPD

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### Occupational Health

→most workers(between the ages 20 and 60), in average , spend at least eight hours a day in the workplace,

→ Workers represent half the world's population (3.5 billion) →half of them in informal sector.

→ But, more than 85% of workers in small workplaces, informal sector, agriculture and migrants worldwide, do not have any occupational health coverage

→ About 70% of workers don't have any insurance to compensate them in case of occupational diseases and injuries. (these workers are in the informal sector)

→ ILO (International Labour Organization) and WHO also estimate that globally, more than 2 million people die every year from work-related diseases and injuries.

→ Research has demonstrated that workplace health initiatives (this means if you apply what protects the health of workers in your workplace) can help reduce sick leave absenteeism by 27% and health-care costs for companies by 26%.

→ 4--6% of GDP (gross domestic product) is lost due to illnesses and injuries due to unhealthy and hazardous working conditions.

→ Certain occupational risks, such as injuries, noise, carcinogenic agents, airborne particles and ergonomic risks account for a substantial part of the burden of chronic diseases (due to occupational hazards and work environment):

1. 37% of all cases of back pain (more than one third of back pain cases)
2. 2% of leukemia
3. 8% of injuries and depression
4. 9% of lung cancer
5. 11% asthma
6. 13% chronic obstructive pulmonary disease
7. 16% hearing loss

→ In China, the number of workers exposed to silica-containing dusts was estimated to be as high as 12 million.

→ Pneumoconiosis represents 70–80% of the total number of cases of reported occupational diseases in mining industry, sandblasting, textile industry, and ship repair.

→ In 1986, the National Institute for Occupational Safety and Health (NIOSH) listed psychological disorders among the ten leading work-related diseases and injuries among U.S. workers.

→ Low back pain occurs in 50% of workers in heavy industries.

→ A health care facility is a workplace as well as a place for receiving and giving care. Health care facilities around the world employ over 59 million workers, who are exposed to a complex variety of health and safety hazards everyday.

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