

Introduction:

In this chapter, we will discuss the issue of pollution. Pollution is the release of material and energy into polluted products of human activity. Many industrial wastes, e.g., wastewater, toxic gasses, chemical residues, heavy metals, dust, smoke, etc. are dumped into running water, lakes, ponds, rivers and other bodies of water and thus destroy the water bio-system. The main cases are the leather, pulp and paper, textile and chemical industries.

1. Environmental Pollution:

It is divided into species. Therefore, they are classified on the basis of where the waste is transported and distributed. The categories of pollution are as follows:

1. Water pollution
2. Air pollution
3. Noise pollution
4. Land pollution

1. Water pollution:

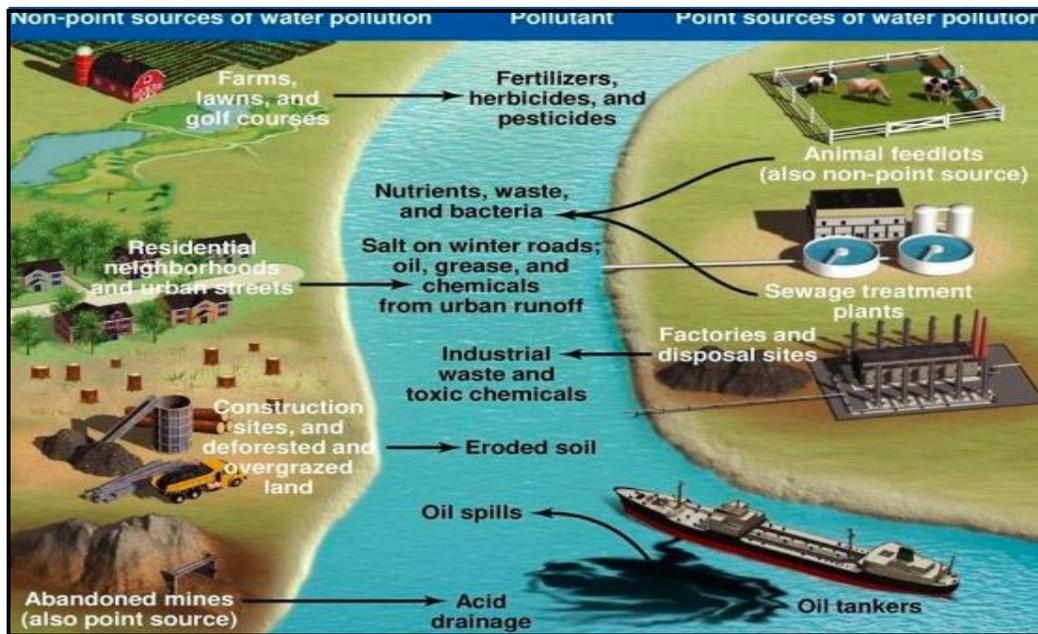
Water levels are greatly reduced by a few factors namely the indiscriminate use of water by fast-growing people and the growing industrialization. No excess water is found clean in rivers, canals, ponds, etc. as all water sources contain a small number of fixed particles, organic and inanimate. Water is polluted, as the amount of these substances increases. It becomes unfit for human consumption and its ability to cleanse itself diminishes.

There are two sources of water pollution:

1. Natural Erosion, landslides, rot and decay of plants and animals, etc. are natural resources that cause water pollution.
2. People's industrial, agricultural and cultural activities cause water pollution.

Man-made water pollution is a major problem in modern times. Industrial pollution activities.

Pollution sources in the Ganga and the Yamuna River:



River and state	Polluted Stretches	Nature of Pollution	Main Polluters
Ganga (Uttar Pradesh, Bihar and West Bengal)	Downstream of Kanpur	Industrial pollution from towns like Kanpur.	Cities of Kanpur, Allahabad, Varanasi, Patna and Kolkata, release domestic wastes into the river.
	Downstream of Varanasi	Domestic wastes from urban centres.	
	Farrakka Barrage	Dumping of carcasses in river.	
Yamuna (Delhi and Uttar Pradesh)	Delhi to confluence with Chambal	Extraction of water by Haryana and Uttar Pradesh for irrigation.	Delhi dumping its domestic waste.
	Mathura and Agra	Agricultural runoff resulting in high levels of micro-pollutants in the Yamuna. Domestic and industrial waste of Delhi flowing into the river.	

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Today the use of various chemicals such as organic fertilizers, pesticides and herbicides is common in agriculture. These chemicals pollute surface water such as rivers, lakes, tanks and groundwater by entering the soil. These fertilizers increase the amount of nitrate in the surface water. Apart from this, cultural activities such as pilgrimage, religious exhibitions, tourism, etc. also cause water pollution. In India, almost all surface water sources are polluted and unfit for human use.

Consumption of contaminated water can be harmful to human health and can cause various waterborne diseases, e.g. diarrhea, intestinal worms, hepatitis, etc. The World Health Organization (WHO) indicates that about one quarter of India's communicable diseases are found in water.

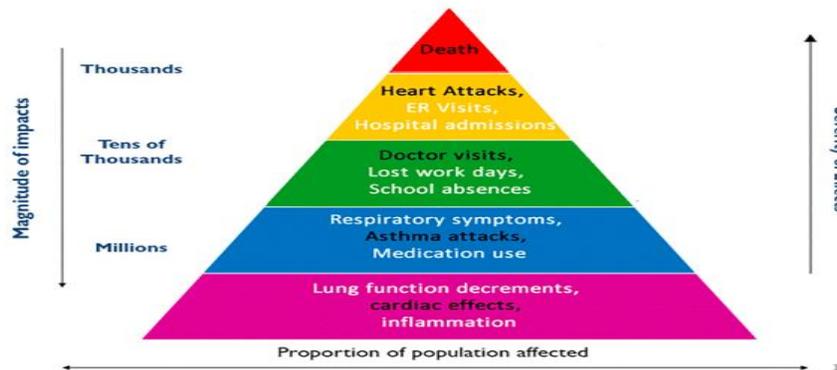
Air pollution



A large amount of pollutants such as dust, smoke, gas, fog, odors, smoke or air vapor have long been known to cause air pollution to be harmful to plants and animals and to animals. There is an increase in the release of toxic gasses into the atmosphere due to the increased use of various fuels for energy in various fields, thus causing air pollution.

The main sources of air pollution are fossil fuels, mines and industries that produce sulfur oxides, and nitrogen, hydrocarbons, carbon dioxide, carbon monoxide, lead, and asbestos.

Effects of Air Pollution



The effects of air pollution are as follows:

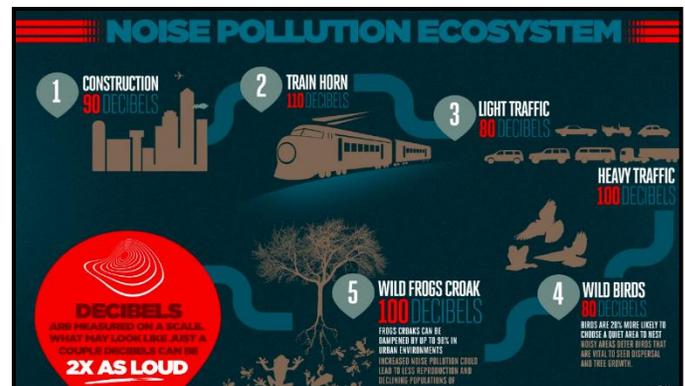
1. Air pollution causes many diseases related to our respiratory, circulatory and circulatory systems.
2. Air pollution is responsible for creating urban smoke vapor known as urban smoke. It has negative effects on a person's health.
3. Air pollution is also a cause of acid rain. The first after-summer rainfall in urban areas often indicates a high acidity of rainwater which is indicative of a lower pH level than subsequent rainfall.

3. Noise pollution:

Noise pollution refers to noise that causes an unbearable and uncomfortable situation for people. This sound can come from a variety of sources. It is the latest thing that has become a major concern only after the invention of new technologies. Fixed sound level is measured in decibels (dB).

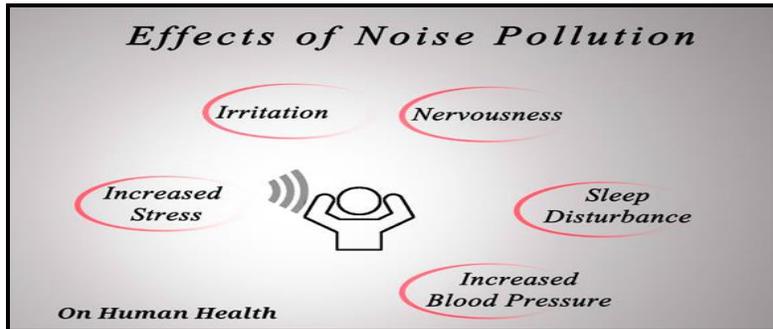
Factories, mechanical engineering and demolition, cars and airplanes are major sources of noise pollution. Apart from this, there are also occasional sources of noise pollution such as sirens, loudspeakers at various festivals and programs and other community activities. Car noise generated by traffic is a major source of noise pollution. It causes great frustration for people. The strength and nature of the noise generated by traffic depends on a variety of factors such as the type of vehicle (plane, train, etc.) / road condition and vehicle condition (if there are vehicles).

Overcrowded sea, noise; dirt is restricted to the port due to loading and unloading of boxes. Industrial noise pollution is also a big problem but your intensity varies due to certain factors such as industry type, type of equipment and tools, etc.



The potential for noise pollution decreases as the distance from the source of pollution (industrial areas, transport hubs, airports, etc.) increases. Thus, noise pollution depends on a particular area.

Effects of Noise Pollution:



Noise pollution is a major cause of anxiety, mood swings and other psychological problems and disturbances among people in many major cities and major cities in India.

2. Urban Waste Disposal

Overcrowding, congestion, increasing population, improper infrastructure and facilities to support this population, lack of sanitation, foul air, etc. are some features of urban areas. Mismanagement of solid wastes and environmental pollution caused by them has now become a major problem. Solid wastes are a variety of old and used articles, for e.g., stained small pieces of metals, broken glass wares, plastic containers, polythene bags, ashes, floppies, CDs, etc. dumped at different places. These discarded materials are also known as refuse, garbage and rubbish, etc. And are disposed of from two sources i.e., household or domestic establishments and industrial or commercial establishments. Public lands or private contractor’s sites are used to dispose of household or domestic wastes. Low lying public grounds (landfill areas) are used to dispose of industrial solid wastes by public (municipal) facilities. Industries, thermal power houses and building constructions and demolitions are contributing with more turn out of ashes and debris in solid wastes. Disposal of industrial wastes has increased because of the concentration of industrial units in and around urban centers. Urban waste is a bigger problem in small towns and cities than metropolitan cities in the country. About 90% of solid waste is collected and disposed of successfully in Mumbai, Kolkata, Chennai, Bangalore and other metropolitan cities. About 30-50% solid wastes in other towns and cities in the country are not collected and disposed of properly. It is a major problem because it accumulates on streets, in open spaces between houses and in wastelands and can cause various health problems.



Impacts of Improper Management of Solid wastes:



Improper management of solid wastes has following impacts:

1. Solid wastes are a threat to human health and can cause various diseases. It creates foul smell and it harbors flies and rodents that can cause typhoid, diphtheria, diarrhea, malaria, cholera and other diseases.
2. Solid waste can create inconvenience rapidly if they are not properly handled. Wind and rain water can splash it and cause discomfort to people.
3. Industrial solid waste can cause water pollution by dumping it into water bodies. Drains carrying untreated sewage also result in various health problems.
4. Untreated waste releases various poisonous biogases such as methane in air by slow fermentation process. These wastes are resources as energy can be generated from them! By composting these wastes, the problem of energy could be solved as well as its management in urban areas.

3. Rural-Urban Migration

Movement of people from rural areas to urban areas are caused by various factors such as high demand for labour in urban areas, low job opportunities in rural areas and disparities in terms of development in rural and urban areas. Smaller and medium cities provide low opportunities which force people to bypass these small cities and directly come to the mega cities for their livelihood. Mostly daily wage workers like welders, carpenters, etc move to other cities for work, periodically and provide remittances to their families for daily consumption, health care, schooling of children, etc. This has improved their early abject situation into a better one. Simultaneously, due to temporary and transferable job situations, these laborers and their families hear the pain of separation of their near and dear ones. Sometimes these workers also face difficulty in assimilation to the new culture and environment. Due to these menial jobs at low wages in the informal sector in urban areas, the spouses are left behind in rural areas to look after children and elderly people. Thus, the rural-urban migration stream is dominated by the males.



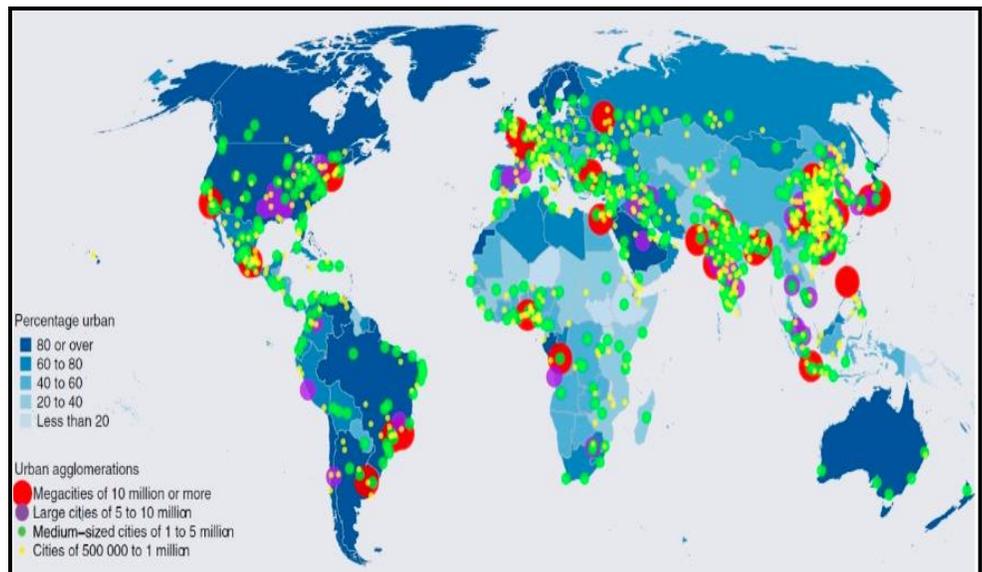
4. Trend of Urbanisation in the World:

Currently, about 54% of the world's 7 billion (2011) population lives in urban areas of the world. This proportion of urban population will increase in future. It is estimated that between 2025 to 2030, this percentage would grow 1.44% per year. This high urban population will pressurize governments to optimize infrastructure facilities in urban areas for giving a standard quality of life. It is estimated that by 2050, about two-thirds of the world's population will live in urban areas. It would create a high pressure on existing infrastructure and sanitation, health, crime problems and urban poverty.

There are various factors responsible for growth of urban population:

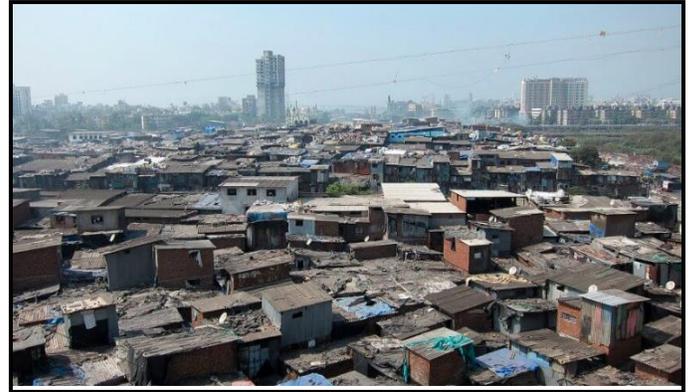
1. When high birth rate and low mortality rate increase.
2. Net in-migration or movement of people from other areas.
3. Reclassification of urban areas to encompass formerly rural settlements.

In India there is an estimation that about 60% of India's urban population has increased after 1961. About 29% of this growth has been caused by rural-urban migration.



5. Problems with slums

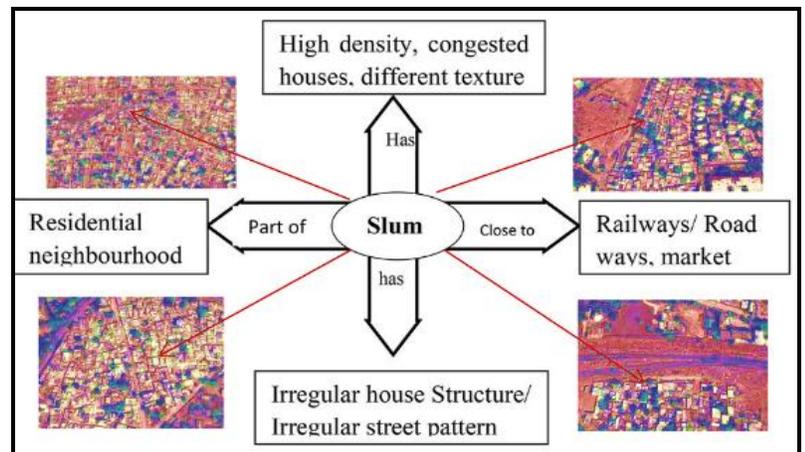
1. Dwelling separates two concepts which are urban or urban and rural. They are also described differently in different countries.
2. The two are separated by their functions but sometimes dependent on the other. The two perspectives are further subdivided into different cultural, economic and technological categories.
3. According to the 2001 census, about 72% of the population of rural India (in 2011, the rural population was 68.84%). Most of these rural areas are still in poor condition and are undergoing initial activities.
4. According to Mahatma Gandhi, well-republican villages. These serve as additives in the central city center that forms its hinterland.
5. Urban areas are more developed economically, politically and culturally, etc. than in other areas.
6. Urban areas have farm houses, high-income people and their own spaces, wide roads, street lights, water and sanitation facilities, grass, well-developed green belts, parks, playgrounds and other facilities, individual security provisions and the right to privacy.
7. Apart from these attractions the urban areas have slums, jhuggi jhopri 'collections and colonies of slum buildings.
8. These are unsanitary and degraded urban areas. These are settled by migrants who are forced to move from rural areas to cities in order to be employed and earn a living. But because of rising rent and high costs, they could not afford affordable housing and could start living in these areas.



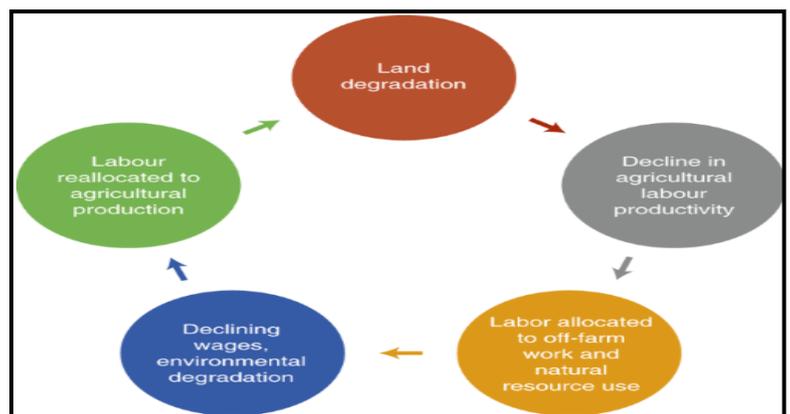
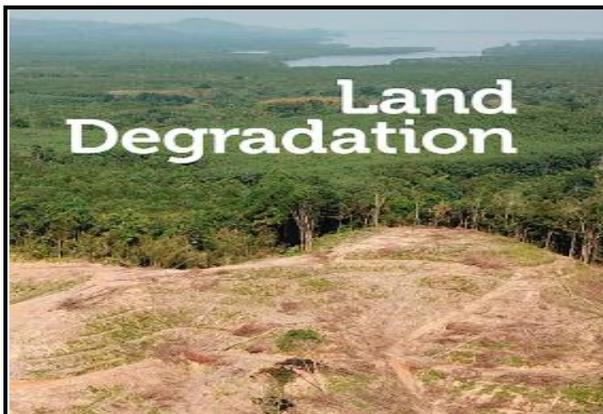
6. Features of Slums

The slums have the following features:

1. Slums are not as diverse as residential areas, poor sanitation, poor air quality and lack of basic resources such as drinking water, lighting and toilets, etc.
2. Slums are overcrowded and have many patterns on narrow streets that are often at high risk of fire.
3. Most slum dwellers work for low wages, high-risk and informal sectors in the urban economy.
4. They deal with various health problems such as malnutrition, illness and various illnesses. They cannot afford to send their children to school because of low income.
5. Citizens are at risk of drug abuse, alcoholism, crime, vandalism, escape, neglect and social stigma due to poverty.



7. Land Degradation



Limited availability and deterioration of land quality both have a responsibility to put pressure on agricultural land. Soil erosion, deforestation, salt immersion and immersion of alkaline lead to land degradation which reduces soil production. In simple terms, a temporary or permanent decline in the earth's productive capacity is known as land degradation. All the corrupt land should not be considered a waste. But if the degradation process is not scrutinized, then the depleted land could be transformed into a wasteland. Natural and man-made processes both degrade the earth.

8. Classification of Wastelands



1. The National Remote Sensing Agency (NRSA) is an organization responsible for the demarcation of deserts in India. It distinguishes desert areas using remote sensing techniques on the basis of created processes.
2. Desert Created by Environmentalists Desert / desert land, desert or coastal sand, rocky deserts, hilly terrain, glacier, etc. Desertification by natural resources. These are considered abandoned areas caused by natural agents.
3. Wildlife and Human Factors Wetlands and wetlands, salt and alkalinity affected areas and sandy soils that are not polluted by nature and human features are included in this section.
4. Man-Made Desert Transfers of arable land, degraded cultivated land, degraded forests, degraded pastures and desert mines and industries are some of the most degraded deserts as a result of human action.

Questions For Practice

1. Which town on the coast of Yamuna is polluted?
(a) Lucknow (b) Mathura
(c) Kanpur (d) Varanasi
2. The wasteland in India includes?
(a) 7.5% (b) 10.5%
(c) 15.9% (d) 25.15%
3. By 2050, how many people will be living in cities?
(a) 1 / 4th (b) 1 / 3rd
(c) 2 / 3rd (d) 3 / 4th
4. What is a noise pollution measurement unit?
(a) Millibar (b) Decibel
(c) Diameter (d) Centimeter
5. Degradation is not the result of?
(a) Soil erosion (b) Salt
(c) Alkalinity (d) Forests
6. Jharia Region is located at:
(a) Karnataka
(b) Jharkhand
(c) Chhattisgarh
(d) Madhya Pradesh
7. What is the origin of the pollution on the Ganga coast?
(a) The leather industry
(b) Paper industry
(c) Gases
(d) Waste
8. Which of the following is the cause of soil pollution?
(a) Human Activity
(b) Air Activity
(c) Land Activity
(d) All of the above
9. Which of the following diseases is caused by water pollution?
(a) Conjunctivitis
(b) Respiratory diseases
(c) Diarrhea
(d) Bronchitis
10. Where is the Dharavi stream?
(a) Karnataka (b) Gujarat
(c) Maharashtra (d) Rajasthan
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14. What is an air pollution measurement unit?
 (a) Millibar (b) Air Quality Index
 (c) Diameter (d) Centimeter
15. What is result of land degradation?
 (a) Biodiversity Loss (b) Climate Change
 (c) Environment Hazards (d) All
16. Jhabua Region is located at?
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17. What is the origin of the pollution on the Ganga coast?
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 (b) Noise pollution
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21. In which town, do vehicles emit the most carbon monoxide?
 (a) Delhi (b) Mathura
 (c) Kohima (d) Jhansi
22. Decibel is a unit of which pollution?
 (a) Soil (b) Noise
 (c) Water (d) Air
23. Which of the following is not the source of noise pollution-?
 (a) Use of pesticides
 (b) aircrafts
 (c) automobiles
 (d) factories
24. Which town along the banks of Yamuna is polluted?
 (a) Lucknow (b) Mathura
 (c) Kanpur (d) Varanasi
25. River Ganga flows through which of the following states?
 (a) Uttar Pradesh
 (b) Delhi
 (c) Odisha
 (d) Madhya Pradesh
26. Push and pull factors are responsible for?
 (a) Migration
 (b) land degradation
 (c) slums
 (d) Air pollution
27. What is the effect of noise pollution?
 (a) Irritation
 (b) Stress
 (c) Increase Blood Pressure
 (d) All of the above
28. Which one of the following organization responsible for demarcation of desert in India?
 (a) National Desert Agency
 (b) National Remote Sensing Agency
 (c) Air Control Agency
 (d) None
29. Which of the following is the cause of acid rain?
 (a) water pollution
 (b) land pollution
 (c) Noise pollution
 (d) Air pollution
30. Which is the natural source of air pollution?
 (a) Man (b) Water
 (c) Agriculture (d) Volcanoes

Solutions

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|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| 1. (b) | 4. (b) | 7. (a) | 10. (c) | 13. (c) | 16. (b) | 19. (b) | 22. (b) | 25. (a) | 28. (b) |
| 2. (d) | 5. (d) | 8. (a) | 11. (b) | 14. (b) | 17. (a) | 20. (c) | 23. (a) | 26. (a) | 29. (d) |
| 3. (c) | 6. (b) | 9. (b) | 12. (d) | 15. (d) | 18. (a) | 21. (a) | 24. (b) | 27. (d) | 30. (d) |

