

URBAN HEAT ISLAND

SYLLABUS: GS PAPER-I (GEOPHYSICAL PHENOMENA) & GS PAPER-III (ENVIRONMENT)

CONTEXT: Growth of Urban Heat Islands in cities

WHAT IS URBAN HEAT ISLAND?

An Urban Heat Island (UHI) is that part of an urban or a metropolitan area that is marked by remarkably high temperature as compared to its rural counterpart due to excessive human activity. It is a local as well as a temporary phenomena that can be noticed when both the summer and winter seasons are at their peak.

CAUSES OF URBAN HEAT ISLAND

- **Concretised urban landscapes:** A large number of concrete buildings with cemented pavements hinder the wind flow, hence reducing any natural cooling effect. Concrete and cemented surfaces absorb a lot of heat from the sun thus increasing the mean surface temperatures of pockets in urban areas.
- **Air conditioning and other cooling systems:** Cooling required from air conditioning consumes a great amount of energy from power plants thus causing more pollution. The air conditioner emits hot air creating more heat thereby having a cascading effect.
- **Urban Architecture:** Tall buildings often accompanied by narrow streets hinder the circulation of air, reduce the wind speed, and thus reduce any natural cooling effects. This is called the Urban Canyon Effect.
- **Massive transportation system:** Transportation systems and the unimpeded use of fossil fuels also add warmth to urban areas.
- **Paucity of trees and green areas:** This impedes evapo-transpiration, shade and removal of carbon dioxide, all the processes that help to cool the surrounding air.

IMPACT OF URBAN HEAT ISLAND

- **On human body:** As the house becomes hot and is unable to cool down by midnight, it starts acting as a heat trap. In such a situation, the body gets heated and the heart starts pumping more blood to fight dehydration if adequate water intake is not maintained. If one's heart is already weak, it may fail and the person may die due to cardiac failure induced due to heat-waves.
- **On animals:** In regions with temperate climate, urban heat islands prolong the growing season, thus throwing the breeding strategies of the inhabiting species in disarray.
- **On weather and climate:** Aside from the effect on temperature, UHIs can produce secondary effects on local meteorology, including the altering of local wind patterns, the development of clouds and fog, the humidity, and the rates of precipitation.

MITIGATION

- **Creation of green infrastructure:** One way to counter the growing impact of urban heat islands is 'green infrastructure' that includes cool roofs or painting house roofs in a light colour reflect heat and using sustainable cooling mechanisms.
 - Promoting urban forestry.
 - Promotion of green transport to curb heat emissions.
- Industries, which also act as heat traps, need to minimize heat emission through thermal innovations.

ASSOCIATION OF SOUTH EAST ASIAN NATIONS (ASEAN)

SYLLABUS: GS PAPER-II (INTERNATIONAL RELATIONS)

CONTEXT: India-ASEAN meet

- Association of Southeast Asian Nations is a regional intergovernmental organization comprising of ten

Southeast Asian countries, which promotes intergovernmental cooperation and facilitates economic, political, security, military, educational as well as socio-cultural integration among its members and other Asian states .

- ASEAN was established on 8th August 1967 in Bangkok, Thailand with the signing of the Bangkok Declaration (ASEAN Declaration) by the founding fathers of the countries of Indonesia, Malaysia, Thailand, Singapore, and the Philippines. The preceding organization was the Association of Southeast Asia (ASA) comprising of Thailand, the Philippines, and Malaysia.

MEMBERS OF ASEAN

1. Thailand (founding member)
2. The Philippines (founding member)
3. Malaysia (founding member)
4. Singapore (founding member)
5. Indonesia (founding member)
6. Brunei (joined in 1984)
7. Vietnam (joined in 1995)
8. Lao PDR (joined in 1997)
9. Myanmar (joined in 1997)
10. Cambodia (joined in 1999)

There are two observer States namely, Papua New Guinea and Timor Leste (East Timor). ASEAN SECRETARIAT – Indonesia, Jakarta.



INDIA-ASEAN RELATION BACKGROUND

- After its Independence in 1947, India followed a policy of Non-Aligned Movement (NAM) and became a champion of decolonization, including in Southeast Asia. However, during the 1970s, India's perceived tilt towards the Soviet Union caused Southeast Asia to drift away from India as both followed different economic and political ideologies.
- In a major shift away from policies of the Cold War era, India adopted the "Look East Policy" (LEP) soon after economic liberalization in 1991 to increase economic and commercial ties with East and Southeast Asian nations.
- India became a Sectoral Partner of ASEAN in 1992, a Dialogue Partner in 1996 and a Summit-level Partner in 2002.
- The partnership was upgraded to Strategic Partnership in 2012 as a result of the growth of India-ASEAN relationship in last two decades.
- India announced Act East Policy in 2014 with an intent to upscale its engagement with ASEAN Member States.
- India and ASEAN celebrated 25 years of their Dialogue Partnership, 15 years of Summit Level interaction and 5 years of Strategic Partnership in 2017.
- The Act-East Policy emphasizes the 3 C's of Connectivity, Commerce and Culture as the focus areas of action for a greater ASEAN-India integration.

SIGNIFICANCE OF ASEAN TO INDIA

- **ASEAN's centrality in India's foreign policy** – A cohesive, responsive, and prosperous ASEAN is central to India's Indo-Pacific Vision along with India's Act East Policy and contributes to Security and Growth for All in the Region (SAGAR).
- **Economic** – ASEAN is the one of the largest market in the world comparative to the EU and North American markets. It's also the 4th most popular investment destination globally.
- **Investment opportunities for Indian businesses** – Cost of production is lower in Laos, Cambodia and Myanmar, which means that Indian firms can gain significantly by investing in these countries.
- **Countering China** – Cooperation between India and ASEAN is crucial to counter China's power projection in the region. Both have territorial and border issues with China.
- **Integration with regional and global supply chains** – Increasing engagement with ASEAN is pivotal to facilitate India's integration with regional and global supply chain movements.
- **North-East development** – Connectivity projects with the ASEAN nations keeping Northeast India at the centre can ensure the economic growth of the land-locked north-eastern states. Collaboration with the ASEAN nations

is necessary to counter insurgency in the Northeast, combat terrorism, etc.

- **Maritime security** – The Indian Ocean carries 90% of India's trade and its energy sources. Presence of choke points such as the Malacca strait makes the South-East Asian region significant for countering traditional and non-traditional maritime threats like piracy and terrorism.

Indian Diaspora – About 9–8% of the population in Malaysia and Singapore is of Indian origin, in Myanmar–4% and Indonesia about 0.5%.

AREAS OF COOPERATION

1. **Economic Cooperation** – ASEAN is India's 4th largest trading partner. India has signed FTA in goods in 2009 along with an FTA in services and investments in 2014 with ASEAN. India has a Comprehensive Economic Cooperation Agreement (CECA) with various countries of the ASEAN region which has resulted in concessional trade and a rise in investments.
2. **Political Cooperation** – ASEAN-India Centre (AIC) was established to undertake policy research, advocacy as well as networking activities with organizations and think-tanks across India and ASEAN.
 - Delhi Dialogue – Annual Track 1.5 event for discussing politico-security and economic issues between ASEAN and India.
3. **Financial Assistance** – India provides financial assistance to the ASEAN nations through various mechanism like ASEAN-India Cooperation Fund, ASEAN-India S&T Development Fund and ASEAN-India Green Fund.
4. **Connectivity** – India has been undertaking several connectivity projects like India-Myanmar-Thailand Trilateral (IMT) Highway and the Kaladan Multimodal Project.
 - India is trying to establish a Maritime Transportation Agreement with ASEAN. It is also planning for a Railway link between New Delhi in India to Hanoi in Vietnam.
5. **Socio-Cultural Cooperation** – In order to boost people-to-people interaction with ASEAN nations, programmes such as inviting ASEAN students to India, introduction of Special Training Course for ASEAN diplomats, exchange of Parliamentarians, etc. is being organized.
6. **Defence Cooperation** – Joint Naval and Military exercises are conducted between India and most of the ASEAN countries.
7. **Maritime Cooperation** – Delhi Declaration has been adopted by India-ASEAN to cooperate in maritime domain.
 - India is developing its maiden deep-sea port in Indonesia's Sabang which will not only give India better access to the South Asian markets but also give India access to China.

RAMSAY HUNT SYNDROME

SYLLABUS: GS PAPER-III (SCIENCE AND TECHNOLOGY)

- It is a neurological disease in which a virus- **Varicella zoster**, causes inflammation of the nerves involved in facial movements.
- When the nerves get inflamed, they lose their ability to function leading to temporary facial palsy or paralysis.

SYMPTOMS

- Painful red rash and blisters in and around the ear along with facial paralysis on the same side.
- Hearing loss in the ear that has been impacted apart from Tinnitus or ringing sounds.
- Inability to close the eyes causes dryness.
- Vertigo or spinning sensation.
- Weakness of one side of the face in addition to difficulty in closing one eye and eating as food falls off from the affected side.

PROGRESSION OF THE DISEASE

- Initially, the patient may complain of facial weakness and little difficulty in closing one eye.
- The disease fully manifests in a matter of 2–3 days.
- Prompt treatment after diagnosis can speed up the recovery and reduce chances of severe nerve damage.