

**DAILY
CURRENT
AFFAIRS
ANALYSIS**

 LAKSHYA ACADEMY®

26 AUGUST 2023

1 – About Heat waves in Mediterranean Sea:

GS I

Topic → Geography related issues

- **Context:**

- The Mediterranean has been experiencing extreme temperatures for several weeks.

- **What do ocean heat waves consist of?**

- A marine heat wave (MHW) is an instance of extreme weather.
- When the sea surface temperature rises by three or four degrees Celsius for at least five days in a row, it occurs.
- MHWs can last anywhere from a few weeks to many years.

- **Issues with a warm sea:**

- **Suffocation:**

- The marine life is in risk of suffocation.
- Less oxygen is available to breathe in warm water because gases like oxygen and carbon dioxide dissolve more easily at lower temperatures.

- **Higher metabolism:**

- Warmer temperatures, on the other hand, also speed up metabolism, necessitating more frequent breathing in animals.
- Additionally, the risk that marine animals would starve to death is increased by such a combination.

- **We need more food:**

- As the temperature rises, so does the rate of metabolism, and to maintain this rate, the organisms need more food.

- **Abundance of algae:**

- Additionally, algal blooms are more common in waters that are warmer.

- These blooms have the potential to severely lower oxygen levels and produce poisons that are harmful to fish, marine animals, and birds.
- **Lethal to benthic species:**
 - The most vulnerable species to high water temperatures are those that dwell at the bottom of lakes, rivers, and oceans.
 - Corals, mussels, sponges, starfish, and plants like sea grass are examples of these benthic organisms, which frequently have ties to rocks or solid ground.
 - They are unable to move when it is too hot.
 - Researchers discovered extensive extinctions of benthic species spanning thousands of kilometres of the Mediterranean coastline between 2015 and 2019.
- **The significance of benthic species:**
 - There are several benthic organisms that are essential to marine ecology.
 - They clean lakes, rivers, and oceans by filtering the water by eating dead animals.
 - Humans use certain species as food sources, and other animals exploit them as important resources.
 - Soft corals, seaweed, and seagrasses are examples of benthic creatures that provide some of the principal ocean habitats.
- **Loss for Posidonia Oceanica:**
 - Heat is very harmful to Posidonia oceanica, the Neptune grass.
 - The enormous, slowly expanding seagrass is unique to the Mediterranean region.
 - Because it is a significant natural carbon sink and one of the greatest ecosystems for long-term carbon storage because it stores more carbon per square metre than forest ecosystems, this species is very important to humans.
- **Benefits for some species:**
- **Vibrant jellyfish:**
 - Increased temperatures, farm runoff of fertiliser, and sewage runoff are all factors in the growth of jellyfish.
 - Due to habitat loss and exploitation, jellyfish have few or no predators.
 - When currents push the creatures together, the Mediterranean turns into a hotspot for jellyfish.
- **Unusual types:**
 - The majority of invasive species on the earth, 1,000, reside in the water.

- These circumstances clearly benefit invading species from warmer oceans, despite the fact that they are unrelated to global warming or rising temperatures.
- Alien species may have a big impact on ecosystems.
- For instance, the environment of the eastern Mediterranean has been impacted by invasive seaweed-eating Rabbitfish from the Indo-Pacific and Red Sea.
- There are now underwater deserts instead of lush seaweed forests.
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- **Impact of the Mediterranean heat wave on people:**
- **Influencing the fishing industry:**
- The local fishing industry is already being damaged by rising seas.
- Fishermen are capturing fewer common species, not more exotic fish that are more difficult to sell.
- **Coastal ecosystem: its effects:**
- Loss of habitat may result in a general decline in fish populations, and the removal of seagrass leaves coasts more vulnerable to storms in the future.
- **Impacts on tourism:**
- Poorly maintained underwater environments won't attract divers as frequently, which could hurt the tourism industry.
- **Moving forward:**
- **Lowering of emissions:**
- All scientists agree that if humanity wish to preserve the Mediterranean Sea's ecosystem, they must stop emitting greenhouse gases.
- **Managing algal blooms:**
- The first and most important measure is to stop the spread of algal blooms, which are exacerbated by runoff from industry, sewage, and agriculture.
- **Commitment to the goal of the UN:**
- Scientists also think that the UN goal of protecting 30% of the world's seas by 2030 will directly help the Mediterranean.
- Currently, only 8% of the ocean is under protection.

- **Protected area growth:**

- There ought to be additional locations where fishing, scuba diving, and boating are completely prohibited.
- Strongly protected areas are recovering more quickly.

- **Introducing beneficial invader species:**

- The tropical *Halophila stipulacea* Ascherson species, which is native to the Red Sea, can withstand rising temperatures and salinities better than other seaweeds.
- Because it is an invasive species, seagrass beds may be able to continue to exist and provide some of its essential ecological services in a smaller area of the Mediterranean.
- The native Neptune grass may endure rising Mediterranean temperatures if exposed to heat as young sprouts.

- **Information about the Mediterranean Sea:**

- **The Mediterranean Sea connects to the Atlantic Ocean and is almost fully surrounded by land:**

- by the Western, Southern, and northern Anatolia,
- South is towards North Africa, and
- by the eastern Levant.
- Despite being periodically incorporated into the Atlantic Ocean, the Mediterranean is commonly thought to as a separate body of water.
- Despite the Mediterranean Sea making up 0.7% of the world's ocean surface area, the Strait of Gibraltar, which separates the Iberian Peninsula in Europe from Morocco in Africa, is only 14 km (9 km) wide.
- The Mediterranean Sea is home to a number of islands, some of which are volcanic in origin.
- The two largest islands are by far Sicily and Sardinia.
- The Nile is the longest river in the drainage basin and flows into the Mediterranean Sea, along with many other countries.

Source → The Hindu

2 – Details of Vegetated canopies:

GS III

Topic → Indian Agriculture

- **Context:**

- One Spanish effort to bring back greenery to urban areas is the installation of vegetated awnings or canopies.

- **With regard to canopying foliage:**

- The awnings are tensioned sail-like structures that have been attached to the building facades close by.
- They imitate the natural canopies found in forests and among various plant species.
- The 'Greenshades' are light and easy to install, providing for the appearance of vegetation and shade in commercial streets and public areas where trees or other plants are commonly lacking.

- **How they work:**

- It is necessary to lay down the specified geotextile substrate or material in order to prepare the sails with supports and anchors.
- An irrigation system is built at the highest point, where water naturally falls and soaks the substrate.
- Along with water, fertiliser keeps the vegetation healthy.
- The excess water is captured and directed into a drainage system at the lowest point.
- After four months, the shadow should be completely covered in vegetation.
- The plants are raised hydroponically, with a water source and an outlet for draining.

- **Advantages:**

- The purpose of tensile gaps is to reduce the temperature of the cover's interior and exterior.
- This phenomenon is brought on by evapotranspiration, which is the mechanism by which plants release water into the atmosphere.
- The plants used in these awnings are among the finest at absorbing pollutants like carbon monoxide and nitrogen oxide.
- To reduce noise pollution, the substrate also absorbs sound waves.
- A square metre of a vegetated canopy produces the oxygen required by a person for a whole year in addition to screening harmful pollutants.
- Another advantage of the hanging planter is the centralization of the water and lighting systems.

- Savings are intended since the lights have motion sensors that turn on the street lights as needed.
- Cities that use these canopies may eventually see a rise in biodiversity and a healthier ecosystem that supports a variety of fauna.

Source → The Hindu

3 – About Maharaja Bir Bikram Manikya Bahadur:

GS I

Topic → Modern Indian History

- **Context:**
- The Prime Minister of India paid tribute to Maharaja Bir Bikram Manikya Bahadur on the occasion of his birth anniversary
- **Important details:**
- Despite being nominally crowned in 1941, he never came into possession of regal authority.
- He ruled as the notional monarch for two years before to the state's 1949 union with India.
- As he was a minor at the time, the state was governed by a Council of Regency, which was headed by his mother Kanchan Prava Devi.
- From the Tripura East Lok Sabha seat, he was elected three times—in 1967, 1977, and 1989—on an INC ticket.
- He married Padmavati Raje 'Akkasaheb' Scindia, the Gwalior State's Maharaja Jivajirao Scindia's eldest child.
- Later, he married Bibhu Kumari Devi, a descendant of Raja Lav Shah.

Source → The Hindu

4 – Details of India’s ageing workforce:

GS III

Topic → Demography related topics

- **Context:**

- The workforce in India is rapidly ageing, despite the fact that the country's population may be the youngest in the world, according to an analysis of the Economic Outlook statistics from the Centre for Monitoring Indian Economy (CMIE). In other words, young people are increasingly being pushed out of the job market.

- **Important details:**

- **What is an ageing workforce?**

- A workforce that is ageing essentially indicates that fewer young people are employed in India while more people over the age of 60 are employed.

- **Youth as a category:**

- Young people are defined as those who are between the ages of 15 and 24 in the CMIE data.

- **Three categories can be used to categorise the workforce:**

- those under 30 who are at least 15 years old,
- individuals under 45 who are at least 30 years old but under 60,

- **What does the data show?**

- The results show that India's youth share fell from 25% in 2016–17 to just 17% at the end of the most recent fiscal year in March.
- Even the middle group's share dropped from 38% to 33% within the same time period.
- The oldest age group has, however, seen their proportion rise from 37% to 49%.
- In other words, in only the previous seven years, the percentage of the workforce that is 45 years of age or older has climbed from one-third to almost one-half.
- According to data, while there have been fewer people employed overall (down from 41.27 crore to 40.58 crore), youth involvement has declined the most.
- In 2016–17, 10.34 crore people under the age of 30 were working.

- By the end of 2022–2023, this sum had dropped to just 7.1 crores, a decrease of more than 3 crores.
- The population of those over 45 increased at the same time that overall employment levels declined.
- **Why is India's labour force getting older?**
- Even though their numbers are growing, young people are being squeezed out of the labour market.
- The "Employment Rate" measure can be examined to keep track of this.
- Any population or age group's employment rate (ER) reflects the proportion of that population or age group that is employed.
- If there were 100 people in the 15–29 age bracket and only 10 of them were employed, the ER would be 10%.
- There were more young people, up from 35.49 crore in 2016–17 to 38.13 crore in 2022–23.
- The aggregate number of people in this age bracket who were employed, however, may have decreased over time.
- As a result, the Employment Rate for this age group has fallen significantly, which reflects this.
- It declined from 29% to just 19%.
- **Employment rate for middle-aged workers:**
- The next age group has also seen a decline in employment, albeit more modestly.
- Additionally, the employment rates for this age group were already significantly higher.
- **Employment rate by age:**
- The employment rates in the oldest age group have fallen the least.
- Only among this age group has there been an overall increase in the number of employed people.
- Another problem is that the population of this cohort as a whole grew even more, which is why the ER has somewhat dropped.
- In addition to being among the select group who had an increase in the employment rate, this cohort also saw the biggest growth in the ER over the prior seven years.
- **Additional Information:**
- Ages 25 to 29 now have a higher employment rate than they did seven years ago.
- However, a closer look at the absolute statistics reveals that the rise in emergency room visits is actually due to the sharp fall in this cohort's overall population, not to a rise in employment among this age group.
- Despite having a stronger ER, this cohort is unable to get the statistics for the youth (15 to 29 years) group.

- **Moving forward:**

- The data unmistakably shows that even while India's youth population is quickly growing, this fact does not guarantee that young people will have access to more jobs.
- India's labour force is actually rapidly ageing.
- This is because young people in India struggle to find work and appear to be gradually being passed over by elder Indians.
- The increase is striking enough to merit policymakers' attention even after accounting for the possibility that many young people may be seeking higher education.
- According to evidence, youth unemployment in India is at its greatest level and typically rises with educational attainment.
- If these patterns don't change, India might continue to experience the somewhat paradoxical situation of having a young country with an elderly workforce.

Source → **The Hindu**

5 – About Drilling in the North Sea:

GS II

Topic → International Issues

- **Context:**

- After the U.K., environmental experts are worried. Recently, suggestions for greater fossil fuel drilling off the coast of Britain received the support of Prime Minister Rishi Sunak. This occurs as the world's climate change continues to progress towards irreversibility.

- **Important details:**

- The step will help Britain become more energy independent.
- The North Sea Transition Authority (NTSA), which is in charge of overseeing the oil, gas, and carbon storage industries, predicts that the first of the new licences will be awarded in the autumn and that the round will award a total of about 100 licences.

- **History of North Sea drilling:**

- Geographically, Norway, Denmark, and Germany are located to the east of the North Sea, as are the Netherlands, Belgium, and France to the south, and England and Scotland to the west.
- When the 1958 Geneva Convention on the Continental Shelf became the first international treaty to guarantee nations' rights to the continental shelves that lie near to their borders, the North Sea was first explored.
- The accord came into force in 1964, shortly after the United Kingdom. The Parliament approved the Continental Shelf Act.
- The Act permits the exploration and exploitation of the continental shelf in accordance with the 1958 convention.
- It specified the geographical bounds of the UK. is surrounded by a significant quantity of oil and gas reserves.
- The country's first exploration permit. The North Sea was given to British Petroleum (BP) in September 1964.
- In the UK, BP started more than 15 fields during the course of the next 15 years. (Along with four in the Norwegian North Sea). Arctic Ocean.
- By the 1980s, there were over a hundred facilities looking for oil and gas in the North Sea as additional British, European and American businesses kept up their exploration.
- The North Sea's top output year was 1999, when it produced 1,37,099 thousand tonnes of crude oil and natural gas liquids.
- By 2022, the overall production had decreased to 38,037 thousand tonnes.
- **Worries about offshore drilling:**
- **Global warming and climate change:**
- In addition to worsening the threat posed by climate change, drilling for fossil fuels in seas and oceans also warms the water and raises sea levels.
- **Loss of biodiversity:**
- The marine ecosystem, coral reefs, and shellfish are all at risk from offshore drilling due to both direct hazards to marine biodiversity and indirect risks from acidic waters brought on by carbon pollution settling into oceans.
- **Conclusion:**
- in the 2023 Progress Report of the UK. Parliament and the Climate Change Committee (CCC) claim that the U.K. has not adopted the climate change adaptation recommendations made by the second National Adaptation Programme.
- The United Kingdom's government is required to develop National Adaptation Programmes as statutory programmes to help the country prepare for climate change, in accordance with the Climate Change Act.

- The second national adaptation programme covers the period from 2018 to 2023.
- There is very little evidence of adaptation uptake at the level needed to effectively reduce climate risk.
- According to the Climate activity Tracker, the United Kingdom's climate activity is not in accordance with the Paris Agreement.
- Despite being practically adequate overall, the United Kingdom's Nationally Determined Contributions (NDCs) and long-term targets do not accurately reflect its contribution to the international effort to address climate change.
- New oil and gas extraction plans cannot be licenced due to the 1.5°C limit on temperature rise.

Source → The Hindu

6 – Details of Dark Side of the Moon:

GS III

Topic → Science and Technology related issues

Context:

- In ahead of the Chandrayaan-3 lander's anticipated lunar landing, the Indian Space Research Organisation (ISRO) has made images of the moon's far side available.

Important details:

- The far side of the moon is often known as the "dark side" of the moon since it is permanently hidden from Earth.
- The Lander Hazard Detection and Avoidance Camera (LHDAC) of the lander took the images.
- The "dark side of the moon" is the side of the Moon that cannot be seen from Earth.
- Both the far side of the Moon, which is sometimes wrongly thought of as the "dark side," and the near side, which is the side that faces us, experience day and night just like any other celestial body.
- The reason it is known as the dark side is that most humans have chosen not to look at it.
- 14 days on Earth are equivalent to one lunar rotation.
- The far side was unknown until 1959, when the Soviet spacecraft Luna 3 captured images of it.

- **Interpretation of the distant side:**

- **The potential of frozen water:**

- Given that we haven't previously explored that side of the Moon, there is a chance that water may be present near the south pole.
- Because the Moon's gravity is insufficient to support an atmosphere, the vacuum allows for the presence of water as a solid or vapour.
- It's likely that over millions of years, the polar regions' frozen water that was unaffected by solar radiation accumulated, leading to the formation of ice on or near the surface.

- **Mystery:**

- For so long, the far side was kept a secret that it became a mystery.
- Some individuals questioned whether it seemed significantly different from the side we knew.

- **Scientific interest:**

- Exploring the Moon's far side allows us to study its geological features, impact craters, and other phenomena that may differ from what we see on the near side.

- **Using radio telescopes:**

- Scientists have proposed building enormous radio telescopes on the far side to more effectively study the early universe and cosmic events while being shielded from the radio noise of our planet.

- **Future lunar missions:**

- The far side might be used as a key staging place for upcoming lunar expeditions.
- It provides a unique environment for research and could be the location of a future lunar settlement.

Source → The Hindu