

Daylight saving time

November 4, 2020

In news: On 1st November, 2020, clocks in the US fell back an hour signalling the end of Daylight Saving Time (DST) this year.

Placing it in syllabus: Time zones

Static dimensions

1. What is daylight saving time?
2. Which countries follow this model?
3. Advantages of Daylight saving time

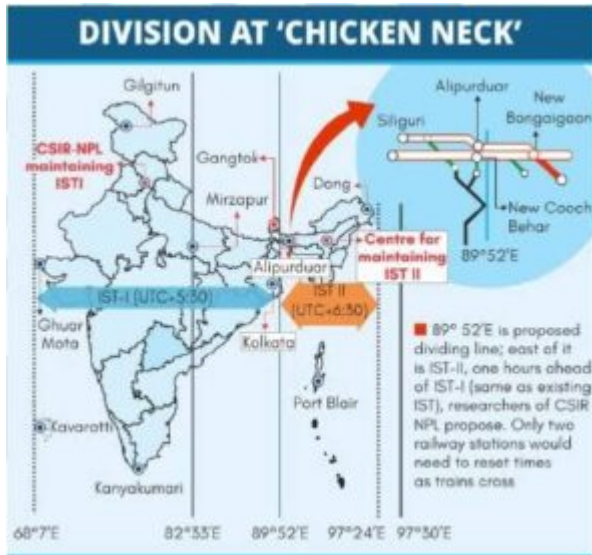
Current dimensions

1. Demand for 2 IST's in India
2. Demand for daylight saving time in India

Content:

Demand for 2 IST's in India:

- India extends from $68^{\circ}7'E$ to $97^{\circ}25'E$, with the spread of 29° representing almost two hours from the geographic perspective.
- This has led to the argument that early sunrise in the easternmost parts, the Northeast causes the loss of many daylight hours by the time offices or educational institutions open, and that early sunset, for its part, leads to higher consumption of electricity.



- The custodian of Indian Standard Time (IST) proposed two time zones IST-I and IST-II for the country as follows:

IST-I would be same as current IST, that is, UTC +5:30

IST-II would be UTC +6:30 owing to the difference of one hour between eastern and western part of the country.

- The borderline between two time zones would have been $89^{\circ}52'E$, the narrow border between Assam and West Bengal.
- States west of the line would continue to follow IST (to be called IST-I).
- States east of the line – Assam, Meghalaya, Nagaland, Arunachal Pradesh, Manipur, Mizoram, Tripura, Andaman & Nicobar Islands – would follow IST-II.
- However, the government has not taken any decision on separate time zones.
- A committee set up in 2002 did not recommend two time zones because of the complexities involved.

Demand for daylight saving time in India:

- Recently researchers have noted that instead of two time zones for India, the Indian Standard Time (IST) can be advanced by 30 minutes to reduce problems caused due to the sheer vastness of India.

- Having two different time zones could lead to confusion, possibility of accidents and a likelihood of “misuse as a political means to divide the country”.
- India’s Planning Commission had recommended the division of the country into two time zones in 2006 but no action was taken.
- In January 2014, the-then Assam Chief Minister Tarun Gogoi had proposed that Assam follow the Chai Bagaan time, or tea garden time.

Chai Bagan time is the time period of Assam people who are working in the tea garden (Chai Bagan). The working time starts from 9 to 5 pm, which is one hour early compared to rest of India. As the sun rises in the east, sunrise and sunset in the Assam or northeastern states is 2 hours early. Hence if they start work in same time as in the other parts of India, they will end up with darkness in the evening early. So many tea estates follow Chai bagan time that is one hour ahead of IST.

- By advancing the IST by 30 minutes, the peak electricity load demand in the evening will be reduced by 17-18 per cent.
- Changing the IST from Greenwich Mean Time (GMT) + 5:30 to GMT + 6:00 is set to save India about 3.5 billion units annually, which is about 0.3 per cent to 0.4 per cent of annual consumption.

Five Asian countries who have implemented a one-time advancement in their clocks are China, Kyrgyzstan, Malaysia, Singapore and South Korea.

What is daylight saving time?

- DST is the practice of resetting clocks ahead by an hour in spring, and behind by an hour in autumn (or fall).
- During these months, countries that follow this system get an extra hour of daylight in the evening.
- Because the spring to fall cycle is opposite in the

Northern and Southern Hemispheres, DST lasts from March to October/November in Europe and the US, and from September/October to April in New Zealand and Australia.

- Dates for this switch, which happens twice a year are decided beforehand.
- By law, the 28 member states of the European Union switch together – moving forward on the last Sunday of March and falling back on the last Sunday in October.
- In the US, clocks go back on the first Sunday of November.

Which countries follow this model?

- DST is in practice in around 70 countries, including those in the European Union.
- India does not follow daylight saving time.
- The countries near the Equator do not experience high variations in daytime hours between seasons.
- In the US, it is practised everywhere except in Hawaii and most of Arizona.
- In Australia, DST is observed in New South Wales, Victoria, South Australia and Tasmania and some other smaller territories.
- Most Muslim countries do not use DST – during the holy month of Ramzan, this could mean delaying the breaking of the fast for longer.
- Morocco has DST but suspends it during Ramzan.
- Iran has DST and stays with it even during Ramzan.

Advantages of Daylight saving time:

- The rationale behind setting clocks ahead of standard time, usually by 1 hour during springtime, is to ensure that the **clocks show a later sunrise and later sunset.**
- Individuals will wake an hour earlier than usual, complete their daily work routines an hour earlier, and have an **extra hour of daylight at the end.**
- DST is mainly followed to **save energy by minimizing the**

use of artificial lighting to save fuel.

However, the **disadvantage** of DST is the disruption of the body clock or circadian rhythm. DST increases the risk of heart attack by 25%, disrupted sleep patterns might affect memory, learning, social interactions and overall cognitive performance.

Mould your thought:

1. Why is there a demand for two Indian Standard Time (IST) zones? Is it a feasible option?

Approach to the answer:

- Explain the present problem with time zone
- Write about proposal of 2 time zones
- Write its advantages and disadvantage
- What can be done? (Chai Bagan time)