



Date - 24 August 2021

Jhum Cultivation in India

Context:

According to a recent NITI Aayog report on shifting cultivation, which is popular in the northeastern states, the Ministry of Agriculture should launch a “mission on shifting cultivation” to ensure inter-ministerial coordination.

Why the need?

1. Divergent approaches to shifting cultivation exist in both the federal and state government departments of forests and environment, agriculture, and affiliated departments.
2. This creates misunderstanding among grass-roots level workers and jhum farmers.

Jhum Cultivation

1. Agriculture that is based on slash and burn techniques.
2. To feed their families, farmers clear a plot of land and grow cereals and other food crops. Farmers transfer and clear a new plot of land for cultivation when soil fertility declines. This sort of shifting allows natural processes to renew the soil's

fertility; land productivity is poor in this style of agriculture because the farmer does not apply fertilisers or other modern inputs.

3. In different sections of the country, it goes by different names.
4. It's found in the northeastern states of Assam, Meghalaya, Mizoram, and Nagaland; Pamlou in Manipur, Dipa in Chhattishgarh's Bastar district, and a few other places.

Jhumming: Agriculture based on slash and burn

1. In Mexico and Central America, it's known as 'Milpa.' America, Venezuela's 'Conuco,' and Argentina's 'Roca,' 'Masole' in Central Africa, 'Ladang' in Brazil, In Indonesia, 'Ray' is used, but in Vietnam, 'Ray' is used.

This style of farming is seen throughout India.

1. In Madhya Pradesh, it's known as "Bewar" or "Dahiya."
2. 'Podu' or 'Penda' in Andhra Pradesh
3. In Odisha, this is known as 'Pama Dabi,' 'Koman,' or 'Bringa."Kumari' in the Western Ghats.

What does the report say?

1. Between 2000 and 2010, the amount of land under shifting cultivation decreased by 70%
2. According to data from the Indian Council of Forestry Research and Education, which was published in the Ministry of Statistics and Programme Implementation's Statistical YearBook-2014, the area under jhum cultivation decreased from 35,142 sq km in 2000 to 10,306 sq km in 2010.
3. The Wastelands Atlas Map reveals a decline in shifting agriculture in north-eastern States from 16,435.18 sq km to 8,771.62 sq km in two years and calls for greater data gathering and validity of the findings.

Source: The Hindu

Ladakh Glacier

Context:

1. Warming and limited winter precipitation in Ladakh have caused glaciers to retreat.

The study

1. According to a recent study, the Pensilungpa Glacier in Ladakh's Zaskar Valley is retreating due to increased temperature and less precipitation during winters.
2. The Wadia Institute of Himalayan Geology (WIHG) in Dehradun, an autonomous body under the Department of Science and Technology, has been working on various aspects of glaciology since 2015, including glacier health (mass balance) monitoring, dynamics, discharge, past climatic conditions, and predictions for future climate change and its impact on glaciers in this region.
3. A group of experts from the institute travelled to Zaskar, Ladakh, to investigate a less-explored Himalayan region.

The findings of the study

1. According to the study, field surveys over a four-year period (2015–2019) revealed that the glacier is now retreating at a rate of 6.7 plus/minus 3 metres per year.
2. The research links the observed recessional tendencies of the Pensilungpa Glacier to an increase in temperature and decrease in precipitation during winters, according to the study published in the journal Regional Environmental Change.

3. The study also shows that debris cover has a considerable impact on the mass balance and retreat of the glacier's terminal, particularly in the summer.
4. Furthermore, the three-year mass balance data (2016–2019) revealed a negative trend with a low accumulation area ratio.
5. According to the study, as air temperatures continue to rise in line with global trends, melting will accelerate, and summer precipitation at higher altitudes may change from snow to rain, influencing the summer and winter patterns.

Source: The Hindu

Syllabus: GS 3 (Environment)

Rainfall on the ice peak of Greenland

Context

1. For the first time, rain has fallen on the ice peak of Greenland.
2. Rain fell for the first time on record at the highest point on the Greenland ice sheet last week.
3. This is another troubling sign of warming for the ice sheet, which is already melting at an increasing rate.
4. It's not good to have water on ice. It makes the ice sheet more vulnerable to melting on the surface.
5. Water is not only warmer than snow, but it is also darker, allowing it to absorb more sunlight.

The rise

1. Sea levels are rising as a result of this meltwater flowing into the ocean.
2. Greenland's ice sheet, which is the world's second-largest behind Antarctica's, has already contributed to nearly 25% of global sea level rise in recent decade
3. As global temperatures rise, this percentage is predicted to rise.

Recordings

1. On August 14 rain poured for many hours above the ice sheet's 3,216-meter peak, where temperatures were above freezing for roughly nine hours.
2. The ice cap's temperatures usually seldom rise above freezing, yet they have done so three times in less than a decade.
3. From August 14 to August 16, Greenland received 7 billion tonnes of rain, the most since records began in 1950.
4. Rain and high temperatures caused widespread melting around the island, which saw a seven-fold increase in surface ice mass loss on August 15 compared to the usual for mid-August.

Earlier stats:

1. In late July, Greenland had a huge melting episode, with enough ice melting in a single day to cover the United States state of Florida in 2 inches (5 cm) of water.
2. Both the melting and the rain last week were caused by air circulation patterns that resulted in warm, wet air covering the island for a short time.

The major concern:

1. The worrying rain at Greenland's peak is not an unusual event.
2. It is one of several "alarm bells" signalling the need to cut greenhouse gas emissions alongside rising floods, fires, and other extremes.

Source: The Hindu

Syllabus: GS3 (Environment)

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