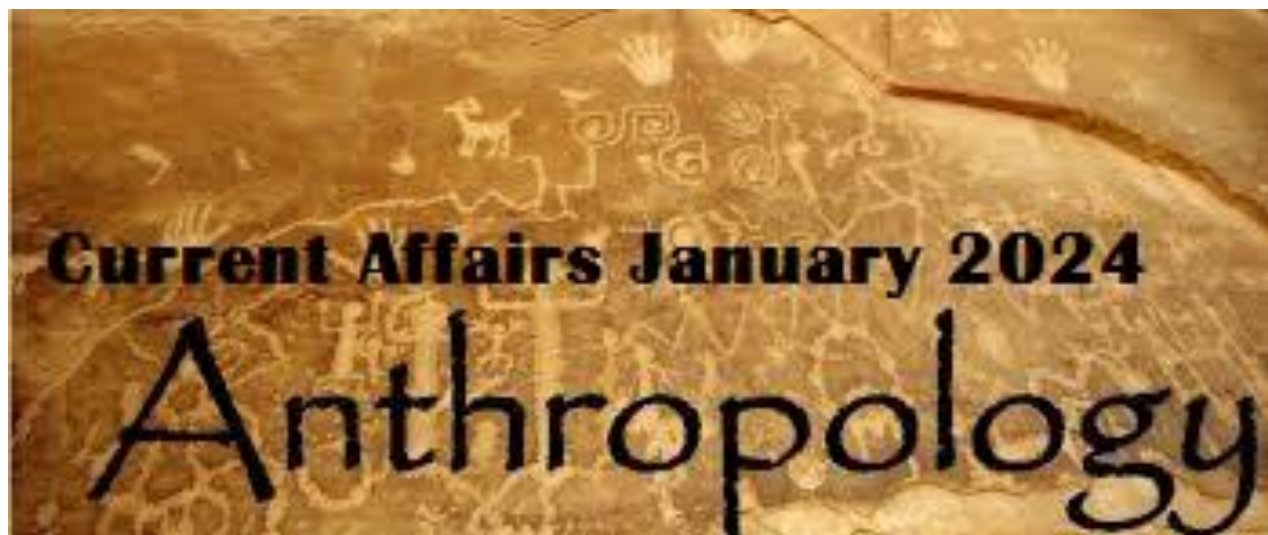


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PAPER -1

PHYSICAL & ARCHAEOLOGICAL ANTHROPOLOGY

1. Over 57,000 Years Old – Scientists Discover Oldest Known Neanderthal Cave Engravings

Topic in Syllabus : 1.3 Main branches of Anthropology, their scope and relevance: Archaeological Anthropology.



Finger marks on a cave wall in France were created prior to the arrival of *Homo sapiens* in the region.

According to a recent study published in the journal *PLOS ONE* by Jean-Claude Marquet and colleagues from the University of Tours, France, the oldest engravings made by Neanderthals have been discovered on a cave wall in France.

Over the past few decades, research has shed light on the cultural sophistication of Neanderthals. However, our understanding of their symbolic and artistic expression remains limited.

Only a short list of symbolic productions is attributed to Neanderthals, and the interpretation of these is often the subject of debate. In this study, Marquet and colleagues identified markings on a cave wall in France as the oldest known Neanderthal engravings. The cave is La Roche-Cotard in the Centre-Val de Loire of France, where a series of non-figurative markings on the wall are interpreted as finger-flutings, marks made by human hands.

The researchers made a plotting analysis and used photogrammetry to create 3D models of these markings, comparing them with known and experimental human markings. Based on the shape, spacing, and arrangement of these engravings, the team concluded that they are deliberate, organized, and intentional shapes created by human hands.

The team also dated cave sediments with optically-stimulated luminescence dating, determining that the cave became closed off by infilling sediment around 57,000 years ago, well before *Homo sapiens* became established in the region.

This, combined with the fact that stone tools within the cave are only Mousterian, a technology associated with Neanderthals, is strong evidence that these engravings are the work of Neanderthals.

Because these are non-figurative symbols, the intent behind them is unclear. They are, however, of a similar age with cave engravings made by *Homo sapiens* in other parts of the world. This adds to a growing body of evidence that the behavior and activities of Neanderthals were similarly complex and diverse as those of our own ancestors.

The authors add: "Fifteen years after the resumption of excavations at the La Roche-Cotard site, the engravings have been dated to over 57,000 years ago and, thanks to stratigraphy, probably to around 75,000 years ago, making this the oldest decorated cave in France, if not Europe!"

2. Endogamy may be the cause of the Persistence of harmful genetic variants in India

Topic in Syllabus: 2.3 Marriage: Definition and universality; Laws of marriage (endogamy, exogamy, hypergamy, hypogamy, incest taboo);



A study by **Centre for Cellular and Molecular Biology**, Hyderabad has recently found causes of **cardiac failure** at younger ages in the **Indian** population.

- **Deoxyribonucleic acid (DNA)** of such individuals lacked **25 base pairs** in a **gene** crucial for the **rhythmic beating** of the **heart** (scientists call it a **25 base-pair deletion**).

About 25 base pair deletions:

- 25 base pair deletion is a risk **allele** for late-onset **left ventricular (LV) dysfunction**, hypertrophy, and **heart failure**.
- A 25-base pair (25bp) deletion in the **MYBPC3 gene** is enriched in **South Asians**, being **unique** to the **Indian** and **Southeast Asian** population and **not** found elsewhere.
- This affects about **4%** of the **Indian population**.

Key findings of the study:

Genetic differences among populations:

- Whole-genome sequencing of individuals from India, Pakistan, and Bangladesh found **genetic differences** between people from different regions of the **subcontinent**.
- These genetic differences were even found at the level of **smaller geographies** within **India**.
- There was **little mixing** between individuals from **different communities**.
- **Endogamous practices** (including caste-based, region-based, and consanguineous marriages) in the subcontinent are responsible for such **conserved genetic patterns** at the community level.
- In ideal conditions, there would have been **random mating** in a **population**, leading to **greater genetic diversity** and **lower** frequency of **variants** linked to **disorders**.
- The **cultural aspects** of Indians might need mending to improve the population's health.

Homozygous genotypes:

- The South Indian and Pakistani sub-group showed a **higher frequency of homozygous genotypes**.
- Humans typically have **two copies of each gene**.
- When an individual has two copies of the **same variant**, it is called a **homozygous genotype**.
- Most **genetic variants** linked to **major disorders** are **recessive** in nature and show their effect only when present in **two copies**.
- **Heterozygous individuals** are at **lower** risk of getting affected by **genetic disorders**.
- The main cause of **homozygous** genetic composition is **inbreeding** or **consanguineous marriages** which is prevalent in South India and Pakistan.
- The South Asian cohort has a **higher number of variants** that could **disrupt the functioning of genes**, but there were also **unique variants** that were **not** found in **European** individuals.

- These variants affect many **physiological parameters**, leading to a higher risk of cardiovascular disorders, diabetes, cancers, and mental disorders.

Indian genome mapping:

- **Human Genome Sequencing** was completed in **2003**.
- **African** and **Chinese** population gene sequencing has been done.
- As **India** has a **diverse population**, there is a **need for genome sequencing** of the Indian population for economic, matrimonial, and geographical reasons.
- The Genome India project has been launched in **2020** to sequence **10,000** Indian human genomes.
- The idea of **genetic puritanism** must be taken away to prevent major **hereditary disorders**.

About Human Genome Sequencing:

- The **Human Genome Project (HGP)** was an international scientific research project for determining the **base pairs** that make up **human DNA**, and identifying, mapping, and sequencing all of the genes of the human genome.
- It was **started in 1990** and was **completed** in **2003**.
- The human genome has approximately **3.1 billion base pairs**.
- There are approximately **22,300 protein-coding genes** in human beings.

Significance of the study:

- The study of sequenced human genes was helpful to **identify** the **genetic variants** that **increase** the **risk** for common diseases like cancer and diabetes.
- The study has shown that **identifying unique genetic variants** can help develop **interventions** for major health concerns.

3. Key role of ice age cycles in early human interbreeding

Topic in Syllabus: 1.6 Phylogenetic status, characteristics and geographical distribution of the following



Recent paleogenomic research revealed that interbreeding was common among early human species. However, little was known about when, where, and how often this hominin interbreeding took place. Using paleoanthropological evidence, genetic data, and supercomputer simulations of past climate, a team of international researchers has found that interglacial climates and corresponding shifts in vegetation created common habitats for Neanderthals and Denisovans, increasing their chances for interbreeding and gene flow in parts of Europe and central Asia.

A study published in *Science* indicates that climatic shifts over the past 400,000 years have influenced Neanderthal and Denisovan interbreeding.

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Contemporary humans carry in their cells a small amount of DNA derived from Neanderthals and Denisovans. "Denny," a 90,000-year-old fossil individual, recently identified as the daughter of a Denisovan father and a Neanderthal mother, bears testimony to the possibility that interbreeding was quite common among early human species. But when, where, and at what frequency did this interbreeding take place?

In a recent study published in *Science* on 10 August 2023, researchers from Korea and Italy have joined hands to answer this question. Using fossil data, supercomputer simulations of past climate, and insights obtained from genomic evidence, the team was able to identify habitat overlaps and contact hotspots of these early human species. Dr. Jiaoyang Ruan, Postdoctoral Researcher at IBS Center for Climate Physics (ICCP), South Korea, explains, "Little is known about when, where, and how frequently Neanderthals and Denisovans interbred throughout their shared history. As such, we tried to understand the potential for Neanderthal-Denisovan admixture using species distribution models that bring extensive fossil, archeological, and genetic data together with transient Coupled General Circulation Model simulations of global climate and biome."

The researchers found that Neanderthals and Denisovans had different environmental preferences to start with. While Denisovans were much more adapted to colder environments, such as the boreal forests and the tundra region in northeastern Eurasia, their Neanderthal cousins preferred the warmer temperate forests and grasslands in the southwest. However, shifts in the Earth's orbit led to changes in climatic conditions and hence vegetation patterns. This triggered the migration of both these hominin species towards geographically overlapping habitats, thus increasing the chance of their interbreeding.

The researchers further used insights gained from their analysis to determine the contact hotspots between Neanderthals and Denisovans. They identified Central Eurasia, the Caucasus, the Tianshan, and the Changbai mountains as the likely hotspots. Identification of these habitat overlaps also helped the researchers place 'Denny' within the climatic context and even confirmed the other known episodes of genetic interbreeding. The researchers also noted that the Denisovans and Neanderthals would have had a high probability of contact in the Siberian Altai during ~ 340-290, ~240-190 and ~130-80 thousand years ago.

To further elucidate the factors that triggered the 'east-west interbreeding seesaw,' the team examined the change in vegetation patterns over Eurasia over the past 400 thousand years. They observed that elevated atmospheric CO₂ concentrations and mild interglacial conditions caused an eastward expansion of the temperate forest into central Eurasia, and the dispersal of Neanderthals into Denisovan lands. On the contrary, lower CO₂ concentrations and corresponding harsher glacial climate potentially caused a fragmentation of their habitats, leading to lesser interactions and interbreeding events.

"Pronounced climate-driven zonal shifts in the main overlap region of Denisovans and Neanderthals in central Eurasia, which can be attributed to the response of climate and vegetation to past variations in atmospheric CO₂ and northern hemisphere ice-sheet volume, influenced the timing and intensity of potential interbreeding events," remarks senior author Axel Timmermann, Director, ICCP and Professor at Pusan National University, South Korea.

In summary, the study shows that climate-mediated events have played a crucial role in facilitating gene flow among early human species and have left lasting impressions on the genomic ancestry of modern-day humans.

4. How ancient, recurring climate changes may have shaped human evolution

Topic in Syllabus: 1.4 Human Evolution and emergence of Man:



Shifting habitats implicate a disputed ancestor in the rise of *Homo sapiens* and Neandertals

Recurring climate changes may have orchestrated where *Homo* species lived over the last 2 million years and how humankind evolved.

Ups and downs in temperature, rainfall and plant growth promoted ancient hominid migrations within and out of Africa that fostered an ability to survive in unfamiliar environments, say climate physicist and oceanographer Axel Timmermann and colleagues. Based on how the timing of ancient climate variations matched up with the comings and

goings of different fossil *Homo* species, the researchers generated a novel – and controversial – outline of human evolution. Timmermann, of Pusan National University in Busan, South Korea, and his team present that scenario April 13 in *Nature*.

Here's how these scientists tell the story of humankind, starting roughly 2 million years ago. By that time, *Homo erectus* had already begun to roam outside Africa, while an East African species called *H. ergaster* stuck close to its home region. *H. ergaster* probably evolved into a disputed East African species called *H. heidelbergensis*, which split into southern and northern branches between 850,000 and 600,000 years ago. These migrations coincided with warmer, survival-enhancing climate shifts that occur every 20,000 to 100,000 years due to variations in Earth's orbit and tilt that modify how much sunlight reaches the planet.

Then, after traveling north to Eurasia, *H. heidelbergensis* possibly gave rise to Denisovans around 430,000 years ago, the researchers say. And in central Europe, harsh habitats created by recurring ice ages spurred the evolution of *H. heidelbergensis* into Neandertals between 400,000 and 300,000 years ago. Finally, in southern Africa between 310,000 and 200,000 years ago, increasingly harsh environmental conditions accompanied a transition from *H. heidelbergensis* to *H. sapiens*, who later moved out of Africa.

But some researchers contend that *H. heidelbergensis*, as defined by its advocates, contains too many hard-to-categorize fossils to qualify as a species.

An alternative view to the newly proposed scenario suggests that, during the time that *H. heidelbergensis* allegedly lived, closely related *Homo* populations periodically split up, reorganized and bred with outsiders, without necessarily operating as distinct biological species. In this view, mating among *H. sapiens* groups across Africa starting as early as 500,000 years ago eventually produced a physical makeup typical of people today. If so, that would undermine the validity of a neatly branching evolutionary tree of *Homo* species leading up to *H. sapiens*, as proposed by Timmermann's group.

The new scenario derives from a computer simulation of the probable climate over the last 2 million years, in 1,000-year intervals, across Africa, Asia and Europe. The researchers then examined the relationship between simulated predictions of what ancient habitats were like in those regions and the dates of known hominid fossil and archaeological sites. Those sites range in age from around 2 million to 30,000 years old.

Previous fossil evidence indicates that *H. erectus* spread as far as East Asia and Java . Timmermann's climate simulations suggest that *H. erectus*, as well as *H. heidelbergensis* and *H. sapiens*, adapted to increasingly diverse habitats during extended travels. Those migrations stimulated brain growth and cultural innovations that "may have made [all three species] the global wanderers that they were," Timmermann says.

The new habitat simulations also indicate that *H. sapiens* was particularly good at adjusting to hot, dry regions, such as northeastern Africa and the Arabian Peninsula.

Climate, habitat and fossil data weren't sufficient to include additional proposed *Homo* species in the new evolutionary model, including *H. floresiensis* in Indonesia and *H. naledi* in South Africa

It has proven difficult to show more definitively that ancient environmental changes caused transitions in hominid evolution. For instance, a previous proposal that abrupt climate shifts resulted in rainy, resource-rich stretches of southern Africa's coast, creating conditions where *H. sapiens* then evolved still lacks sufficient climate, fossil and other archaeological evidence.

Paleoanthropologist Rick Potts of the Smithsonian Institution in Washington, D.C., has developed another influential theory about how climate fluctuations influenced human evolution that's still open to debate. A series of climate-driven booms and busts in resource availability, starting around 400,000 years ago in East Africa, resulted in *H. sapiens* evolving as a species with a keen ability to survive in unpredictably shifting environments, Potts argues . But the new model indicates that ancient *H. sapiens* often migrated into novel but relatively stable environments,

Timmermann says, undermining support for Potts' hypothesis, known as variability selection.

The new findings need to be compared with long-term environmental records at several well-studied fossil sites in Africa and East Asia before rendering a verdict on variability selection, Potts says.

The new model "provides a great framework" to evaluate ideas such as variability selection, says paleoclimatologist Rachel Lupien of Lamont-Doherty Earth Observatory in Palisades, N.Y. That's especially true, Lupien says, if researchers can specify whether climate and ecosystem changes that played out over tens or hundreds of years were closely linked to ancient *Homo* migrations.

SOCIO – CULTURAL ANTHROPOLOGY

1. Combat or Climate: The Real Cause of Small-Scale Societies' Collapse

Topic in Syllabus: 2.2 The Nature of Society:



A new study concludes that social fragmentation and aggressive conflicts were instrumental in molding the population dynamics of early farming society during the Neolithic period in Europe.

The enigma that researchers have been trying to decipher for years is why Neolithic farmer communities experience periods of rapid growth and decline, encompassing instances of “collapses” where entire regions are

abandoned.

According to one common explanation, climate fluctuations are the main driver, but empirical tests do not fully support this claim. In a new paper, recently published in the journal *Scientific Reports*, Turchin and his team seem to have come up with a new piece of information.

Our study shows that periodic outbreaks of warfare – and not climate fluctuations – can account for the observed boom-bust patterns in the data,” argues Turchin, who’s a project leader at the Complexity Science Hub (CSH). The team tested the two rival theories attempting to explain these dynamics – climate change and social conflict – in computer simulations and compared the results with historical data. This is the first time an agent-based model has been applied to this scale for this period in history, pre-state, and pre-empire. The model covers most of the European continent and works with small units, such as independent villages. Previous simulations for this period have been conducted by dividing the area into a few large regions, but we wanted to examine interactions at the village level,” explains CSH scientist Dániel Kondor, who’s the first author of the study.

Change of heart

Turchin has been applying mathematical models of social integration and disintegration to analyze the rise and fall of complex societies, such as agrarian empires in history or modern nation-states. He admits he wasn’t convinced that such ideas would also apply to prehistory, such as the European Neolithic, where most of the time people lived in small-scale farming communities with no deep social inequalities and limited political organization beyond local settlements.

“I confess that until recently I thought that such societies were quite resilient and not susceptible to social disintegration and collapse,” says Turchin. “There is no state or nobles to rebel against and, in any case, what’s there to ‘collapse’?” adds the complexity scientist.

Turchin, however, now holds a different view. Increasing evidence suggested that “simple” Neolithic farmers’ societies also collapsed. “In fact,

such cases are much more profound than the social and political breakdown of more recent societies, because archaeology indicates that substantial regions were depopulated.”

Computer simulations

In the study, the researchers focused on the period from the first evidence of agriculture in Europe to the beginning of the Bronze Age – between 7000 BCE and 3000 BCE. The simulation begins with each small unit of the map either empty or occupied by a village of independent farmers. The simulation combines two components: population change in each unit based on climate variability during the time period; and interactions, which include populations in each unit splitting, migrating, or coming into conflict with each other.

The patterns created by the computer simulations were then compared to real-world data. A radiocarbon dating database was used by the team. “Archaeological data on settlements and Carbon-14 dating indicate boom and bust cycles. As settlement data are limited to a few regions and periods, we rely on Carbon-14 data in our model predictions,” explains Kondor.

Based on the study’s findings, climate variation is not capable of explaining boom-bust dynamics during the time period. In contrast, simulations taking into account the social conflict produced patterns similar to those observed in radiocarbon dating.

“Of course, we can’t prove that this is the only mechanism behind the population declines during that time period. There could be other [mechanisms], but we demonstrate that internal conflict producing population cycles is consistent with real-world data,” argues Kondor.

Intense times

The study presumes a complex social landscape in this time period. Such a notion is consistent with the results of intense archaeological research in Europe over the past century. “This period was indeed much more dynamic than non-specialists might think,” adds Kondo

Since we don't see consistent large-scale political organization during this time, it would be easy to imagine that things were static, such that people settled in a village and lived there for three or four thousand years without much happening in between. That doesn't seem to be the case. Sadly, this also means that this period was more violent than previously thought."

"Many case studies have shown that early farming societies underwent socio-political cyclical dynamics from integration to disintegration. These social cycles run more or less parallel to population cycles with outbreaks of considerable violent conflict occurring during the disintegration periods," explains archaeologist Detlef Gronenborn, from the Leibniz Centre for Archaeology in Mainz, Germany, one of the coauthors of the study.

"With this supra-regional study, we were able to show that the previous can be applied to a much broader region and to a much longer time period. Disintegration and warfare seem to be a general behavioral pattern," evaluates Gronenborn.

"Additionally, the study indicates that humans and their interactions, whether friendly or violent, form a complex system, regardless of their political or economic organization. It doesn't matter if you don't want to organize into a state, you are still affected by your neighbors and their neighbors as well," adds Kondor.

2. Ritual is a social technology as ancient as our species: Cargo Cult Rituals Reveal About Human Nature

Topic in Syllabus: **2.2 The Nature of Society:**



In Melanesia, Indigenous communities developed elaborate rituals to bring themselves material wealth starting in the late 19th century. These practices reveal a profoundly important and universal social technology.

These remarkable religious movements became known outside of Melanesia as “cargo cults.” The term first appeared in print in an Australian news magazine in 1945 and was soon adopted by many anthropologists. Others in the field raised objections over the term, pointing to its Western-centric origin and pejorative connotations.

Ethnographers stressed that these movements were about much more than

just material goods. They saw them as revitalization movements, acts of resistance against colonial intervention and missionization. By the middle of the 20th century, Indigenous communities throughout the area had experienced more than a century of European and later Australian, Japanese, and U.S. colonial and military interventions. These intruders had taken control of their land and coaxed or forced them into slave labor. Missionaries had also established a kind of moral police that punished those who practiced traditional customs not in accordance with Christianity.

Within that context, ethnographers argued, cargo cults had emerged as a way for local leaders to consolidate their power, relieve social stress, and/or unite communities under a proto-nationalist ideology or a demand for political autonomy.

But the emergence of cargo cults also reveals something else: the universal human need for ritual. Examined from this perspective, the practices of Melanesians may begin to look more familiar to those of us living in other parts of the world.

EARLY ANTHROPOLOGISTS SAW RITUAL as a crude attempt to make sense of the world. They often disparagingly described Indigenous beliefs and practices as “prelogical,” like those of young children. The assumption was that one day these groups of people would “grow up” and shed their backward ideas. Ironically, however, in reporting on what they saw as “primitive” or exotic, anthropologists often unwittingly described the behaviors of people in their own societies – revealing some truths about human nature in general.

MELANESIAN CARGO CULTS FLARED up during times of crisis. When colonists started arriving in the area in the 17th century, Melanesians saw their ways of life upended. The invaders imposed changes that devalued their customs and norms, and colonists’ military strength left them feeling powerless to react. Faced with the pressures of modernization and capitalism, their traditional exchange systems, based on barter and gifting, now seemed obsolete. And while previously self-sufficient, they suddenly felt relative deprivation compared to the foreigners’ opulent lifestyles.

It was against this backdrop that cargo cults emerged. And indeed, such movements occurred more commonly in those areas that faced greater encroachment from the colonizers.

This reflects a broader pattern: People are more prone to turn to ritual in stressful contexts such as war, illness, or natural catastrophes.

Indeed, experiments show that ritual can be an effective coping mechanism. For example, in research conducted with Hindu women in Mauritius, my colleagues and I found that performing prayers at a temple helped the women reduce stress (both subjective and physiological) caused by contemplating natural disasters. Likewise, cargo cult rituals may have helped Melanesians cope with the uncertainty of their rapidly changing conditions.

They also served crucial social functions. By bringing Indigenous people together to enact them, these rituals forged a sense of common identity and helped create a collective conscience.

A belief in an ideology, either religious or secular, may serve similar functions by offering people hope and fostering shared identities. But rituals embody these social realities in ways that mere words or rhetoric cannot. While calls for reviving traditional beliefs and customs had been around for some time in

Melanesia, it was through the practice of rituals that cargo cults were able to spread. Marching, dancing, and singing in synchrony while displaying group symbols are all excellent ways of inducing the kind of visceral bonding that collective ceremonies are often so good at. After all, cargo cult rituals were directly copied from another cohesive unit: the U.S. Army.

To an outsider, the actions of Melanesians may seem naïve or misguided. But who among us has never participated in a ritual that would have seemed equally comical to an unfamiliar observer?

Ritual is a social technology as ancient as our species. While its forms may vary widely through time and space, its role in our lives remains virtually unchanged. Whether at a religious temple, a sports stadium, or a political rally, the coordinated, symbolic actions of the congregants, rather than their abstract beliefs, help them assuage their anxieties and find belonging.

PAPER - 2

INDIAN & TRIBAL ANTHROPOLOGY

1. Do tribal lives matter? Life expectancy, health indicators stay poor in Madhya Pradesh

Topic in Syllabus: 6.2 Problems of the tribal Communities



Malnutrition in the tribal population is 1.5 times higher than the national average

Madhya Pradesh has the highest number of Scheduled Tribe (ST) population in India but the lowest life expectancy among nine Indian states that make up half of the country's population, according to a study. Several health and nutritional indicators are among the reasons behind the shorter

life span among the STs in the state, the Union Ministry of Tribal Affairs said in a 2019 statement.

Jetli (70), a resident of Chhapri village in Madhya Pradesh's Jhabua district, is a great-grandmother of two. She has witnessed three generations in her life, which, she said, is not as many as it used to be when she was a child. "When I was five-six years old, at least five generations of my family used to live together," she said.

Jetli believes that people of her community – the Bhil tribe that is a majority in the district – are not living as long as they used to some decades ago.

A few kilometres away in Golabadi village, 34-year old Narangi Prem has five children and no grandchildren. Jitri Bai, a local of the same village in her mid-50s, has four children and no grandchildren. While the latter is an extreme case, this is not an indication of a decreasing lifespan but that of awareness.

The local population has been getting married at slightly later ages – from 14 years a few decades ago to 19-21 years now – due to interventions by local non-profits. They also have fewer children – down to two from five.

"Because of this, they feel like they are living shorter lives because they are seeing fewer generations but their life expectancy has actually increased over the years," said Dr Pratibha Pandey, senior specialist, health at ChildFund India – a non-profit working on malnutrition in children in MP since the 1980s – to DTE.

However, the life expectancy of India's tribal communities has always been lower than the national average. The current life expectancy of STs is 63.9 years, lower than the 67 years for the general population, according to the ministry of tribal affairs. If you look at it in isolation, the life expectancy of STs has been increasing but it consistently remains the poorest among all social groups.

An April 2022 study published in the Population and Development Review estimated life expectancy based on data from the National Family Health

Surveys (NFHS) and the Sample Registration Surveys between 1997-2000 and 2013-2016. It found that “Scheduled Castes (SC) and Scheduled Tribes have drastically and persistently lower life expectancies than high caste individuals.”

In 1997-2000, the life expectancy at birth of ST women was 57 years, lower than women in other social groups – SCs (58 years), other backward classes (OBC; 60.7), Muslims (62.2) and high caste people (64.3).

In 2013-2016, the life expectancy at birth of ST women increased to 68, marginally better than that of SC women (67.8), but consistently worse than Muslims and OBCs (69.4 each) and high caste individuals (72.2).

A similar trend is recorded when looking at life expectancy at birth for men, which was at 54.5 years in 1997-2000 for STs. It was, again, lowest among men in all social groups – SCs (58.3), OBCs (60.2), Muslim (62.6) and high caste people (62.9).

In 2013-2016, all five groups recorded an increase but the trend remains constant. The life expectancy at birth for ST men improved to 62.4 years, lowest still than SC (63.3), OBC (66), Muslim en (66.8) and high caste (69.4). How poor, then, is the life expectancy of tribals in MP – the state with the highest ST population in absolute figures (15 million), according to the 2011 Census?

At 57.4 years for men and 60.1 years for women, Madhya Pradesh recorded the lowest ST life expectancy among nine states – Assam, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand, a March 2022 study showed published in the Proceedings of the National Academy of Sciences (PNAS) showed.

The estimates were made based on data from India’s Annual Health Survey, 2010-2011.

However, this isn’t the only cause of concern.

Kalia Dutiya (70), a resident of Golabadi village in Jhabua, believes a lot has changed in the last two decades. “We had no machinery back then to

aid us with our farm labour. So we used to do a lot of physical work," he said.

Even the ghee and milk they get from their cows or crops don't smell the same anymore, he said, adding:

Our crops and dairy aren't as nutritious as they used to be due to chemicals. Earlier, we used to grow what was naturally occurring, and consuming that gave us a lot of strength. There is a consensus among the residents of Jhabua and Alirajpur about how their strength and stamina has reduced over time. Both the districts have recorded high levels of malnutrition. As much as 49.3 per cent of children under five in Jhabua are stunted, 17.9 per cent are wasted while 41.7 per cent are underweight, according to the National Family Health Survey (2019-2021).

The indicators are slightly better in Alirajpur – 34.6 per cent are stunted, 15.4 per cent are wasted and 31.6 per cent are underweight.

Of the six Nutrition Rehabilitation Centres (NRC) in Alirajpur – 70 total beds – all are always occupied either at capacity or beyond, according to chief medical health officer Dr Prakash Dhoke. The figures are similar in the four NRCs – 50 total beds – in Jhabua.

"Malnutrition in the tribal population is 1.5 times higher than the national average. For severely malnourished children, we need hospitalisation. But their health-seeking behaviour is very poor," Dr Pandey said.

Surya Punia Maida, a resident of Umradara village in Jhabua district, was not even five years old when she died of pulmonary tuberculosis (TB) on 28 January 2021. But that wasn't the real cause of death. Weighing barely 8 kilograms at the time, close to half of what a girl her age should typically weigh, she was extremely malnourished and highly anaemic.

Months before she was diagnosed with TB in December 2020, her father had already been suffering from it. While his treatment is currently underway, Dr Pandey believes it's likely he's the source of infection. However, Surya's persisting malnourished state since birth weakened her immune system and, therefore, her chances of survival.

According to a 2018 health ministry report titled 'Tribal Health in India', under-five mortality rate among ST dropped 58 per cent – from 135 in 1988 to 57 in 2014. However, percentage of excess under-five mortality in ST has more than doubled, up from 21 per cent to 48 per cent in the same time period. Infant mortality has also been on a consistent decline, down to 44.4 in 2014 (NFHS 4) to from 90.5 per 1,000 births in 1988 (NFHS 1). However, there is a caveat.

The 2018 tribal health report added: When compared to other populations, it was observed that though the absolute level of IMR in tribal population in India has nearly halved over a quarter century, the gap with the favourable social groups has widened from 10 per cent to 38 per cent.

The prevalence of stunting, wasting and underweight in ST population improved only marginally between 1998-1999 and 2007-2008, according to a 2009 report by the National Nutrition Monitoring Bureau (NNMB). The prevalence of stunting reduced to 56 per cent from 58 per cent, wasting came down to 22 per cent from 23 per cent while underweight came down to 52 per cent from 57 in the same time period.

By 2013-2014, according to the Rapid Survey on Children, these figures improved some more – 42.3 per cent of tribal children under five were stunted, 18.7 per cent were wasted and 36.7 per cent were underweight. Prevalence of obesity and overweight in adults doubled, up to 7 per cent from 3.6 per cent for men, and to 8 per cent from 4 per cent for women between 1998-1999 and 2008-2008, the NNMB report showed. These two health conditions are also considered forms of malnutrition by the World Health Organization (WHO).

However, even these figures give only a partial understanding of what the true health condition of India's tribal community is. Most surveys take STs as one identifier but many communities self-identify as Adivasis, even if they are not listed in the list of STs. These populations are typically forest-associated communities in central and southern India. There are also urban and rural ST communities which form a large proportion of the ST category in states like Karnataka.

Health indicator disparities exist between forest-associated and the relatively rural / urban ST groups, with the former being grossly marginalised, Prashanth N Srinivas, a researcher working on tribal health inequities at the Institute of Public Health in Bengaluru, told DTE.

“The ST indicators in national surveys is an average of both,” he added. Indicators will be even worse if disaggregated by tribes which we don't have in India, the expert said.

2. Nature worshippers: How Sarna rituals propagate forest conservation to new generations & other communities

Topic in Syllabus: 8.1 Impact of Hinduism, Buddhism, Christianity, Islam and other religions on tribal societies.



The Sarna followers have also helped bring attention of scientific community to conservation of sacred groves

Religion has been intertwined with human civilizations for ages and provides distinct perspectives into interacting with and utilising the natural and cultural environment. Since ancient times, India has been home to various religions, faiths, cultures and traditions, which makes it diverse and rich in terms of socio-cultural and spiritual settings.

I became acquainted with the tenets of the Sarna religion while studying the relationship among tribal culture, forest conservation and wildfire, specifically in the central Indian region, for my ongoing research project at IIT Indore. “Sarna” is one of the indigenous (tribal) religions of India which has a strong relationship with nature. The followers worship natural entities like forests, mountains, lands, rivers and protect the local biodiversity through their religious and cultural practices in the forms of festivals, taboos, rituals and ongoing traditions.

There are around 5 million Sarna believers in India, mainly concentrated in the forested and hilly areas of its central (majorly in Jharkhand state) and eastern parts, according to an analysis based on population census 2011.

One of the major pillars of the Sarna faith consists of the worship of sacred groves. These are the patches of forests considered sacred, where no harm is allowed to the trees and wildlife because of their religious importance.

Sarna followers believe that harming these sacred trees brings misfortune and disasters, leading the indigenous tribes to promote conservation, regeneration and wildfire prevention. These major sacred groves (trees/plants) include sal (*shorea robusta*), Indian plum (*Ziziphus mauritiana*), white marudah (*Terminalia arjuna*),

Indian gooseberry (*Phyllanthus emblica*), tulsi (*Ocimum tenuiflorum*), mango (*Mangifera indica*), peepal (*Ficus religiosa*), bargad (*Ficus bengalensis*), baraha (*Aegle marmelos*), Malabar nut (*Justicia adhatoda*), thorn apple (*Datura stramonium*), champak (*Magnolia champaca*), Indian black plum (*Syzygium cumini*), tamarind (*Tamarindus indica*), bael (*Aegle marmelos*), among others.

The Sarna religious rituals also promote forest conservation. Marriage ceremonies of the followers, for instance, are held under sacred trees like sal, amla, karam (*Adina cordifolia*) and kendu (*Diospyros melanoxylon*). Species such as mango, bamboo and sida (*Legerstromeia parviflora*) are also planted at the marriage sites.

The followers believe that mango symbolises the continuity of descendants, bamboo represents reproduction, sida signifies loyalty between spouses,

bhelwa (*Semecarpus anacardium*) provides protection from the evil eye and mahua brings love in marital relationships.

The Sarna festivals are inclusive and gender neutral and promote sustainable and peaceful coexistence with nature. The followers take pledges of protecting the land, river and forest during their celebrations and transfer these traditions and cultural practices to the new generations.

The Sarhul festival held in March and April is an example of such a celebration by the Sarna community. During these days, they express their reverence to the sal tree by offering rice, flowers and fruits. Throughout the festival, they avoid harvesting from the sal tree, which promotes its regeneration. This practice not only safeguards the sal tree but also helps prevent wildfires, which are more prevalent during these months because of hot and dry weather and harvesting of non-timber forest products.

The Faggu festival is also observed in March-April. During this time, the Sarna tribes gather dry wood and leaves from the forests, thereby reducing the fuel load and significantly lowering the likelihood of wildfires.

Another major festival of Sarna followers is Karam. It occurs in October and during this festival, Sarna tribals worship the sacred karam tree to enrich their crop production. A fascinating element of the festival is the deliberate safeguarding of the karam tree and its related species. The Sarna tribes refrain from cutting down the karam tree until the festival season, thereby playing a vital role in the preservation and regeneration of these trees.

The Sarna religious and cultural practices hold immense contemporary significance, and the community has helped spotlight the conservation of sacred groves among environmental and scientific researchers.

Collaborations are taking place to explore the biodiversity of these groves and understand how indigenous practices promote ecological balance. Conservation organisations and Sarna communities unite to blend traditional wisdom with scientific approaches, using unique festival rituals as models for sustainable conservation.

The integration of Sarna traditions with modern conservation practices and technology demonstrates a dynamic approach to conservation challenges. While safeguarding forests (sacred groves) and harmonising with nature are core to Sarna philosophy, technology is employed to document and share knowledge about these practices.

Digital platforms play a key role in educating a wider audience about the importance of sacred groves, promoting an understanding of Sarna environmental values towards conservation and protection of the environment.

Major challenges & way forward

Sarna followers nationwide have consistently sought constitutional recognition to safeguard their unique culture from assimilation into mainstream religions amid rapid development. The absence of a specific religious code fuels their ongoing protests as they strive to preserve their identity.

Addressing the challenges faced by the Sarna community requires a multifaceted approach. First, concerted efforts should be made to advocate for constitutional recognition of the unique cultural identity of Sarna followers. This could involve active engagement with policymakers, awareness campaigns and lobbying initiatives.

Simultaneously, initiatives focused on cultural preservation should be implemented, encompassing the documentation of traditions, establishment of cultural centers and integration of Sarna heritage into educational curricula.

Collaboration with conservation organisations presents another avenue, leveraging the environmental significance of Sarna practices to integrate them into broader conservation strategies. To counter the vulnerability of the community to conversion under the guise of socio-economic upliftment, empowerment initiatives should be prioritised.

Interfaith dialogue can foster mutual understanding and respect, reducing the risk of assimilation. Advocating for legal frameworks specifically

designed for the protection of indigenous cultural practices is crucial, providing a formal basis for safeguarding their identity.

Seeking international recognition and support, along with implementing community empowerment programmes, rounds out a comprehensive strategy to ensure the preservation of Sarna culture amidst the challenges posed by rapid development and assimilation pressures.

3. How nutrition gardens helped tribals in Odisha's Nagada

Topic in Syllabus: 9.1 History of administration of tribal areas, tribal policies, plans, programmes of tribal development and their implementation.

Tribals in Nagada suffer from severe malnutrition, other health issues

There are approximately 582 people who belong to the Juang tribe in Odisha's Nagada. This tribe is one of the 13 particularly vulnerable tribal groups in the state. Nagada is a cluster of hamlets, located at Mahagiri mountain range in Odisha's Jajpur, about 94 kilometres away from district headquarters.

One of the main reasons why Nagada remained untouched by development over the years was its inaccessibility. Government outreach services were unable reach inhabitants of this cluster because it was in a remote area with poor infrastructure, including a lack of roads.

Tribals in Nagada suffered from severe malnutrition and other health issues as a result. The village lacked basic amenities needed for survival. Nagada made headlines in July 2016, when 19 children died from severe malnourishment within a month. The state government immediately took action to not only address malnutrition, but also improve issues of infrastructure development.

Metal roads were constructed, ponds were excavated, electricity was brought in, anganwadis were made and houses were constructed under the Pradhan Mantri Gramin Awaas Yojana.

The government also focused its attention on enhancing the livelihoods of the community, providing nutritious food to children under the age of six years and more through different line departments and social assistance schemes.

The Odisha Livelihoods Mission (OLM) also took instant action to address the needs of the community.



A tribal woman in Nagada examines produce from her nutrition garden

The Odisha government and OLM felt that a focused intervention was needed to create an enabling environment for the overall well-being of the people in Nagada. This called for combining strategies for immediate and long-term intervention, with non-profit Trickle Up chosen as a partner by OLM to lead the initiative.

Trickle Up realised that while food security could be ensured for poor households in Nagada through the public distribution system, it was not enough for overall development of the mind and body. Food diversity was required to receive wholesome nutrition and develop to a person's full potential.

This was absolutely critical for pregnant mothers, lactating mothers and for children below six years of age. The community in Nagada lacked the resources and proper awareness to ensure food diversity and optimum intake of nutritious food.

The Solution

The Trickle Up team working in Odisha faced this challenge by deciding to implement what is known to be one of the best solutions to tackle the difficult issue of malnourishment: The creation of nutrition gardens for families.

The promotion of nutrition gardens can reduce 70 per cent of the diseases caused by deficiency of vitamin A, according to a survey by the Food and Agriculture Organization in 2011. A nutrition garden appropriately utilises space at the front and rear ends of a house to grow fruits and vegetables that can not only sustain the family, but also support their dietary requirements.

Seasonal vegetables are grown by utilising locally available waste and other materials as manure or fertiliser. They can be used for long periods to fulfill the daily needs of the household.

Approximately 60 households from Nagada adopted the practice of having a nutrition garden in their household during the kharif season, while 34 households adopted this practice during the rabi season. Azim Premji Philanthropic Initiatives supported training needs to start and maintain the gardens. They also supported the procurement of seeds. These gardens ensure regular supply of the required amount of nutritious vegetables to the families.

A new addition to the behaviour change process was the introduction of the food festival in the community. During this festival, the community is encouraged to cook together and eat together, while the field staff demonstrates new and nutritious ways to cook and eat papaya and yam – the abundantly available local produce that the community is not used to eating.

The initiative aims to add to the nutrition value of the food, while changing eating habits. These processes have not just contributed to behaviour change, but also initiated healthy habits into the system of community living in Nagada.

Nutrition gardens encourage the optimisation of locally available resources for communities that stay in areas with fewer resources and limited connectivity. The aim of Trickle Up is to have nutrition gardens throughout the year so that it actively contributes in reducing malnourishment rates in the community.

4. Coexistence between Warli Tribes and Leopards

Topic in Syllabus: 3.3 Sacred Complex and NatureManSpirit Complex

Maharashtra's indigenous Warlis teach a lesson about peaceful coexistence with leopards

Locals report multiple safe encounters with the wild cats in the region

The mention of leopard sighting may strike terror in the hearts of most people. But for the Warlis living near Sanjay Gandhi National Park in Maharashtra, the Waghoba or leopard deity is worshipped and revered, not feared.

Mumbai, the only city in the world to have a national park within its limits, has housed leopards for a very long time. A record density of leopards found anywhere else in the world, according to a study done at SGNP, stands at 21 per 100 square km. Leopards have lived in the SGNP for a very long time and while the city continues to grow northward, there's been an abundance of stray dogs and pigs gravitating towards the garbage emanating, providing easy prey for leopards.

Humans and leopards have coexisted in Mumbai for years. A decade and half ago, in 2009, a leopard in Maharashtra in western India fell into a village well while chasing a dog. He was captured, named Ajoba ('grandfather' in Marathi), fitted with a global positioning system or GPS collar and released in a forest at Malshej Ghat, 80 kilometres from where he was found.

Without harming a single human, over 78 days, Ajoba did a 120 km trek through the hilly Ratangarh area, the busy Mumbai-Agra Highway, the rail tracks near

Kasara station, the Wada village near Dahanu and the Vasai industrial area before settling down in SGNP.

Around the SGNP, where people live in open houses without concrete walls, for example, the residents seem more willing than their high-rise counterparts to share space. The Warli tribals have, for years, been worshipping the leopards or Waghoba.

For Prashant Potle (33), living in Dampada with his parents, wife, two children and a nonagenarian grandmother, encountering a leopard in and around his neighbourhood in SGNP is commonplace. He runs a Chinese *bhel* (street snack) shop at the dam near the entrance of the national park and doubles up as a driver, ferrying visitors around the park when it's his turn to make the trip.

"Recently, I saw a leopard at the Tumnipada Y Junction. They are mostly harmless and won't attack an adult or someone standing. But children are usually at risk, like one seated and mistaken for a small animal," he said.

Dahisar river that flows through the national park becomes a recreational centre during monsoons. The dam on the river is thronged by tribal locals who use it for fishing, washing clothes and even bathing their cattle, but only till 6 pm, after which the roads are free of humans, by law.

Incidentally, after the COVID-19 lockdowns and stoppages in tourism activities, rules preventing the entry of vehicles into the park were

implemented. Visitors cannot take their vehicles inside the park. So, locals ferry cars that ply in turns to take the tourists around.

“There are 26 such cars, all run on CNG by the residents only. They’re even trying to get electric vehicles,” said Prashant. As one enters further into the park and into the settlements, it’s common to find tribal women trekking deep into the forest to collect firewood for cooking. Mostly Warli tribals, the residents have had multiple run-ins with wild cats, with almost everyone having a personal story of an encounter when young.

For octogenarian Mangli Barap, fondly known in the area as Manglibai, big cats such as leopards co-exist peacefully with humans. The Navapada resident said, “I have had multiple encounters with the leopard and am yet to witness any untoward incident with anyone I know.”

Another Warli neighbour Parvati Urade recalled the time when as a child she had an encounter with a big cat. “I was about ten years old and had gone into the forest to pluck some vegetables. There, I saw a big cat and froze. I stopped for a while and it went about its own way,” she said.

Warlis living in SGNP revere big cats rather than fear them. That the forest belongs to the predator is a given and the loss of poultry, dogs and other pets is perceived as a lapse on the part of the Warli tribe. “In the evenings, after six pm, children are not allowed to venture out. Even pet dogs, goats and poultry are locked away indoors as it’s time for Waghoba to come,” said Parvati.

The Warli children, too, keep away from the streets of the village following dusk for fear of being picked up by the wild cat, and are nonchalant about the threat.

Shrines of Waghoba exist deep inside the SGNP as locals offer sacrifices and pray for protection. Locals carve out or paint images of tigers or leopards on stone or wood and decorate them with flower garlands and vermilion paint too. Wild cats regularly frequent bodies of water like ponds where they prey on the numerous spotted deer present.

Co-existing with nature is a natural way of life for indigenous people across the world. While the Warlis revere the *wagh* (leopard or tiger), for the rest of Mumbai's well-heeled citizens, it's a wild cat to be feared.

Ironically, the gentle-as-ever Ajoba who could have easily killed any human just with his sheer weight – 63 kilos – but didn't. Instead, he lost his life to human error and in a road accident while trying to cross National Highway No 8 on the outskirts of Mumbai.

5. Nomads and denotified tribes are the invisible people of India

Topic in Syllabus: 6.2 Problems of the tribal Communities



Most Nomadic tribes were branded 'born criminals' during the British colonial rule; have remained on the margins of society since then

Haunted by all, from common people to law enforcement, the nomads and denotified tribes lead a precarious existence devoid of the rights bestowed upon a legitimate citizen of the country. The nomadic communities like Sopera (snake-charmers), Madari (entertainers), Banjara (goods

transporters), Gadulia Lohar (blacksmiths) and Aaradhi (devotional singers) have been crucial parts of India's cultural heritage.

During British Colonial rule in India, most of the Nomadic tribes were branded 'born criminals'. The people who once had good relationships with the rural population by providing various goods and services became criminals in their eyes.

New forms of entertainment, transportation, the medical system, and modern school education have all harmed the livelihoods of our country's nomads. However, in the process of 'invisibilisation' of nomads, both historical and contemporary factors have contributed a lot today.

Invisible versus visible: A perspective

Invisibility is a relative and complex phenomenon directly associated with visibility. The word 'invisible' is closely linked with words like 'hidden', 'dark', 'neglected', 'ignored', and 'marginalised'. It is a perspective of observing and analysing anything that creates the category of invisible or visible.

Here, the question of vital importance is, "Who makes something visible or invisible to whom and how?" In this context, who refers to civil society, the intellectual class and policymakers, whereas whom refers to people – or groups of people – who have been neglected or ignored on social, epistemic, and policy levels, respectively.

Because intellectuals and policymakers are drawn from civil society, these three types of institutions are inextricably linked. Today, however, who is visible and where is visible is primarily determined by the institutions mentioned above. The current piece is about Indian nomads who have become invisible as a result of historical and contemporary factors.

Nomads and denotified communities India

Traditionally, nomads transported salt and grains, entertained people, provided agricultural tools to peasants, and provided informal health care

services to the settled people while living in our country with respect and dignity.

They were independent and roamed freely throughout the Indian sub-continent in search of a livelihood. However, since the introduction of colonial rule in the country, nomads' lives and livelihoods have been impacted by a variety of factors. In the name of controlling the crimes in India, Britishers passed a legislature called the Criminal Tribes Act in 1871 that branded nearly 200 communities as 'criminals' by birth.

Because of the nomadic nature of their way of life, nomads had good spatial knowledge of forests and passages through them, making it difficult for the British to control them without limiting their mobility. According to the Ayyangar Committee report from 1950, the main reason for labelling some groups of people as 'born criminals' was economic.

Because their lives and livelihoods were based on natural resources such as water, forest, and land, policies affecting these nomads and denotified people. However, in addition to the Criminal Tribes Act (1871-1947), other legislations such as the Forest Act (1865, 1878, 1927) and Taxation on Salt (Salt Act, 1835) were also responsible for the marginalisation of nomads.

Socio-economic invisibility

People's socioeconomic status can be studied through education, income, castes and sub-castes, tribes, availability and accessibility of primary assets, amenities, and so on. New forms of entertainment have destroyed the livelihoods of acrobats and entertainers, while new medical systems have destroyed the livelihoods of traditional medicine providers and modern transportation systems have destroyed the livelihoods of traditional goods providers.

However, this segment of Indian society is on the periphery of all forms of modern development. They lack basic documents to receive state assistance, basic amenities such as drinking water, toilet and bathroom facilities, electricity, modern education, and healthcare services, and are commonly found living in makeshift and tent settlements on the outskirts of villages and towns.

Following Independence, as part of the process of mainstreaming historically disadvantaged people, some nomadic and denotified communities were included in the constitutional categories of Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Castes (OBCs).

To shed light on socio-economic development, the researcher has given the socio-economic profile of nomads and denotified, which have been classified as Schedule Castes by the state of Haryana. In contrast to less than one-fourth illiteracy rate for the whole state, more than half of nomads and denotified were illiterate in 2011.

Surprisingly, in the urban sphere, which is the centre of education, the illiteracy rate is higher among these people compared to their counterparts. Looking at their participation in work, of the total population, only one-third were engaged in any kind of economic activity in urban areas, which indicated that a majority of people were out of the labour market.

Furthermore, more than a third of workers are marginal on the time scale, working fewer than 180 days per year. By analysing secondary data, we can conclude that we must pay special attention to this historically and currently invisible segment of our society in order to provide them with basic amenities and assets, particularly in urban areas.

6. Stop illegal eviction of tribes from Kanha Tiger Reserve, urge activists

Topic in Syllabus: 6.3 Developmental projects and their impact on tribal displacement and problems of rehabilitation.



While a few environmentalists claim that tribes encourage poaching in forests, others believe they help in conservation

More and more forest dwellers from Kanha Tiger Reserve in Madhya Pradesh are now complaining of forced eviction from the forest. The eviction from the forest that is also the home of Rudyard Kipling's classic tale *The Jungle Book* was first started in June 2014 in the name of forest conservation.

Many forest dwellers have reported that the forest department had threatened to release elephants to trample their houses and crops if they did not leave immediately. The incident came as a shock to the Baiga and Gond tribes which have their ancestral homes in the reserve.

According to a few media reports, about 450 families or 3,000 people from

the Baiga and Gond tribes were evicted from the reserve in June 2014.

Along with the forest dwellers, the activists are also angry with the move. Stephen Corry, director of non-profit Survival International, recently stated that if India doesn't allow the Baiga and Gond tribes to return to their homes in the reserve and prevent further forced eviction of tribal people, communities will be completely destroyed. Presently, the communities are scattered in surrounding villages.

Money matters

The state government, however, has been defending the decision. "The relocation of these forest dwellers was not forced and was indeed voluntary. Only after people agree, the gram sabha of any village passes a resolution after which the money for rehabilitation is allocated," says Narender Kumar, principal chief conservator of forests and chief wildlife warden, government of Madhya Pradesh.

He further adds, "Typically an amount of Rs 10 lakh is allotted to each unit. Every family is considered a unit and those above 18 years of age are eligible to receive the money for rehabilitation."

Many members of the tribes, however, have even made it clear that they don't want money from the government and are not willing to leave their land.

According to Kumar, the claims about forced eviction of the forest dwellers from the Kanha Forest Reserve are baseless and have been spread by those who claim to have been residents of the villages nearly 25 years back and don't reside in the village anymore. They, therefore, are not entitled for any money for relocation.

Tribals: poachers or protectors?

Reports also suggest that environmentalists believe despite having made several clarion calls for a proper integration of the tribal communities who make up more than 8 per cent of its 1.2 billion population, India seems to

be inching closer towards a regressive reorientation. A few environmentalists have also claimed that tribal people encourage poaching. According to Survival International, the tribal people are not involved in poaching, but are the best conservationists as they have carefully managed the tiger's habitat for generations.

"Next week, the government will announce the latest tiger numbers which will give media an opportunity to examine the human cost of tiger conservation and the ways in which laws are violated and rights denied in the name of conservation," Jo Woodman, senior campaigner at Survival International told Down To Earth.

He added, "We are calling for a moratorium on 'relocations' from tiger reserves unless and until the letter and spirit of the law is followed, for what's happening now are illegal evictions. These illegal relocations have not been exposed by the media yet." According to a 2011 Census, India is home to half of the world's surviving tigers, with 1,706 living in the wild, compared to 100,000 at the beginning of the 20th century.

7. Assam's Chandubi Festival

Topic in Syllabus: 8.1 Impact of Hinduism, Buddhism, Christianity, Islam and other religions on tribal societies



- The 14th Chandubi Festival was recently held near the Chandubi Lake in Assam's Kamrup district from January 1 to January 5.

Chandubi Festival

- The Chandubi Festival **happens every year for five days**, starting on New Year's Day, by the Chandubi Lake in Assam.
- Chandubi Lake was **formed by a earthquake** in 1897.
- The name "Chandubi" comes from "Chand" meaning "**five**" and "Dubi" meaning "**sinking**" in the *Khasi language*.
- At the festival, one can enjoy local culture, try ethnic food, see handcrafted clothes, and go boating.
- The festival's main goal is to encourage **eco-tourism and protect the lake**, which has been losing water.
- Preserving the lake and helping the **tribes like Rabhas, Garos, Gorkhas**, and tea tribes are reasons for holding the festival.

Course of events

- During the festival, many attractive ethnic sports competitions were organized by the festival celebration committee which includes the Baghbol competition, Chagalchari competition, Khutikhel, Lewatana etc.
- Performances of different tribe's folk dances are held including Garo, Boro, Hajpong, Bihu, Rabha and many others.

8. The Hirakud Dam Project's displacement

Topic in Syllabus: 6.3 Developmental projects and their impact on tribal displacement and problems of rehabilitation.



In a historic move, Odisha has embarked on an ambitious journey to overhaul its legacy land records, aiming to resolve complex issues that have persisted for decades. This transformative initiative is set to bring relief to families affected by historical projects and streamline the classification of lands that have been a source of contention.

At the heart of this initiative lies the legacy of the Hirakud dam project, which displaced numerous families in the Jharsuguda district.

The ongoing effort has already yielded positive outcomes for 1,749 families in the district, offering justice and official documentation to those who bore the brunt of historical development projects.

Tools for Efficient Governance and Social Justice Delivery:

- To expedite the process, a dedicated Revenue Task Force recommended a satellite-based land survey.
- This modern approach aligns with Odisha's commitment to efficient governance and addresses the complexities associated with various land classifications.
- Significant amendments to the Odisha Land Reforms Act empower farmers, allowing them to change land classifications and officially record their lands in their names over the next two years. This move is poised to benefit a substantial number of farmer families across 26 districts.
- The initiative simplifies processes for various land classifications, including Khasmahal, Nazul, Poramboke, Abadi, and Chaka land.
- Cost reductions for settlement, standardized conversion rates, and reinstating communal lands contribute to empowering landowners.

Positive Impact on Livelihoods and Transactions:

Residents in villages like Duanmunda and Gunduribadi express relief as they receive land deeds, validating their occupation. The streamlined land records are expected to have a positive impact on livelihoods and property transactions, fostering economic growth.

5T Initiative:

The 5T initiative is a comprehensive governance model in Odisha, focusing on Technology, Teamwork, Transparency, Transformation, and Time to enhance efficiency, collaboration, and service delivery in government operations.

Future Implications and step towards Inclusive Development:

As Odisha undertakes this comprehensive overhaul of land records, the state sets an example for addressing historical land disputes. The streamlined records are likely to have far-reaching implications, providing a stable foundation for property rights and encouraging economic development. This transformative move positions Odisha as a trailblazer in efficient governance and inclusive development, ensuring a brighter future for its citizens.

9. Sohrai Painting

Topic in Syllabus: **6.1 Tribal situation in India**



A unique workshop in West Bengal's Konedoba village, dominated by the **Santhal** tribe, aims to preserve the ancient Sohrai art.

About Sohrai Painting:

- Originates in the Hazaribagh area of Jharkhand but prevalent across various Indian states including **Bihar, Odisha, and West Bengal**.
- It is known for its **vibrant colours, intricate patterns, and cultural motifs**, reflecting a rich tribal heritage.
- Women of tribal communities traditionally create these **paintings on mud walls** during the **Sohrai festival**, celebrating **harvest and livestock**.
- Receives a **Geographical Indication (GI) tag**, emphasizing its uniqueness and cultural significance.

Cultural Significance and Themes:

- Sohrai paintings are a testament to the **matriarchal tradition**, with art skills passed down from **mothers to daughters**.
- Central themes include nature, fertility, and the mother-child bond, often depicting domestic animals, flora, and fauna.
- Festivals like **Sohrai and Kohbar** mark the creation of these paintings, coinciding with the harvest season and other communal celebrations.

Techniques and Materials:

- Employ natural earth colours foraged from the local environment, such as **red, black, yellow, and white**.
- Tools include **chewing twigs and cloth rags**, showcasing an ingenious use of simple, locally sourced materials.
- Each painting differs from village to village, reflecting **local traditions, geography, and individual artistic influence**.

10. Sikkim tribesfolk oppose proposed hydel projects

Topic in Syllabus: 6.3 Developmental projects and their impact on tribal displacement and problems of rehabilitation



It's day 18 of an indefinite hunger strike by tribespeople of Sikkim's Lepcha community and there's no end in sight. Protests against the imminent influx of a series of dams on the river Teesta and its tributaries in the remote mountain regions of North Sikkim district have gathered steam over the past month, but with chief minister Pawan Kumar Chamling away on an overseas vacation, talks with government are deadlocked.

The build-up Two months ago, Dawa Lepcha was desperately looking for means to rouse his fellow Lepchas against the "irreparable damages" that the proposed dams would cause to North Sikkim's ecosystem. He had been working at it for three years--gathering information, travelling to distant villages and talking to local people--but just couldn't make much headway. "It's a really, really uphill job," a frustrated Dawa had said then. "No one listens."

But now, people are paying attention. On June 20, Dawa, who's a 33-year-old documentary filmmaker and Tenzing Gyatso Lepcha, a student, went on an indefinite fast, demanding all six mega-hydel projects in the Dzongu Lepcha Reserve be scrapped. They've also demanded the state review the impact of all 27 hydel projects proposed. Protesting under the banner of Affected Citizens of Teesta (act), Dawa's group is getting overwhelming support from different local outfits and from across the country and abroad. Lepchas from Darjeeling and Kalimpong have been gathering in front of the Bhutia-Lepcha house in Gangtok where the '*satyagrahis*' are ensconced. Several are even joining the fast for a few days. Dawa, despite being on liquid-only diet, is upbeat.

"Initially, we were a bit apprehensive but the overwhelming support that we have been getting has reassured us," he says.

Damming the Teesta There are plans for 27 projects on the Teesta and its feeder rivers and tributaries. Contracts for three of these, including the Teesta Stage v project at Dikchu in North Sikkim that is nearing completion, have been awarded to the National Hydroelectric Power Corporation Ltd (nhpc), a public sector unit. The rest are to be set up by private developers. So far, Teesta Stage v is the only project under construction. The rest are in various stages of clearance.

Plans for taming the Teesta, which flows through almost the entire length of Sikkim before entering north Bengal, are not new. A proposal has been in place for harnessing the river since the 1970s. More recently, in 2001, the Central Electricity Authority calculated the state had a hydel potential of 8,000 mw and identified 21 possible dam sites. In 2003, Sikkim launched an initiative to harness 5,000 mw of this potential by the end of the eleventh Five Year Plan.

"Sikkim will get 12 per cent free electricity from each of these projects, which it will sell to other states," says A K Giri, chief engineer with the state energy and power department. Sikkim at present has a 35-mw power deficit, which it makes up by importing power from the central sector generating stations. After the projects are completed, officials estimate that

Sikkim could expect around Rs 750 crore by selling the surplus power generated.

However, the proposed projects have raised concerns among environmentalists and peoples' activists regarding their cumulative impact on the landscape and its people. Teesta is a highly volatile, flood-prone river. The river and its tributaries constitute a basin, which with its deep forest cover and rich biodiversity, is considered an integral part of the Indo-Myanmar biodiversity hotspot, one of the 25 such hotspots in the world. The Teesta River Valley system sustains a host of indigenous communities, including the Lepchas, Bhutias, Sherpas and Nepali ethnic groups, who have traditional natural resource-based livelihoods. The area is also earthquake-prone and includes a series of landslide and landslip zones (see box *No safe play*).

Sacred land and the Lepcha

For the Lepchas who are opposing the projects though, the issue goes beyond environment and livelihood concerns. The dams, they feel, are a threat to their very identity as a people.

Believed to be the original inhabitants of Sikkim, the Lepchas (along with the Bhutias, who are said to have come from Tibet during the 15th and 16th centuries) were once the ruling elite of Sikkim. But large-scale migration of people from neighbouring Nepal over the past century has changed the demographics. Sikkimese of Nepalese origin now constitute almost two-thirds of the state's population of 500,000, while the Lepchas who number an estimated 45,000, make up a mere 9 per cent.

Dzongu, which was declared a 'Lepcha Protected Area' in 1956 by the then maharaja of Sikkim, is the only remaining Lepcha bastion. Entry to the area, which borders the Khangchendzonga Biosphere Reserve, is restricted and no outsider, even other Sikkimese, can own land here. About 6,000 Lepchas live in Dzongu in small villages among the forested slopes of the reserve, high above the Tholung valley through which the Rangyong river runs. The Lepchas call themselves *rngkup*, or "children of the Rng valley". For them this land--which they call "hidden paradise" or "land of eternal purity"--is sacred. They believe the first Lepchas lived

here.

The plans for six mega hydel power projects--from Tholung to Lum--would upset the natural order of their sacred land, say Lepchas. "Location of projects are in some cases just a few kilometres from each other and at places the entire river will disappear into tunnels. That will destroy our culture which is deeply connected with the Teesta and Rangyong rivers, says Testen Lepcha, chief coordinator of act.

Already concerned about being eclipsed by the expanding Nepali population, Lepchas worry that the projects would lead to an influx of outsiders--labourers and contractors--into their land. They fear that this could lead to a dilution of their dwindling tribe and their ultimate marginalisation, even in the reserve area. "We will become strangers in our own land," says Testen.

Schedule V and VI status

To have greater say in matters regarding their land, the Lepchas are considering campaigning to get Dzongu listed under either Schedule v or Schedule vi of the Indian Constitution.

When Sikkim was annexed to the Indian State in 1975, it wasn't considered for Schedule v or Schedule vi status. However, Article 371-f of the Indian Constitution gives special protection to the rights of Sikkimese people and upholds the old, pre-accession laws of the state. Since Dzongu was declared a protected area by the erstwhile king of Sikkim, its special status is upheld by the Constitution. But this protection isn't very strong, as it is subject to the caveat that the pre-accession laws can be overridden by the president, if required.

Tribal areas listed under Schedule v enjoy greater protection of the tribes' indigenous identity, including the right to self-government, and protection from land alienation. Schedule vi, which deals specifically with the north-eastern states of Assam, Meghalaya, Tripura and Mizoram, grants a degree of autonomy to areas listed under it. Tribals of Schedule vi areas govern themselves through autonomous district councils. They make and implement their own laws on certain aspects of their lives like

marriage, succession, management of forests, shifting cultivation, etc.

"Legally, Dzongu is eligible for Schedule v status," says Atreyee Majumder of Public Interest Legal Support and Research Centre, a Delhi-based non-profit legal back-up centre that's advising the Lepchas. "There is a provision in Schedule v vesting powers in the president to identify areas eligible for Schedule v status in states which joined India after the promulgation of the Constitution; Sikkim falls squarely under this provision," she says. Including Sikkim under Schedule vi isn't quite a straightforward process because it would require either parliamentary intervention by way of a new law or a constitutional amendment.

Rajiv Dhavan, Supreme Court lawyer and director of the legal support centre, argues that since Sikkim is anthropologically and geographically similar to the north-eastern states, and has a deep-rooted tribal history, it should be considered for Schedule vi status. "Any such effort will require a long-term campaign and the Lepcha activists are yet to coordinate with the research centre and work out a campaign strategy," says Majumder.

For now though, the focus is the hunger strike and protests against proposed dams on Teesta. But Sikkim officials say the hydel projects have all necessary environmental clearances and the consent of local landowners. "Sikkim is a small state, our main income is through tourism, we need alternative sources of income, like power," says M G Kiran, state information secretary. "We have called on the protesters to end their hunger strike and promised to look into their concerns," he says.

Dawa does not buy these assurances yet. "Without the chief minister no decisions can be taken by the state, so we are waiting for him to return," he says. And he is resolute. "Though we are a mild, peace-loving people, we do have some histories where we have fought, when pushed to the limit. The Lepchas of the past have defended this land, now it's our turn. If we just keep quiet, in next five years we will be finished."

11. Delisting Kuki-Zomi Tribes

Topic in Syllabus: 6.3 Developmental projects and their impact on tribal displacement and problems of rehabilitation



- The Centre has requested the Manipur Government to examine a representation for delisting certain Kuki and Zomi tribes from the Scheduled Tribes (ST) list.
- Chief Minister N. Biren Singh announced the formation of a special committee to investigate the representation.

Initiating the Representation:

- Maheshwar Thounaojam, National Secretary of the Republican Party of India (Athawale) in Manipur, submitted the representation.
- The representation seeks the inclusion of Meiteis in the ST list and proposes the exclusion of specific Kuki and Zomi tribes.

Ethnic Conflict Context:

- The move to delist Kuki and Zomi tribes is amid an ongoing ethnic conflict between valley-based Meitei people and hills-based Kuki-Zo (ST) people.
- The conflict began on May 3, 2023, triggered by a Manipur High Court order regarding Meiteis' inclusion in the ST list.

Meitei Argument for ST Status:

- Meiteis argue for ST status due to their inability to own land in forested hill districts, reserved for STs.
- This marks the first instance of Meiteis seeking ST inclusion by questioning the legitimacy of certain Kuki and Zomi tribes.

Representation Contents:

- Thounaojam's representation objects to the inclusion of specific entries in the ST list: "Any Mizo (Lushai) Tribes," "Zou," and "Any Kuki Tribes."
- The primary argument is that these tribes are not indigenous to Manipur, claiming their absence in pre-Independence Censuses.

Validity of Claims:

- The claim that these communities were not present in Manipur during the 1950 Constitution (Scheduled Tribes) list publication is disputed.
- No empirical evidence supports the assertion that the presence of these tribes aids organised illegal immigration.

Historical Commission Reports:

- The First Backward Classes Commission in 1955 recommended adding individual tribe names for Assam and Manipur tribes, but "Any Mizo (Lushai) Tribe" was retained in 1956.
- In 1965, the Lokur Commission noted a "splintering tendency" among Kuki tribes and recommended mentioning tribe names in the ST list to address inter-tribe differences.

Evolution of Kuki Tribe Classification:

- Over the years, Kuki tribes exhibited a “splintering tendency,” resulting in the establishment of independent tribe names.
- In 2002-2003, “Any Kuki Tribes” was added to the ST list, leading to confusion, as observed by the Bhuria Commission Report in 2002-2004.

Recommendations for Clarity:

- Historical commission reports recommended mentioning specific tribe names in the ST list to avoid confusion and inter-tribe differences.
- The representation’s call for delisting should be examined considering the historical context and the evolving identities of the Kuki and Zomi tribes.

12. Pakke Paga Hornbill Festival

Topic in Syllabus: 7.2 Social change and contemporary tribal societies



The preparations for recent 9th Edition of Arunachal Pradesh’s **Pakke Paga Hornbill Festival** is in line.

- The first-ever PPHF was held on January 16-18, 2015, with the aim of recognising the efforts of the Nyishi hunters-turned-conservationists of hornbills

Pakke Paga Hornbill Festival:-

- It is declared a **state festival**.
- It centers around wildlife conservation, especially **hornbills found in the Pakke Tiger Reserve**.
 - The reserve **harbors four hornbill species** – Oriental Pied, Great Indian, Rufous-necked and the endangered Wreathed Hornbill.
- The week-long event **generates awareness on preserving these iconic birds**.
- PPHF also spotlights the role of **indigenous Nyishi tribes** in protecting hornbills after having earlier hunted them.
 - The Nyishi is the **largest tribal group in Arunachal Pradesh**.
- It forges connections between forests, wildlife and local communities.
- The **first PPHF was organized in 2015** with the goal to recognize Nyishi conservation efforts.
- This year, the festival's theme is **Domutoh Domutoh, Paga hum Domutoh**.
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 - It translates to '**Let Our Hornbills Remain**' in the Nyishi language.

Key activities lined up include:

- **Bird watching tours**
- **Literary competitions**
- **Panel discussions**
- **Tribal music/dance performances**

Significance:-

- Beyond promoting hornbill conservation, other key goals of launching the Hornbill Festival were generating alternate livelihood streams for locals.

13. Soligas and Yeravas

Topic in Syllabus: 7.1 Problems of exploitation and deprivation of Scheduled Castes, Scheduled Tribes



The Soligas and Yeravas, indigenous groups living in the Western Ghats, forage foods from the biodiversity-rich region, forming a significant part of their diets.

- The recently launched book **“Forgotten Trails: Foraging Wild Edibles”** chronicles the diverse foods foraged by these tribes, emphasizing the importance of preserving traditional knowledge and addressing the **impact of land use changes and shifting policies on their food sources.**

About Soligas:

- The Soligas are an indigenous community residing in the Cauvery Basin and surrounding hills of peninsular India.

- The Soligas speak Sholaga, belong to the Dravidian family, and practice a blend of naturism, animism, and Hinduism, with Madeshwara as their primary deity.
- Notably, they are the **first tribal community within an Indian tiger reserve to have their forest rights formally acknowledged by a court of law.**

About Yeravas:

- The Yeravas, another indigenous community in the same region, **migrated from Wayanad district in Kerala and settled in Kodagu district.**
- They speak the Revula language, practice Hinduism, and believe in spirits residing in natural elements.
- **Yeravas, often agricultural labourers in coffee and tea plantations, include a higher quantity of tubers in their diet compared to Soligas.**
- They consume mushrooms during the monsoon season, and their settlements are called 'Kunju.'

14. How a focus on nutrition tipped the health scale for children in remote Odisha

Topic in Syllabus: 6.2 Problems of the tribal Communities

Better funding, community training & cultural context can improve outcomes further, say experts

Amita Sikaka (21), was anemic and underweight when she was pregnant with her first child. Weighing 35 kilograms, she felt frequent bouts of nausea and weakness.

But in the months that followed, Amita's weight and nutrition parameters were constantly monitored. She was provided hot, sumptuous meals every

day and her health parameters improved consistently. In February she delivered a healthy child.

Amita belongs to the Dongria Kondh tribe, a particularly vulnerable tribal group (PVTG). The PVTGs in Odisha are known for their particularly poor outcomes such as very low levels of literacy, high maternal and infant mortality from endemic malaria as well as poor nutritional indicators. India has 75 listed PVTGs with the highest number found in Odisha. Odisha has 13 PVTGs, with a population of 240,000 spread across 11 districts.

These outcomes stem from underemployment of these groups on the one hand and poor access to service delivery outposts (such as primary health centers and sub-centres) on the other. As poor nutritional status continues to remain an area of concern for the PVTGs, the state's Jiban Sampark nutrition programme is trying to bring in improvements. Like Amita, today many expecting and lactating mothers across the PVTG villages are being monitored and provided with one-time meals to keep their nutritional parameters buoyant.

The state government has also initiated a focussed initiative, the Odisha PVTG Nutritional Improvement Programme (OPNIP) under the Odisha PVTG Empowerment and Livelihoods Improvement Programme (OPELIP). OPNIP was initially started in three districts in phases in Malkanagiri, Rayagada and Kalahandi, and subsequently to nine others.

The major three interventions taken up under OPNIP were community-based creches for children of age 6 months to 3 years, spot feeding centres for children aged 3-6 yrs and maternal spot feeding centres for pregnant & lactating mothers.

Health remains a concern

There is no national health data specific to PVTGs but a study by Asian Institute of Public Health and the Scheduled Castes and Scheduled Tribes Research and Training Institute (SCSTRTI), conducted in 2015, shed some light.

Among those below the age of five years, 32 per cent of the respondents were severely stunted, 35 per cent were severely underweight and 18 per cent severely wasted. Around 34.9 per cent of the under-five age group were severely malnourished and 21.2 per cent were moderately malnourished. Every third child who was weighed at birth had a low birth-weight.

Among women of reproductive age, 38 per cent were underweight and 54 per cent were found to be anaemic. Anaemia poses a significant risk for maternal and child survival.

So when we speak of health, the approach needs to be holistic rather than unitary, the expert added.

These interventions, in convergence with related state departments, are designed to prioritise the first 1,000 days of life when rapid growth and development take place.

Local PVTG self-help groups are entrusted with managing the OPNIP interventions, noted OPELIP. This strengthens the community ownership and empowers local PVTG women's collectives in managing such nutrition interventions in their community.

Identifying and bridging the food gap

The extent of dietary energy and protein inadequacy was more pronounced among PVTGs, studies have shown, reiterating the fact that there remains a food gap. The intakes of various micronutrients, specifically that of iron, vitamin A, riboflavin and folic acid was found to be grossly inadequate, which is in consonance with inadequate intake of protective foods.

Considering that poor nutritional status of mothers puts the children at a higher risk of diseases and mortality, the OPNIP provides pregnant and lactating mothers with one hot cooked meal, through the supplementary nutrition programme for the period from registration of pregnancy till completion of exclusive breastfeeding.

Currently, around 900 pregnant women and nursing mothers are receiving the meals at 119 maternal spot feeding centres under OPNIP in the PVTG villages. And the initiative has shown results.

Drubi Kirsani (24) (name changed) had suffered two miscarriages and postnatal complications after the birth of her other three children. Drubi, who belongs to the Bonda tribe in Padeiguda village, Malkangiri district, had anemia and was underweight. "I have never been to the hospital for institutional deliveries. All my deliveries happened at home. There was no institutional care after delivery either. I always feared for my kids because they were thin and underweight," Drubi said.

In August last year, she was enrolled at the spot feeding centre and provided daily meals and iron tablets. "I generally eat just ragi or boiled rice for meals at home. My children eat that too," she said. The centre offers further dietary supplements with dal, vegetables and whole grains.

The 105 spot-feeding centres for PVTG children aged 3-6 years similarly provide hot cooked meals to around 1,100 children six days a week.

"Since small children from these hilly, tribal areas are not able to regularly commute to the Anganwadi Centres due to geographic inaccessibility, they are provided with the supplementary nutrition entitlement of morning snacks and hot cooked meal, as prescribed under Integrated Child Development Services, in the village of their habitation itself," an official from OPELIP said.

This is a deviation from the initial practice of providing take-home ration, said Namita Sahu, a nutrition coordinator. "We had observed that with take-home ration, there was no monitoring of what the mother would consume and what the child would consume. The spot feeding centres address this gap." Their health parameters are also observed every month to chart the difference," she added.

Experts working with the tribal groups feel that the initiative can not exclusively address the issue of bridging the gap, but can complement in the process, bridging the nutritional gap. "A majority of the PVTG habitations are located in unreachable areas. These habitations are also

scattered and there are villages / hamlets with just 10-15 households. In such a place, anganwadi centres are not feasible to be established," said AB Ota, former director of SCSTRTI.

Also, ration / food distributed for children normally ends up in the family food basket as the entire family is food insecure, Ota added. Thus, setting up creches and spot feeding centres is essential to bridge the nutritional gap of PVTG children.

Early child care

The initial years after birth, especially the first five years, are considered to be extremely vital for any child under five years of age, wherein optimal nutrition fosters healthy growth and improves cognitive development. In Devgada village of Kandhamahal district's Belghar block, Sanjuli Majhi drops off three children at the creche before venturing out into the forest to collect minor forest produce.

Belghar is home to the Kutia Kondh PVTG tribe. The creche facility not only addresses nutritional improvement for the children but also helps mothers leave their young children under proper care. The children would otherwise accompany their parents into the forests and get exposed to insects, snakes and vector-borne diseases. "There was a constant fear that my children would be bitten by snakes or any other insects. I would also develop back aches because the trek into the forest is usually through an uneven rocky path and would fall ill often," Sanjuli said.

Her children aged three years, two years and eight months had registered low birth weight. "When I enrolled them at the centre I was told that they were in the red zone. Now they are in the green zone and have shown significant improvement," Sanjuli said.

At the centres for younger children aged 6 months-3 years, children receive three meals, supervised care and attention of trained crèche workers, who are members selected from the PVTG self-help group. Creches function for 7-8 hours for six days a week and provide two snacks and one hot cooked meal, with a focus on calorie and protein-dense food items, said Jashoda

Badanayale, nutritional manager in Belghar. “Around 60-70 per cent of calories and 75-100 per cent of their protein requirement is taken care of.”

Children from selected villages are scanned for malnutrition through various technical methods and those found to be suffering from severe acute malnutrition are identified and treated with curative food and technical support, according to the programme.

A monthly log and growth chart is maintained to evaluate and assess the nutritional status of children. As a procedure to assess changes, the mid-upper arm circumference and weight is measured for all the children every month while the height is measured every four months. A community growth chart is maintained for all the children marking all improvements in green, minor improvements which still need care in yellow and children who need focussed attention in red. An analysis report of the intervention showed that for the 25 old creches, 49.5 per cent children fall under normal weight category and reported an improvement of 6 per cent from the baseline data.

From April 2022, 61 creches for children under three years of age have been made operational, catering to around 1,000 children under three years of age. Additionally, 46 new maternal spot feeding centres cum crèches are on the anvil and will be set up soon.

In the case of severe stunting, there is marked improvement with reduction from 34.8 per cent at baseline to 24.8 per cent in February 2023.

Not a smooth road still

While the initiatives have shown positive growth, challenges over training ground cadre and finances remain.

In Odisha, the share of the nutrition budget was 20.05 per cent of the state’s total budget, while it was 5.03 per cent of the gross state domestic product in 2022-23.

There has been an increment of 5.61 per cent in nutrition-specific components and of 28.46 per cent in nutrition-sensitive components for 2022-23, compared to 2021-22.

For OPNIP, in 2020-21 the nutrition budget was Rs 6.37 crore, which went down to Rs 3.3 crore in 2021-22. But it was revised to Rs 7 crore again for 2022-23. Among the initial challenges were that women from self-help groups had to be trained to take up the initiatives, said P Arthanari, Project Director, OPELIP. “For finances, we are converging with different departments, so this remains an area of challenge as well.”

Experts also feel that interventions like these can yield better results when they are contextualised culturally. “For nutrition, we have a common approach across the country, which is developed and tested by the Government of India. But food has more cultural than nutritional value,” said Biswajt Modak, a public health expert from Odisha. “So whatever the cultural food they have available within their immediate ecosystem, we should have a discussion with the tribal population and based on their food patterns, ecological systems and traditions, we should have our plan for nutritional initiatives,” he added.

15. 47% vacancies reserved for Scheduled Tribes remain unfilled

Topic in Syllabus: 7.1 Problems of exploitation and deprivation of Scheduled Castes, Scheduled Tribes



Minister informs Parliament on number of backlog vacancies, decline in funds for other economic support schemes for STs

In 2017, out of a backlog of 6,887 vacancies reserved for Scheduled Tribes (STs) in various central government ministries and departments, only 3,595 were filled, leaving around 47 per cent reserved positions vacant.

Jaswantsinh Sumanbhai Bhabhor, minister of state in the Ministry of Tribal Affairs, provided the figures in reply to a question raised in the Lok Sabha. The reply included data from 2016 – when around 30 per cent of the vacancies reserved for STs remained unfilled.

“As per information compiled by department of personnel and training in 10 central ministries/departments which includes their public sector banks/financial institutions, central public sector undertakings etc, out of 22,829 backlog reserved vacancies for STs, 15,874 vacancies were filled up

during the period from April 1, 2012 to December 31, 2016," the minister told the Parliament.

While, on one hand, the minister told the Parliament about the unfilled reserved vacancies, on the other, responding to a different question, he informed the House about the decline in funds for other economic support schemes for STs.

Giving details about the funds earmarked and utilised under the 'Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) scheme and development of value chain for MFP', Bhabhor told the Parliament that while the allocated funds for the scheme has come down from Rs 163 crore in 2013-14 to Rs 100 crore in 2017-18, the utilisation of those funds have plummeted from Rs 112 crore to a mere Rs 8.59 crore in the same period.

Although the figures for the year 2017-18 (upto December 31, 2018) are relatively better, with allocation of Rs 130 crore and utilisation of Rs 93 crore. In his reply, the minister also provided figures for the decline in loan amounts to STs under the National Scheduled Tribes Finance and Development Corporation (NSTFDC).

NSTFDC is a body under the Ministry of Tribal Affairs, formed to economically uplift the STs through financial assistance. NSTFDC provides loans through its state channelising agencies, certain public sector/cooperative or regional rural banks under four schemes – Term Loan scheme, Adivasi Mahila Sashaktikaran Yojana (AMSY), Micro Credit Scheme for Self Help Groups and Adivasi Shiksha Rrinn Yojana (ASRY).

Figures for the loan amount under all these schemes, given in Bhabhor's answer, show a downward trend. Under the Term Loan Scheme, the loan amount came down from Rs 125 crore in 2014-15 to Rs 27 crore in 2018-19 (till December 31, 2018). In the same period, the beneficiaries of the scheme came down from 14,836 to 6,164.

Under the Micro Credit Scheme, in the same period, loan amount increased from Rs 4 crore to Rs 6 crore, with beneficiaries increasing from 3,186 to

5,972. However, in 2015-16, the loan amount was Rs 55 crore and the beneficiaries were 26,080.

For AMSY, the loan amounts came down from Rs 23 crore to Rs 0.61 crore between 2014-15 and 2018-19. During the same period, the number of beneficiaries declined from 11,161 to a mere 202. With ASRY, while the loan amount went down from Rs 1.33 crore to Rs 1.09 crore between 2014-15 and 2018-19, the number of beneficiaries increased from 17 to 39.

16. Bru (Reang) Tribe

Topic in Syllabus: **7.2 Social change and contemporary tribal societies**



The Tripura government recently completed the settlement of the last batch of **Mizoram Bru refugees**, adhering to the **quadripartite agreement** signed earlier, under the initiative of the Ministry of Home Affairs (MHA).

What caused migration of Bru Tribes and what are its aftermath?

- Historically, the Bru community has faced displacement due to ethnic tensions, leading to their migration to neighboring states.
- In **1997**, ethnic tensions forced the **Bru (Reang) tribe** to flee **Mizoram**.
- The **MHA**, along with **Tripura** and **Mizoram governments**, signed a quadripartite agreement in 2020 for the permanent settlement of **6,959 Bru families** in Tripura.

Settlement Process:

- Permanent settlement involved **12 locations** across 4 districts in Tripura.
- Ongoing efforts includes provision of electricity, drinking water, and civic facilities at the settlement in **Laungangsom, south Tripura**.
- The State government will ensure that a conducive living environment is provided to the resettled families.
- The **MHA** allocated funds for the implementation of the settlement agreement, which covers monthly rations, household items, and stipends for the refugees.

Bru Tribe:

- The **Bru tribes**, also known as Reang, are an indigenous community primarily residing in the northeastern region of India.
- They are mainly found in the states of **Tripura, Mizoram, and parts of Assam**.
- In Mizoram, they constitute one of the **largest minority communities**.
- In Tripura, the Brus are a designated **Particularly Vulnerable Tribal Group (PVTG)**.
- **Culture:**
 - They speak the **Kaubru** language, affinity to **Austro-Asiatic** groups under Tibeto-Burman family.
 - Kaubru have a tonal effect of **Kuki language** though it is mainly a **Kok-Borok dialect**.
 - By religion they are Hindus and most of their deities are akin to gods and goddesses of Hindu faith especially **Vaishnavism**.

- **Dance type:** Hozagiri dance
- **Festival:** Buisu
- The women wear a long cloth called **Mnai**, a **wraparound**; from the waist to down to the knees, a **Risa** covering the chest, and **Rikatouh** for covering the upper half of the body.
- **Social Structure:** They are divided into **2(two) major clans** (i) Meska and (ii) Molsoi.
 - Community bonding is strong, and traditional councils play a crucial role in dispute resolution.
- **Economic Activities:**
 - The Bru community traditionally engages in **agriculture**, cultivating crops like rice, maize, and vegetables.
 - In the past, they mostly practised the **Huk** or **Jhum cultivation** like most other tribes of Tripura.
 - However currently, most of them have adopted modern agricultural practices.

17. Kolam tribe

Topic in Syllabus: 9.1 History of administration of tribal areas, tribal policies, plans, programmes of tribal development and their implementation

The Central government launches the **Jan Jati Adivasi Nyay Maha Abhiyan**, focusing on providing basic facilities to the endangered **Kolam** tribe.

Kolam tribe:

- Kolam are a designated Scheduled Tribe in the Indian states of **Telangana, Chhattisgarh, Madhya Pradesh** and **Maharashtra**.
- They are considered among the **Particularly Vulnerable Tribal Groups (PVTGS)**.
- They are common in the **Yavatmal, Chandrapur and Nanded** districts of Maharashtra and live in hamlets called pod.
- They speak the **Kolami language**, which is a **Dravidian language**.
- They are an **agricultural community**.

- They have a high rate of returning positive to the **Naked eye single tube red cell osmotic fragility test (NESTROFT)**, making them **prone to high incidence of Thalassaemia**.

Jan Jati Adivasi Nyay Maha Abhiyan:

- The Central government is extending basic facilities to the **endangered Kolam tribe** under the **Jan Jati Adivasi Nyay Maha Abhiyan**, focusing on **health** and **education** for the PVTG.
- The scheme targets **improving road connectivity** from **mandal headquarters** to **Kolam villages**, enhancing internal roads, and ensuring access to **potable drinking water**, electricity or solar energy, and **LPG gas stoves and cylinders**.
- Emphasis is placed on strengthening health and education for the Kolam tribe, with measures such as improving local **primary healthcare centres (PHCs)** and **providing special training to teachers** in the area for quality education.
- **Anganwadis** will be reinforced to offer **nutritious food** to pregnant, lactating women, and teenage girls, and **financial assistance** will be provided to pregnant women through the Ayushman Bharath scheme.
- The scheme identifies a total of 390 villages of PVTGs, including 197 in Adilabad, 20 in Mancherial, 24 in Nirmal, and 149 in Komaram Bheem Asifabad district.
- **Skill development training** will be **provided to unemployed youth**, ensuring suitable employment opportunities.
- Additionally, farmers from PVTGs will receive **agriculture motors, cattle**, and **agriculture tools** under the scheme.
- The **integrated tribal development agency** officials will play a crucial role in implementing the Jan Jati Adivasi Nyay Maha Abhiyan, addressing the unique needs of the Kolam tribe.

18. Implementation of Idate Commission Report

Topic in Syllabus: The concept of PTGs (Primitive Tribal Groups), their distribution, special programmes for their development. Role of N.G.O.s in tribal development.

The **National Human Rights Commission (NHRC)** has recently emphasized the urgent need to adopt and implement the recommendations of the **Idate Commission report**.

Key Highlights from NHRC's Recent Focus:

□ NHRC calls for setting up a permanent commission for Nomadic, Semi Nomadic, and De-Notified Tribes (NTs, SNTs, and DNTs), as recommended by the Idate Commission.

□ The NHRC recognizes the challenges faced by these people due to historical stigma, primarily from the Criminal Tribes Act, 1872, and Habitual Offenders Act, 1952.

□ **Habitual Offenders Act, 1952:** The act can either be repealed or a representative from the De-notified Tribe community shall be included with the nodal officers.

□ The **Habitual Offenders Act** defines a **habitual offender** as someone who has been convicted and sentenced to **imprisonment more than twice in five years**.

□ There is a necessity to **change the colonial mindset** that labels De-Notified Tribes as having “**criminal tendencies**.”

□ The documentation process for these communities must be boosted to ensure they receive **welfare scheme benefits**.

□ Issues like the **lack of citizenship** documents among De-Notified communities must be discussed.

NHRC suggests measures to **overcome the difficulties faced** by these communities, including ensuring their representation in parliament, government institutions, and higher education.

□ **Special attention** to the **women and children** of these tribes, must be highlighted citing their unique challenges and needs.

About Idate Commission Report:

□ The commission was established in **2015** to promote the **planned development** of NTs, SNTs, and DNTs, with **Bhiku Ramji Idate** as the chairperson.

□ It **recognized** these communities as the '**poorest among the poor**' and unanimously stressed on specific programs for their development.

□ It is outlined in the **interim report for** education, housing, infrastructure, health facilities, microfinance, and skill development.

Key Recommendations:

□ **Establishment of a Permanent Commission:** This would include community leaders, IAS officers, and subject experts to address ongoing issues and provide consistent support.

□ **Separate Department/Directorate:** For each state to ensure effective administration and coordination for the development of these people.

□ **Census and Proactive Data Collection:** It emphasized conducting a detailed census for accurate data on their population for policy formulation.

□ **Strong safeguards:** It asked for constitutional protections like extension of the Protection of Atrocities Act to these communities.

□ **Representation:** It proposed that due representation in Political Bodies would ensure partnership in the decision-making process.

□ **Sub-Quota:** A sub-quota or a separate category within existing quotas could address the non-representation issues in education, employment, and other spheres.

□ **Removal of Anomalies:** In order to address categorization anomalies and rationalize classifications based on ethnographic studies and due procedures.

About De-notified Tribes in India:

□ The term 'De-notified Tribes' stands for all those communities that were once notified under the **Criminal Tribes Acts**, enforced by the **British Raj** between **1871-1947**.

□ These Acts were repealed in 1952, and these communities were "**De-Notified**".

The terms- **nomads and semi-nomads** are applied to 'social groups who undertook frequent, or seasonal physical movement as part of their livelihood strategy in the recent past.

□ The term **semi-nomad** is mostly used to describe those sections of nomads whose duration, distance, and frequency of movement are **comparatively less than others**.