This series provides compilation of daily CURRENT AFFAIRS of Anthropology. It is aimed at addressing the requirement of aspirants to add contemporary aspects of the subject to the answers.

It also helps in understanding the trends of anthropology across India and the world.

**NOTE:** Please attempt the questions given at the end of the document and can upload on the [telegram channel: Sosin for Anthropology Q&A](https://t.me/Sosin_Anthropology_QA), for peer review.
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Note - For convenience, the respective reference links have been dropped at the end of every topic.
A. BIOLOGICAL ANTHROPOLOGY

1. Tribal Nourishment & Reforms
The tribal food system is dependent on dryland agriculture, forests, common property, water resources, and biodiversity.

Estimates show that about 40 percent of under-five tribal children in India are chronically malnourished (stunted). Chronic malnutrition impacts survival, growth, learning, performance in school, and productivity as adults.

High levels of exclusions, poor sanitation, hygiene, and lack of safe drinking water, worm infestation, and diseases like malaria, sickle cell anemia, and tuberculosis exacerbate morbidity and mortality.

Investment in tribal food systems will supercharge demographic dividends. It calls for a leadership agenda of action. To increase the availability, accessibility, affordability, and consumption of safe and nutritious foods; the undernourished tribals need a nutrition-sensitive and sustainable food system. The suggested reforms are as follows:

1. **Structural Reforms**- A new legislation on food systems that can take care of a) sustainable food and nutrition, b) food safety and c) preserving biosafety and biodiversity is necessary for a dignified living and just and equitable governance.

2. **Atmanirbhar POSHAN (Nutritional Self Reliance)**- It is one of the critical policy measures on revitalizing food systems. Each district must be self-sufficient in at least six food groups- this can bring food and nutritional self-sufficiency at the sub-national level. These food groups constitute cereals and millets, pulses, milk and milk products, roots and tubers, green leafy vegetables, other vegetables, fruits, sugar, fat/oil and meat, fish, poultry, and eggs.

3. **Integrated Strategy to Address Disease Burden**- There must be an integrated strategy on addressing issues of malnutrition, lymphatic filariasis and malaria, childhood TB, sickle cell anemia, and HIV reduction. In this regard, India needs to establish a centre of excellence. In the endemic areas, screening of filaria and malaria need to be incorporated specifically in routine antenatal care, village health nutrition and sanitation days (VHNSD) and in the gram sabhas.

4. **Promoting and Protecting Livelihoods**- Tribals need a sustained income that can address seasonality, perpetual poverty, and increase affordability. Promotion of women smallholder farmer-led resilient nutrition-sensitive agriculture, nutrition entrepreneurs under “Stand Up India Scheme” and incentivizing tribal micro-small and medium enterprises (MSMEs) will be important measures.

COVID-19 provides an opportunity for new world order. It is a critical wake-up call to redesign the food systems that promote and protect biodiversity, delivers a nutritious and affordable diet for all. All the stakeholders need to come together to systematically solve the food and nutrition divide for sustainable food systems and the planet.

*Reference:*
2. Sahai

- Jharkhand government plans to launch a special scheme 'Sahai' to promote sportspersons in extremist-hit areas.
- Under the plan, officials from the Sports Department have been asked to identify potential talents under 19 years of age.
- To instill a culture of sports and identify talent in the state, Chief Minister Hemant Soren has directed officials of the Sports Department to work on a special sports scheme named 'Sahai' (assistance) for youth from Naxalite-affected areas.
- Under the scheme, potential sports talent will be identified from the Panchayat level and taken to the Block level and District level where they will be prepared for national and international sports events.
- The scheme will be implemented in coordination with the sports and police departments.
- The objective of the scheme is to reduce the gap between the people and the police through sports while grooming budding sportspersons.
- "Under the 'Sahai' scheme, the government plans to organize multiple sports tournaments in collaboration with national and state-level sports federations. Indian women's national football camp, being organized in Jamshedpur, will prepare women players for the Asian Football Cup which is to be held from 20 January 2022 to 6 February 2022.
- This will encourage women football players from Jharkhand to play with national-level players and get an insight into their past experiences
- The government plans to develop free day boarding centers in each block along with equipping every district with modern state-of-the-art residential training centers.

Reference:

B. BIOLOGICAL ANTHROPOLOGY

1. Junk DNA

- Researchers have recently identified a DNA region known as VNTR2-1 that appears to drive the activity of the telomerase gene, which has been shown to prevent aging in certain types of cells.
- Knowing how the telomerase gene is regulated and activated and why it is only active in certain cell types could someday be the key to understanding how humans age and how to stop the spread of cancer.
- The telomerase gene controls the activity of the telomerase enzyme, which helps produce telomeres, the caps at the end of each strand of DNA that protect the chromosomes within
our cells. In normal cells, the length of telomeres gets a little bit shorter every time cells duplicate their DNA before they divide.

- When telomeres get too short, cells can no longer reproduce, causing them to age and die. However, in certain cell types -- including reproductive cells and cancer cells -- the activity of the telomerase gene ensures that telomeres are reset to the same length when DNA is copied.
- This is essentially what restarts the aging clock in new offspring but is also the reason why cancer cells can continue to multiply and form tumors.
- Almost 50% of our genome consists of repetitive DNA that does not code for protein.
- These DNA sequences tend to be considered as 'junk DNA' or dark matter in our genome, and they are difficult to study.
- The study describes that one of those units actually has a function in that it enhances the activity of the telomerase gene.
- Their finding is based on a series of experiments that found that deleting the DNA sequence from cancer cells -- both in a human cell line and in mice -- caused telomeres to shorten, cells to age, and tumors to stop growing.
- Since very short sequences were found only in African American participants, they looked more closely at that group and found that there were relatively few centenarians with a short VNTR2-1 sequence as compared to control participants.
- It is known that oncogenes -- or cancer genes -- and tumor suppressor genes don't account for all the reasons why we get cancer. The research shows that the picture is a lot more complicated than a mutation of an oncogene and makes a strong case for expanding our research to look more closely at this so-called junk DNA.

Reference:
https://www.sciencedaily.com/releases/2021/07/210723105258.htm

2. Social Life & Gene Expression
- Having friends may not only be good for the health of your social life, but also for your actual health -- if you're a hyena, that is.
- Strong social connections and greater maternal care early in life can influence molecular markers related to gene expression in DNA and future stress response, suggests a new study of spotted hyenas in the wild.
- Researchers found that more social connection and maternal care during a hyena's cub and subadult, or "teenage," years corresponded with lower adult stress hormone levels and fewer modifications to DNA, including near genes involved in immune function, inflammation and aging.
- As far back as the 1950s and 60s, laboratory research has drawn associations between early life experiences in rodents, primates and humans and behavioral and physiological differences later in life.
• One landmark study published in 2004 also showed that the offspring of rats who got licked and groomed more by their mothers had less DNA methylation in a gene involved in regulating stress response. This kick-started the desire for more evidence that early life experiences could be related to patterns of modification in genes that influence stress and health.

• Hyenas are ideal for such research as they are devoted mothers, have a strict social hierarchy and follow a consistent timeline for raising their cubs. Instead of giving birth to larger litters, they typically have one or two cubs at a time. Soon after birth, the cubs move into a communal den, where they are integrated into their peer group. For the next year, they still nurse and their mother licks and grooms them, but after that the cubs start to wander out of the den and, like teenagers, learn to start making their way in the world.

• In general, hyenas, like other vertebrates, benefit from the effects of stress hormones (e.g. cortisol) mobilizing energy, increasing their heart rate and shutting down non-essential functions, like digestion or reproduction, when escaping a dangerous situation. However, there are significant physical drawbacks to these processes occurring chronically, day after day in humans or other animals as the result of chronic stressors. That’s why having a healthy stress response is so critical.

• The researchers also wanted to find out if the relationships between early life social experiences and how stress presents later in life is managed by molecular mechanisms.

• The researchers found that the maternal care hyenas received during their first year of life, as well as their social connections after den independence, corresponded to differences in DNA methylation levels.

Reference: https://www.sciencedaily.com/releases/2021/07/210722163017.htm

3. Gut Health

• A new study in mice shows that normally, the immune system keeps potentially pathogenic fungi such as Candida albicans in check, targeting them when they switch into a state that can cause harm; when the system is off-balance, disease is more likely to occur.

• Fungi have been wholly understudied in part because they are vastly outnumbered by bacteria.

• New tools and technologies are starting to make investigations like this one possible.

• The scientists became interested in this line of research after noting that a common medical test for diagnosing Crohn’s disease, a type of inflammatory bowel disease, works by detecting antibodies against fungi.

• To dig deeper, the researchers searched for the trigger of the immune response.

• Investigation showed that antibodies zeroed in on elongated fungal cell types called hyphae, specifically binding to proteins called adhesins that help microbes stick to surfaces and become invasive.
● They found that mice populated with *Candida albicans* in its normal, rounded state remained healthy.
● In contrast, mice populated with the yeast in its invasive form caused intestinal damage that resembled inflammatory bowel disease.
● The results show that normal antibody responses in the gut inhibit disease by recognizing the harmful, hyphal form of fungi.

*Reference:*

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**UPSC Previous year questions based on today’s concept:**

1. What are the significant factors responsible for tribal unrest  
   (15 Marks - 2014)
2. Genome Study  
   (L.Q. - 1990)

**DAILY PRACTICE QUESTION/S FOR MAINS 2021.**

Please do not forget to upload your answer sheet for a peer review on the telegram channel:  

**Sosin for Anthropology Q&A**

1. Explain different tribal development schemes currently in operation in the fields of education, health and sports.  
   (20 Marks)