



International Symposium on Sustainable Livestock Transformation

For Prelims: [G20](#), [Article 48](#), [Article 51A\(g\)](#), [Lumpy skin disease](#), [Heat stress](#), [National Animal Disease Control Program](#), [National Livestock Mission](#), [Prevention of Cruelty to Animals Act, 1960](#).

For Mains: Challenges Related to Livestock Sector in India

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Why in News?

Under the **Agriculture Working Group (AWG)** of [G20](#), the **International Symposium on Sustainable Livestock Transformation** was inaugurated at [National Dairy Development Board, Anand](#).

What is the Status of Livestock Sector in India?

- **About:**
 - **Livestock** provides livelihood to **two-third of rural community**. Also, the sector contributes to around **4%** of country's GDP.
 - **Dairy** is the **single-largest agri commodity** in India. India is ranked 1st in milk production contributing 23% of global milk production.
 - There are about **303.76 million bovines** (cattle, buffalo, mithun and yak), 74.26 million sheep, 148.88 million goats, 9.06 million pigs and about **851.81 million poultry** as per **20th Livestock Census** in the country.
 - According to Food and Agriculture Organization Corporate Statistical Database (FAOSTAT) production data (2020), **India ranks 3rd in Egg Production and 8th in meat production in the world**.
- **Related Constitutional Provisions:**
 - **Directive Principle of State Policy:**
 - **Article 48:** The State shall work towards organizing **agriculture and animal husbandry** on modern and scientific lines.
 - It shall take steps to **preserve and improve the breeds of cows**, calves, and other milch and draught cattle and **prohibit their slaughter**.
 - **Fundamental Duty:**
 - **Article 51A(g):** It is the duty of every citizen to protect and improve the natural environment, including forests, lakes, rivers, and wildlife, and to **show compassion for all living creatures**.
- **Challenges Related to Livestock Sector in India:**
 - **Resource Scarcity and Feed Shortages:** The demand for **animal feed**, including **grains and fodder**, surpasses supply, resulting in higher costs for farmers and compromised animal nutrition.
 - This scarcity affects **livestock health, productivity, and overall welfare**,

necessitating innovative solutions for sustainable feed production and distribution.

- According to the [Indian Grassland and Fodder Research Institute \(IGFRI\)](#), India faces a **green fodder shortage of 63.5%**, and the shortage of dry fodder is 23.5%.
- **Inadequate Healthcare Infrastructure:** Limited access to veterinary services and vaccines poses a threat to disease control, leading to frequent outbreaks that impact livestock productivity and quality of produce e.g., [lumpy skin disease](#).
- **Climate Change and Environmental Pressures:** [Erratic weather patterns](#), water scarcity, and rising temperatures impact both feed and water availability, making **livestock vulnerable to [heat stress](#) and related diseases**.
 - A study by the **National Dairy Research Institute (NDRI)** found that heat stress reduced milk yield by **0.45 kg per cow per day** during summer months in India.
- **Quality Breeding and Genetic Improvement:** Livestock breeding in India often faces limitations in terms of **access to quality breeding stock and genetic improvement programs**.
 - According to the **Department of Animal Husbandry & Dairying (DAHD)**, only **30% of the breedable female bovines are covered under artificial insemination** services in India.
- **Animal Welfare and Ethical Concerns:** Ethical issues related to livestock farming, such as [animal cruelty](#) and **inhumane practices**, have gained increasing attention in recent years.
- **Government Initiatives Related to Livestock Sector:**
 - [National Animal Disease Control Program \(NADCP\)](#)
 - Animal Husbandry Infrastructure Development Fund (AHIDF)
 - [National Livestock Mission](#)
 - [Prevention of Cruelty to Animals Act, 1960](#)
 - **Animal Welfare Board of India (AWBI)** was established in 1962 under Section 4 of the Act.

Way Forward

- **Nutritional Innovation for Livestock Feed:** Encouraging research and development in alternative and sustainable feed sources.
 - There is a need to invest in technologies for **insect-based protein, algae-based supplements, and byproduct utilization** to reduce dependency on traditional feed crops.
- **Livestock Waste-to-Energy Projects:** Promote the establishment of bioenergy plants that utilize **livestock waste for [biogas production](#)**.
 - This not only addresses waste management but also generates renewable energy for rural communities.
 - The byproducts of biogas production can be used as organic fertilizers, closing the loop on resource utilization and enhancing sustainability.
 - Also, promoting circular economies by converting [agricultural waste into nutritious animal feed](#) which can be both eco-friendly and cost-effective.
- **Genetic Surveillance:** [Genetic Surveillance](#) especially of viruses needs to be strengthened for livestock in India.
 - As the **lumpy skin disease** outbreak continues to spread rapidly with high mortality, there is a need to scrutinise its **genetic structure and analyse its behaviour to tackle this issue effectively**.
- **Towards One-Health Approach:** Recognizing the [One Health Approach](#) is crucial, understanding the interconnectedness of people, animals, plants, and the environment.
 - Encouraging interdisciplinary collaborations in research and knowledge sharing can promote health sustainability and effectively address [zoonotic diseases](#).

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q.1 Which of the following is the chief characteristic of 'mixed farming'? (2012)

- (a) Cultivation of both cash crops and food crops
- (b) Cultivation of two or more crops in the same field
- (c) Rearing of animals and cultivation of crops together
- (d) None of the above

Ans: (c)

Mains

Q. Livestock rearing has a big potential for providing non-farm employment and income in rural areas. Discuss suggesting suitable measures to promote this sector in India. **(2015)**

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