



Transition of Livestock Operations into Plant-based Operations

For Prelims: Livestock farming, Plant-based Operations.

For Mains: Significance of Plant-based Operations and what needs to be done for promoting this transition.

Why in News

There is a **revolution happening on farms** around the world where livestock operations are transitioning into plant-based operations and creating safer and better-paid jobs.

Key Points

▪ About:

◦ **Livestock Farming:**

- It is simply the **management and breeding of domestic, livestock or farm animals** for the purpose of obtaining their meat and products (milk, eggs, leather, etc.).
- It can also be described as the **economic activity that involves raising domestic animals** for human consumption and obtaining meat, milk, wool, fur, honey, among others.

◦ **Issues with Livestock Farming:**

- Animal farming has trapped many farmers in notoriously exploitative contracts, with poor working conditions, low income, high vulnerability to market forces and extreme stress.

◦ **Transition to Plant Based Operations:**

- The idea of a Plant Based Operations (**just transition in agriculture**) refers to **frameworks for restructuring food systems based on production and consumption philosophies** that prioritize sustainability, decarbonization, and the wise and fair use of human, financial, and environmental resources.
- Just transitions **favor farming techniques and practices that do not come from the standard playbook of industrial agriculture**, which extracts profit from the natural world while harming animals, farming communities, and the environment.
- Contrary to what is often claimed, **transitioning to plant-rich diets** could help improve equitable food distribution and nutrition security. Growing crops only for human use may boost available food calories by up to 70%, serving an additional four billion people.

▪ **Significance of the Transition:**

◦ **Provide Healthier & Safer work:**

- **Industrialised livestock production** is a dangerous business that poses a serious threat to human health and psychological well-being.
- The impact of injuries, illness and trauma affects the individual worker and has

devastating effects on the families and communities in which they live.

- **Example:** Emergence of New strains of [bird flu](#) and [swine flu](#) every year poses a major threat to human health.
- **Climate-friendly Food Systems:**
 - A transition away from industrialised livestock production **empowers farmers to protect the climate** and the very land on which they work.
 - The livestock sector is projected to account for up to **81% of the 1.5 degrees Celsius emissions budget by 2050** if production continues unabated.
 - **Livestock production exacerbates climate change** but a rise in global temperatures is equally damaging for livestock production, posing a major threat to farmers' livelihoods.
 - Further, **climate change increases the emergence of livestock diseases**, reduces animal reproduction and exacerbates biodiversity loss.
- **Enormous Job-Creation Potential:**
 - According to the [International Labour Organisation](#), transitioning to environmentally and socially sustainable economies can **drive job creation, create better jobs, increase social justice and reduce poverty**.
 - It is estimated that a just [energy transition](#) will create **24-25 million jobs**, far surpassing the 6 or 7 million jobs lost by 2030. Similar benefits will be seen in a just livestock transition.
- **Related Example:**
 - **Denmark has recently announced** a binding decision to halve agricultural emissions by 2030 as a part of their ambition to reach **70% greenhouse gas reductions by 2030**.
 - The government will make USD 90 million available for five years to farmers producing plant-based foods and has committed to creating an annual fund of USD11.7 million until 2030 to support the transition to plant-based food.
- **Challenges:**
 - Lack of technology access and investment in farming, lack of awareness of the benefits of transition to emission reduction, lack of institutional support for diversification within the food sector, lack of compensation payouts for losses, lack of guaranteed income streams, young people moving away from agriculture.
 - Furthermore, there is a **lack of financial incentives for farmers**, especially rural smallholders, to adopt sustainable and regenerative agricultural practices, as they cannot bear the associated costs and risks on their own.
- **State of India's Livestock:**
 - India is the **highest livestock owner of the world**. As per the [20th Livestock Census \(2018\)](#), the total Livestock population is 535.78 million in the country showing an increase of 4.6% over Livestock Census-2012.
 - As per the [Economic Survey-2021](#), the contribution of Livestock in total agriculture and allied sector [Gross Value Added](#) (at Constant Prices) has increased from 24.32% (2014-15) to 28.63% (2018-19).
- **Plant Based Operations in India:**
 - A slew of Indian startups are making **meat-eating which is cruelty-free and more eco-friendly**.
 - Plant-based meats or smart proteins are next-generation food innovation that perfectly replicates the taste, smell, and sizzle of animal meat but is made entirely from plant ingredients.
 - Recently, a team of scientists from IIT Delhi has won an innovation contest (Innovate 4 SDG) organised by the United Nation Development Programme (UNDP) Accelerator Lab India for their innovation of a ["plant based mock egg"](#).

Way Forward

- The **science and socioeconomic data clearly indicates** that business as usual is no longer an option. To enable a just livestock transition, ambitious political action is required at all levels.
- Furthermore, such measures should also be **complemented by policies aimed at increasing plant-based food consumption** to prevent emissions leakage and to enable an overall transition to more sustainable food production and consumption.

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