EDITORIAL: THE HINDU

GENERAL STUDIES 3: ECONOMY
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IN ENERGY-DEPENDENT WORLD, THE ISSUE OF FOOD SECURITY

1. **Global Challenges in Food and Energy Sectors**

   - The interconnected crises of **food insecurity** and **energy poverty** are critical threats to global stability.
   - **Climate change**, **population growth**, and **inequality** are placing immense strain on food systems, while **geopolitical tensions**, outdated infrastructure, and slow energy transitions complicate efforts to secure energy.
   - Agriculture plays a significant role as both an **energy consumer** and a major emitter of **greenhouse gases**, amplifying the difficulty of balancing food production with energy demands.

2. **Dependence of Agriculture on Fossil Fuels**

   - Agriculture accounts for **70% of global freshwater use** and contributes **over 20% of global greenhouse gas emissions**.
   - It heavily depends on **fossil fuels** for irrigation, mechanization, and fertilizer production, leading to environmental harm and vulnerability to energy price fluctuations.
   - Between **2020 and 2023**, approximately **11.8% of the global population** experienced severe food insecurity, with predictions indicating **956 million** will be affected by 2028.

3. **Inequities in Energy Access and Their Impact**

   - Despite **$500 billion in renewable energy investments** in 2022, **fossil fuel consumption** remains prevalent due to **geopolitical pressures** and **economic constraints**.
   - **Energy poverty** is particularly prevalent in low-income countries, reducing agricultural productivity and raising food prices.
   - **Sub-Saharan Africa** spends **$1.9 billion on fertilizers** but faces high costs due to **low fertilizer usage**, worsening food insecurity.

4. **Geopolitical and Economic Risks to Agricultural Stability**

   - **Natural gas**, critical for **fertilizer production**, is essential both as an energy source and a feedstock, making the agricultural sector vulnerable to **price volatility**.

- **Geopolitical issues**, such as **China's 2021 ban on phosphate fertilizer exports**, disrupted global supply chains, causing significant shortages, particularly in countries like **India**, which imports a large portion of its fertilizers.

5. **Renewable Energy Deployment and Its Challenges**

   - **Renewable energy** deployment remains **disproportionately skewed**, with **83% of new renewable capacity** installed in **high-income countries** in 2022.

   - **Solar irrigation** and **biomass energy** present viable solutions but are limited by **high costs** and **lack of infrastructure** in low-income areas, hampering their potential to address agricultural energy needs.

6. **Competing Agricultural Demands and Biofuel Production**

   - **Agriculture** faces a dual challenge: meeting the growing demand for food while also supporting **biofuel production** for the energy transition.

   - The competition between food production and **biofuels** is a significant issue, as **biofuels** require substantial **land** and **water resources**, which can undermine food security.

7. **Financial Implications of Addressing Global Needs**

   - Meeting the **global caloric needs** of vulnerable populations will require approximately **$90 billion annually** until 2030.

   - Additionally, an investment of **$300–$400 billion** is necessary to **transform food systems** and ensure **sustainability**.

   - Inaction on food and energy security could result in **trillions in lost productivity** and **deteriorating health outcomes** worldwide.

8. **Risks of Energy Instability and Geopolitical Tensions**

   - **Energy disruptions**, driven by climate change, risk destabilizing regions, potentially leading to **conflict**, **unrest**, and **migration**.

   - The **exploitation of Africa's mineral resources** for renewable energy projects, without benefiting local communities, could perpetuate **poverty** in these regions.

9. **The Need for Immediate and Inclusive Action**

   - **Clean energy solutions** must overcome systemic barriers to ensure **vulnerable communities** are not left behind.

   - Agriculture should be **reconceptualized** as a key part of **sustainable development**, integrating food security with **environmental** and **energy goals**.

- **Immediate action** is essential to prevent worsening **hunger** and to align global efforts with **climate objectives**.

Conclusion

The combined challenges of **food insecurity** and **energy poverty** pose significant risks to global stability, with agriculture playing a central role in both. The need for **inclusive, sustainable solutions** that balance food production, energy needs, and environmental concerns is urgent. Prompt and coordinated action is required to address these crises and protect vulnerable populations, ensuring a **sustainable, equitable future**.

Source: https://www.thehindu.com/opinion/op-ed/in-energy-dependent-world-the-issue-of-food-security/article68966351.ece