

The Impact of Climate Change on Poor Farmers in India: FAO Report

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Background

- A recent report from the **Food and Agriculture Organization (FAO)** highlights how **climate change** disproportionately affects **poorer farmers in India**.
- Titled **"The Unjust Climate: Measuring the Impacts of Climate Change on Rural Poor, Women, and Youth,"** the report reveals the vulnerabilities faced by marginalized farming communities due to climate-induced stresses such as **heat stress, floods, and droughts**.

About Food and Agriculture Organization

- The **Food and Agriculture Organization (FAO)** is a specialized agency of the **United Nations** that leads international efforts to defeat hunger, improve nutrition, and ensure food security.
- Its primary mission is to raise levels of nutrition, improve agricultural productivity, and better the lives of rural populations by promoting sustainable agricultural practices.
- Established in **1945**, FAO's headquarters is located in **Rome, Italy**.
- **Key Objectives of FAO:**
 - **Eradicating Hunger and Food Insecurity:**
 - FAO works towards achieving a world free of hunger, ensuring that everyone has access to safe and nutritious food.
 - **Sustainable Agriculture:**
 - The organization promotes the adoption of sustainable agricultural methods to increase productivity while preserving natural resources like soil, water, and biodiversity.
 - **Improving Rural Livelihoods:**
 - FAO supports smallholder farmers, rural communities, and women by providing tools, knowledge, and access to markets to improve their economic opportunities.
 - **Tackling Climate Change:**

- The FAO is actively involved in addressing the impacts of **climate change** on food systems and advocating for climate-resilient farming practices.

Key Highlights of the Report

- The FAO, recently, presented the report “The unjust climate. Measuring the impacts of climate change on rural poor, women, and youth” at an event in New Delhi. Key Findings of the Report:
 - **Income Disparities:**
 - The report finds that **poor households** globally lose **5% of their income** annually due to heat stress and **4.4%** due to floods, compared to wealthier households.
 - In India, rural poor households are particularly vulnerable because their income sources are more reliant on **climate-sensitive agriculture**.
 - **Structural Inequalities:**
 - According to the report, the vulnerability of poor farmers is deeply rooted in **structural inequalities**.
 - Households exposed to climate stressors experience a more significant reduction in total income compared to those unaffected.
 - Poor farmers dedicate more resources to sustaining agricultural production during adverse events, leading to reduced opportunities for **off-farm employment**.
 - **Impact of Heat Stress and Floods:**
 - The report states that climate change widens the income gap between poor and non-poor households globally.
 - Floods increase this gap by approximately **\$21 billion per year**, while heat stress contributes to a gap of over **\$20 billion**.
 - In India, rising temperatures increase the dependency of poor households on farming, while off-farm incomes decrease by **33%**.
 - **Policy Recommendations:**
 - The **FAO** report suggests expanding **social security nets** for vulnerable communities.
 - **Anticipatory social protection programs**, which provide livelihood support ahead of extreme weather events, can help reduce poverty and reliance on harmful coping strategies.
 - The report also recommends addressing **gendered barriers** in employment, promoting **workforce diversification**, and providing **mentorship programs** to help rural communities participate in the modern workforce.
 - The report emphasizes the need to empower **women** and **youth** in rural areas to help combat the effects of climate change.
 - **Gender-transformative approaches** are necessary to challenge discriminatory social norms and enable women to make economic decisions that directly affect their lives.
 - The report suggests **mentorship programs** and initiatives to strengthen socio-emotional skills, allowing women and youth to better participate in the workforce and adapt to modern employment needs.

NITI Aayog’s Response

- Responding to the report, **Ramesh Chand**, a member of **NITI Aayog**, said that India has been actively addressing the challenges posed by climate change. Key initiatives include:
 - **National Innovations on Climate Resilient Agriculture (NICRA):**
 - This project was implemented to help Indian farmers adapt to extreme weather conditions.
 - NICRA offers solutions for various crops, ensuring that farmers are equipped to handle adverse climatic events.
 - **Employment Guarantee Schemes and Social Safety Nets:**
 - India was the first country to implement an **employment guarantee scheme** (Mahatma Gandhi National Rural Employment Guarantee Scheme) to provide economic security to its population.
 - During the **COVID-19** pandemic, the government distributed **free food grains** (Pradhan Mantri Garib Kalyan Anna Yojana) to two-thirds of the population, demonstrating its commitment to addressing both climate-related and economic challenges.
 - **Increasing Women's Participation:**
 - Recent data from the **Periodic Labour Force Surveys (PLFS)** shows a significant increase in women's participation in the workforce, indicating progress toward gender equality in employment opportunities.
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Q1. How does nitrogen fixation occur in plants?

Nitrogen is fixed, or combined, in nature as nitric oxide by lightning and ultraviolet rays, but more significant amounts of nitrogen are fixed as ammonia, nitrites, and nitrates by soil microorganisms. More than 90 percent of all nitrogen fixation is affected by them.

Q2. Which is the powerhouse of plants?

Chloroplasts are the powerhouses of plants. They are the site of photosynthesis, the process that uses sunlight and carbon dioxide to produce the energy that powers life on Earth. The protein PRXQ seems to bridge two systems that keep chloroplasts, and by extension, plants, healthy.

Source: [Climate change impact harsher on poorer farmers in India: FAO report](#)

Source: <https://vajiramandravi.com/current-affairs/the-impact-of-climate-change-on-poor-farmers-in-india-fao-report/>

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