



# Smart farming in a warm world

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## **Investment and policy reform are needed on priority to help farmers cope with climate change**

- Over the last decade, many of Bundelkhand's villages have faced significant depopulation.
- Famous of late for farmer protests, the region, which occupies parts of Uttar Pradesh and Madhya Pradesh, has been adversely impacted by climate change.
- It was once blessed with over 800-900 mm rainfall annually, but over the last seven years, it has seen this halved, with rainy days reported to be down to just 24 on average in the monsoon period.
- Adaptation is hard, with farmers varying and mixing crops across seasons, along with heavy investments in borewells, tractors and threshers.
- Farmers are increasingly abandoning their lands and heading to nearby towns to find work as labourers.
- India is fortunate to have the monsoon, but it is also uniquely vulnerable to rising temperatures, with the country ranked 14th on the Global Climate Risk Index 2019.
- Within 80 years, our kharif season could face a significant rise in average temperatures (0.7-3.3°C) with rainfall concomitantly impacted, and potentially leading to a 22% decline in wheat yield in the rabi season, while rice yield could decline by 15%.

## **Some solutions**

- There are simple solutions to mitigate this.
- Promotion of conservation farming and dryland agriculture, with each village provided with timely rainfall forecasts, along with weather-based forewarnings regarding crop pests and epidemics in various seasons, is necessary.
- Our agricultural research programmes need to refocus on dryland research, with adoption of drought-tolerant breeds that could reduce

production risks by up to 50%.

- A mandate to change planting dates, particularly for wheat, should be considered, which could reduce climate change induced damage by 60-75%, by one estimate.
- There needs to be an increase in insurance coverage and supply of credit.
- A push for actual on-ground implementation of compensatory afforestation is required.
- Even now, urbanisation means that India consumes about 135 hectares of forest land a day.
- Meanwhile, insufficient coordination between the Central Pollution Control Board (CPCB) and the State Pollution Control Boards (SPCBs) has led to institutional apathy towards alarming air pollution levels in the metros.
- India hosts over 172 globally threatened species, primarily in reserve forests where they have little meaningful protection against wildlife crime and forest protection, given limited budgets for anti-poaching.
- Many State CAMPA (Compensatory Afforestation Fund Management and Planning Authority) hardly meet, while State-level forest departments routinely lack suitable record keeping, particularly on assessment and realisation of dues on compensatory afforestation activities and catchment area treatment.

## **Refreshing the IFS**

- The Indian Forest Service would also benefit from restructuring, in order to make it equivalent to the police and the army, albeit in the environmental domain.
- State-of-the-art training to its personnel must be provided, and specialisation should be encouraged in wildlife, tourism and protection for new recruits.
- Deputations from other services will no longer do; this needs to remain a specialised service.
- Wildlife heritage towns should be given more attention — cities like Sawai Madhopur, Bharatpur, Chikmagalur and Jabalpur, which are adjacent to national parks and sanctuaries, need to be converted into green smart cities with upgraded waste recycling processes.
- The Van Dhan Yojana, as adopted by the State government in Rajasthan, can be scaled up towards building a green mission to save our non-protected forests (outside the existing national parks and sanctuaries).
- Wildlife tourism must also be encouraged, particularly through public-

private partnerships, to help increase conserved areas while making a difference to backward districts.

### **Food Security**

- The impact of climate change will affect India's food security, while reducing fodder supplies for our livestock.
- Prudent investments and policy reform can help make India resilient to climate change.
- Any adaptation to ongoing climate change will require that climate justice.

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