

SMART FARMING IN A WARM WORLD

Relevant for: Indian Economy | Topic: Agriculture Issues and related constraints

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. With rains patchy, crop failures become common. There is hardly any greenery in many villages, making it difficult for farmers to even maintain cattle. Adaptation is hard, with farmers varying and mixing crops across seasons, along with heavy investments in borewells, tractors and threshers. While the national media may wonder about hailstones in Noida, such weather has been destroying crop in recent years, with the arhar crop failing completely in 2015. 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. The country has over 120 million hectares suffering from some form of degradation. This has consequences, especially for marginal farmers. According to one estimate, they may face a 24-58% decline in household income and 12-33% rise in household poverty through exacerbated droughts. With rain-fed agriculture practised in over 67% of our total crop area, weather variability can lead to heavy costs, especially for coarse grains (which are mostly grown in rain-fed areas). A predicted 70% decline in summer rains by 2050 would devastate Indian agriculture. 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%.

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. Insurance coverage should be expanded to cover all crops, while interest rates need to be subsidised, through government support and an expanded Rural Insurance Development Fund. The recently announced basic income policy by the government is a welcome step as well.

A push for actual on-ground implementation of compensatory afforestation is required. India is estimated to have lost over 26 million hectares of forest land and 20 million hectares of grasslands/shrublands between 1880 and 2013. 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.

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.

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. This is not a blame game — this can be induced by expansion of joint research and development partnerships (like the U.S.-China Clean Energy Research Center), pairing India's emerging smart cities with green cities in the West. India needs to decarbonise, there is no doubt about that. But the West needs to pay its bills too.

Feroze Varun Gandhi is a Member of Parliament, representing the Sultanpur constituency for the BJP

Please enter a valid email address.

The governance structure is in need of a drastic remake

END

Downloaded from **crackIAS.com**

© **Zuccess App** by crackIAS.com

Crack