

# SUSTAINABLE AGRICULTURE AND FOOD SECURITY IN WEST BENGAL

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## ABSTRACT

Cropping intensity in West Bengal is 185%, one of the highest in our country. Intensity of fertilizer use has been consistently increasing. The state ranked seventh in fertilizer use (172 Kg) per hectare of gross cropped area by size of holding in 2010-11. There is an inverse relationship between farm size and intensity of fertilizer use. Soil recharging pulse crops occupied slightly more than 3% of the gross cropped area under rice cultivation in 2009-10. Mono-cropping, indiscriminate and increasing trend in use of pesticides, increasing cost of inputs and labour and changes in climate change has resulted in agrarian stress.

FAO in its guide book “Save and Grow”, 2011 points out that the present paradigm of intensive crop production cannot meet the challenges of the new millennium. Dr MS Swaminathan recommends for evergreen revolution for increase in productivity in perpetuity, without ecological harm. There is growing consciousness about benefits of organic agriculture as resilient and can ensure true food security in long run, i.e. sufficient, chemical free (safe) and nutritious food to maintain a healthy and active life. More and more farmers are adopting sustainable agriculture and the area under organic farming increased many folds from 42 thousand hectares in 2003-04 to 4430 thousand hectares of cultivated land under certification in 2010-11, accounting for 6 lakhs farmers, mainly small and marginal.

The population of India increased at an exponential rate of 1.64% year on year (YoY) during 2001-11 and for West Bengal it's 1.31%. On continuing with conventional production, the per capita availability of cereals would be 390 grams per day in 2032 for West Bengal and 568 grams per day for India. The adjusted  $R^2$  of fit is 78% for West Bengal and 96% for India. There is a steady decline in growth of cereal production in India and the decline is more striking in West Bengal.

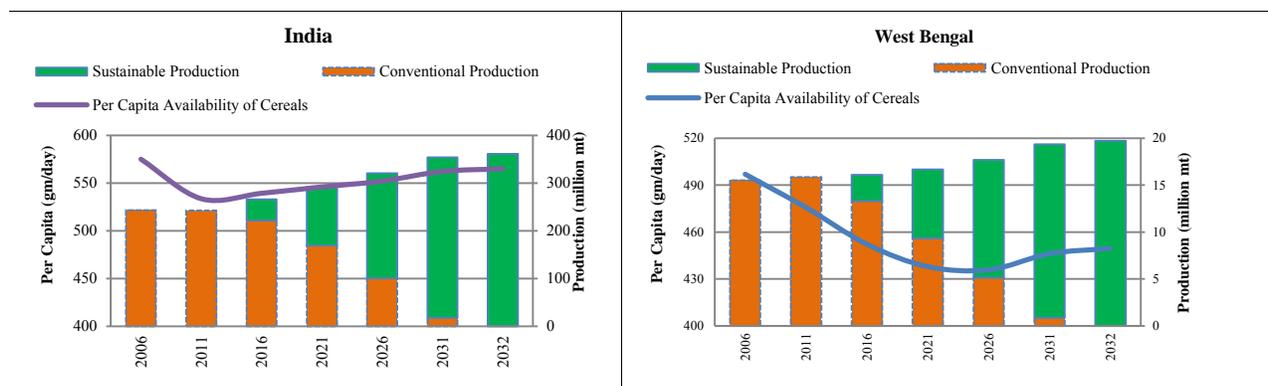


Figure: Total production and per capita availability of cereals per day (grams)

On converting 5% of the total cultivated land under cereals production in West Bengal from conventional into sustainable agricultural practices for the next 20 years, per capita availability of cereals would be 450 grams for West Bengal and 564 grams for India in 2032 (see Figure). Under sustainable methods, cereal production was reduced by 30% on first year and increased by 10% from next year upto three years, thereon cereal production was increased by 3% YoY. Besides, the cost of production under sustainable agricultural methods is comparatively much less than conventional agriculture.

### **Support Needed for Promoting Sustainable Agriculture in West Bengal:**

1. Review the present state agricultural policies and subsidies, especially those that act as barrier to development of sustainable agriculture
2. Favourable policy support – to integrate sustainable agriculture as state mission with explicit policy and strategic plan for extension, adequate funding support and set goals
3. Create an innovation Centre of Excellence in West Bengal to promote sustainable agriculture development, particularly in Eastern India. The centre may be setup in strategic collaboration with state government, national and international institutions, universities involving experts and farmers for research and innovation, PG studies, training, extension, knowledge repository and advocacy
4. Support innovation, capacity building and information to farmers
5. Ensure availability of organic inputs: seeds, bio-fertilizers and bio-pesticides etc.
6. Ensure availability of farm advisory services and innovative institutional and funding support for organic certification, labeling and inspection
7. Provide market support
8. Support and create consumer awareness
9. Integrate and promote the efforts of NGOs, private organizations and entrepreneurs.

**Key words:** Sustainable agriculture, organic food, food security, policy support, centre of excellence