



Making Climate Smart Agriculture A Reality

ITC's Climate Smart Agriculture and Water Stewardship programmes are aimed at making agri practices and the farming ecosystem climate resilient and future ready.

Vinod Tyagi is a small farmer from Sehore, Madhya Pradesh, struggling to make a living by growing soybean in the Kharif and wheat in the Rabi season on his 2.5 acres of land. Erratic rainfall often hampered his work, with long dry spells hindering growth and excessive rain waterlogging fields and destroying crops just before maturity.

Connecting with ITC's Mission Sunhera Kal marked the beginning of change. The Climate Smart Village (CSV) initiative came to his village and Tyagi became member of the CSV Farmer group. He adopted new techniques, such as Permanent Broad-Based furrow (BBF) and shifted to a long duration Soybean variety with a longer crop maturation period. As a result, Tyagi could ensure lower field preparation costs and better crop residue incorporation in the soil. Also, excess water could be drained through furrows and conserved for use when the dry weather came.

"BBF helped me to minimize losses and better manage weather impact," Tyagi says. "It lowered my cost of cultivation in terms of tilling and irrigation. I reduced the seed rate from 65-70 kg per acre to about 40 kg per acre. I am now getting 1-2 quintal per acre extra. My gains have increased by about 40% just in Soybean crop. I am sure I will also benefit by adopting the recommended package of practices for the wheat crop."

The challenges faced by Vinod Tyagi are not unique. Across the country and elsewhere around the world, climate change has become an existential threat for farmers.

Come summer every year, millions of farmers across the country brace themselves for merciless heatwaves and droughts that dry up their already parched lands. Dry waves are, however, one of the many difficulties the nation's farmers have to contend with. Along with erratic patterns of rainfall, water scarcity, top soil erosion etc add to their misery.

Extreme weather events that are today more common than rare, highlight the changing environmental dynamics and their impact on agriculture and food production. The effect of climate change on the agri-food sector is a matter of great concern, given its critical role in ensuring food security. It is estimated that food production will have to be increased by over 50%, when the world's population touch 9.7 billion by 2050.

Food security can become a critical issue in India too with the nation set to become the most populous country in the world by 2023. The Intergovernmental Panel on Climate Change (IPCC) has already warned that if temperatures increase between 1-4 degrees Celsius in India, rice production could decrease by 10-30%, and maize by 25-70%.

However, solutions to address such climate risks are also available, as demonstrated by ITC.

A Holistic Approach: Pioneering a Sustainable and Smart Agri Ecosystem

As a company committed to its credo of 'Nation First, Sab Saath Badhein', ITC Limited, one of India's leading multi-business conglomerates, has made sustainable



development and climate action core pillars of its corporate strategy. Deeply engaged with India's agricultural community for decades, ITC has been working for development of the rural sector through intensive farmer empowerment programmes that range from disseminating knowledge of new age practices and technologies to implementing multi-dimensional programmes in sustainable farming to build climate resilience, improve water management, usher in digital revolution in Indian agriculture, enhance crop yield and augment farmer prosperity.

Amongst several programmes that ITC has implemented over the years, the following section highlights a few high impact interventions.

Climate Smart Agriculture

ITC has recently launched the Climate Smart Agriculture initiative, which has already benefitted over 4.5 lakh farmers, covering over 15 lakh acres. A dedicated Climate Smart Village (CSV) programme, in partnership with the Climate Change and Food Security (CCAFS) programme of CGIAR, focuses on reducing vulnerability while increasing resilience of farmers towards climate change. CSV works towards making villages climate smart by promoting weather smart, water smart, seed/breed smart, carbon/nutrient smart and institutional/ market smart practices. In the first phase (2016-2018), the programme covered 15,000 farmers and seven key crops including soya, paddy, wheat, sugarcane, onion, mango, and gram in 600 villages spread across 3 states, while in the second phase (2019-21), ITC extended its CSV programme to all states where its Natural Resources Management programme was implemented. The programme has demonstrated encouraging results with GHG emissions of soya and wheat reducing by upto 66%, net returns increasing by upto 99% as well as enhancement in yield by upto 38%. As per a study of 43 villages across 3 states that were part of the first phase, 70% of the villages have moved into the High Resilience, High Yield category, thus becoming Climate Smart.



Building Water Security

Building water security is another key element of ITC's climate smart agriculture programmes. With 54% of India being water stressed, there is need for smarter and newer ways of cultivation to attain higher yields with lesser water consumption. ITC's 360-degree water Stewardship programme, aligned to Government of India's 'Jal Shakti Abhiyan' and 'More Crop Per Drop' mission, includes Demand Side Management initiatives that promote innovative crop and area specific agronomic and micro-irrigation practices like micro-irrigation, wider spacing and trash mulching to reduce water consumption, while simultaneously improving productivity and reducing cultivation costs. Covering across 14 crops, in 2021-22 alone, the practices adopted by farmers in 7.28 lakh acres created potential water savings of 496.5 million cu.m. leading to savings of 40% in 14 crops.

ITC has over the years also implemented a large-scale community based integrated watershed development initiative covering catchment treatment, water harvesting structures development, and groundwater recharge

spread over 13 lakh acres in 16 states with over 25,000 water harvesting structures built over time.

Biodiversity Conservation

Focusing on reviving ecosystem services provided to agriculture such as natural regulation of pests, pollination, nutrient cycling, soil health retention and genetic diversity, ITC has implemented a biodiversity conservation initiative that has already covered nearly 2 lakh acres across 10 states.

Inspired by the Sustainability 2.0 vision articulated by Mr Sanjiv Puri, Chairman, ITC is now scaling up its interventions in Climate Smart Agriculture, water stewardship, and biodiversity conservation, among others. The aim is to extend its CSV programme to over 3 million acres, biodiversity conservation to over 1 million acres and improve crop water use efficiency in agri-value chains to enable annual savings of 2,000 million kilolitres of water by 2030. Such interventions would undoubtedly help usher in a new future for agriculture and rural communities and serve the nation's priorities as well.

