

Coconut Remains Safe in Turbulent Weather

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Many among the think tanks at the recently held 15th Delhi Sustainable Development Summit on Sustainable Development Goals and Dealing with Climate Change, conducted by Energy and Resources Institute pinpoint the debilitating impact of climate change in agriculture sector. Jonathon Porritt, Co-founder & Trustee, Forum for the Future, suggested coping up with possible adaptation mechanisms to expedite agriculture production to face off climate change upheavals. Is this suggestion feasible?

By seeking a reaction, this writer travelled through the coconut growing villages in Kerala.

Ravindran, an ideal coconut farmer in Kerala, the largest coconut producing state in India, is not even little bit skeptical. 'This year I am enthused by bumper crop with record cost. Two years ago price of coconut has been drastically slashed in to meagre two rupees for a medium coconut. On the contrary, it is delightful to collect Rs.20 for the same sized coconut now. The price of coconut has reported a ten-fold increase in five year's time. Undoubtedly, we can say that there is no other crop that offers this much profit'.

The south Indian state Kerala is metaphorically denoted as the land of coconut. It is almost impossible to find out a house premise without this tree of life. The world renowned Malayali cuisine has rich presence of grinded coconut. Many coconut plantations were deeply uprooted in the 1980s, an year which witnessed huge reversals. Again, during 1990s, pests attacked the tree with tooth and nail, which made a large group of farmers to commensurate the situation by shifting to the then most profitable cash crop, rubber. Thus the land of coconut was transformed to land of rubber.

Mr. Kumaran Nair, a Coconut farmer from Palakkad who had shifted to rubber, seems virtually disappointed. "Price of Rubber is abysmally lowered to Rs.120 per Kg. Two years ago we have had bumper price of around Rs.200 per Kg. It is widely said that quality of the latex is invariably affected by climate change. Relentless dumping of rubber from ASEAN countries exasperated the situation. Need of the hour is strong intervention from the authorities and climate change adaptations through farmer orientation. Otherwise, death knell of

rubber will be sounded in the coming years."

Not only Kumaran Nair but also many farmers are now repenting for their absolute neglect of coconut. They are skeptical. Is the high yield and bumper price of coconut a temporary affair? Is coconut a valiant crop to resist climate change upheavals?

The Second National Communication to the United Nations Framework convention on Climate Change by the Union Ministry of Environment and Forest is précised as follows;

'A prediction on coconut farming made using a "validated coconut simulation model" stated that the yields were likely to be "positively influenced" by an increase in carbon dioxide (CO₂) and temperature of up to three degree celsius'.

Coconut farmers all over India had been through ups and downs. However, the basic component of coconut production is not disgusting. During the earlier period of 1950-51, coconut occupied very limited cultivating area of 6,26,500 hectare and the total production was limited

to mere 3281.7 million nuts and productivity 5238 nuts per hectare. 1990s saw drastic upward trends. According to Coconut Development Board, in 2012-2013 coconut is cultivated in 21.36 lakh hectare and India produced 24397 million nuts of coconut with a productivity of 11419 nuts per hectare. At this juncture, coconut seemed omnipotent. On the contrary, other valuable cash crops like rubber, tea, coffee, pepper, cardamom etc were on razor's edge. Debilitating climate change impact affected the productivity of these cash crops badly.

Dr. S. Naresh Kumar and P. K. Agarwal elicited the upcoming fruitful decades of the 'tree of life' in their research paper, 'Climate change and coconut plantation in India: impacts and potential adaptation gain'. They have presented simulation analysis of the potential impacts of climate change on coconut productivity in India through two approaches, namely fixing increase in temperature and carbon dioxide and as per PRECIS (Providing regional Climates for Impacts Study)- a regional climate model.

"We assessed the impact of changed management on coconut productivity in current as well as future climate scenario. Climate

change is projected to increase coconut productivity in western coastal region, Kerala, parts of Tamil Nadu, Karnataka and Maharashtra (provided current level of water and management is made available in future climates as well) and also in North Eastern States, Islands of Andaman and Nicobar and Lakshadweep while negative impacts are projected for Andhra Pradesh, Orissa, West Bengal, Gujarat, parts of Karnataka and Tamil Nadu. Even with current management, climate change is projected to increase pan India coconut productivity by 4.3% in 2030, 1.9% in 2080, 6.8% in 2080 and 5.7% in 2080 scenarios of PRECIS over mean productivity of 2000-2005 period".

At the outset, the projected gain is not conducive to commensurate the anticipated requirement of future. Relentless implementation of agronomic adaptation will not only negate losses in majority of coconut growing regions but also improve productivity substantially. Now a days farmers are relying on popular adaptation methods like soil moisture conservation, summer irrigation, drip irrigation, fertilizer application etc whereas the need of the hour is modernisation, which includes various adaptation methods like bio fertilizing, genetic adaptation etc.

Dr. Naresh Kumar and P. K. Agarwal predict massive coconut production provided the farmers adhere to strict adaptation strategies. "Well thought out strategies can increase the productivity by about 33% in 2030, and by 25-32% in 2080 climate scenarios. In fact productivity can be improved by 20% to almost double if all plantations in India are provided with the above mentioned management practices in the current climatic situations. In places where positive impacts are being projected, the current poor management may become a limiting factor in reaping the benefits of CO₂ fertilization, while in negatively affected regions, adaptation strategies can reduce the impacts. Thus, intensive genetic and agronomic adaptation to climate change can substantially benefit coconut production in India."

Emphatically, this is a win-win situation for coconut farmers. Coconut Development Board, which spearheads intensive coconut cultivation and marketing programs, has embarked numerous schemes. Replanting and rejuvenation programme is such a project for improving productivity through a program of cutting and removing the old, senile, unproductive and disease advanced palm production which would be replanted with quality seedlings and rejuvenation of the existing gardens through an integrated package of practice. Once considered as a mere cuisine, usage of coconut is now diversified as tender coconut water, coconut oil, raw kernel, neera and its value added products, coconut shell based products, coconut wood based products, coconut leaves, coir pith etc. Coconut farmers are no doubt jubilant at this season even though all the other major cash crops are stumbling with climate change upheavals.

