

Biotechnological Tools for Livelihood Security for Mitigation of Adverse Impact of Climate Change in Environment in India

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Editorial Note

The climate change has both positive as well as negative effect on agriculture. Therefore, to minimize losses due to climate change, researches should be done in this area to ensure food security to the increasing populations. The surface water, underground water, drinking water and rain water are affected adversely due to anthropogenically accelerated climate change. Therefore, there is need ensuring of quality of water, land, air and environment for plants and animal security and livelihood. Agriculture supports 70 percent of the population in India for livelihood Security. But due to neglect it is unable to harness its true potential. India has all the ingredients for an agro-industrial revolution –man, money and material but due to the absence of entrepreneurship, there is hardly any value added activity at the farm level and 98 percent of our farm produce is sold in the raw form. It is therefore there is need of a large scale training and entrepreneurship development programmes be launched annually in the farm sector.

There is need to emphasized upon the importance of conservation of natural resources and discontinuation of its unnecessary exploitation. This is possible only by a judicious use of steadily declining natural resources. All the development activities should focus on mitigating the harmful effects of climate change and it should focus upon the requirements of farmers and common people. New emerging technologies in agriculture are very useful in increasing the productivity and yield in agriculture. Agriculture sector needs holistic approach. There is a need of policy integration at the grass root level. The policies should aim at welfare of the farmers by increase in the income rather than the more increase in the production and productivity. There is need to reintegrate crop based agriculture and horticulture practices to best harmless the potential of the agriculture society. Special attention is required to promote the biotechnology to the development of horticulture and floriculture crops in India, which can add much value to the farm economy. There is need for:

- i) Identifying technologies, economic policy options and priorities, to buffer climate change impacts through mitigation and adaptation and ecosystem resilience;
- ii) Identifying effective modalities and mechanism of co-operative partnership between various national, regional and international institute and organization; and
- iii) Mobilizing and international co-operation to support research and development activities to cope with climate change.

Farmers should be informed about environment related aspect of agriculture along with crops production, i.e., nature of soil or type of soil, productivity, soil water etc and for this publication of magazine useful for farmers is suggested. Scientist should update farmers community with knowledge on crops developed through biotechnology and remove their doubts and misunderstanding on transgenic crops like insect resistant plant and genetically modified crops. There will be need of biotechnology contribution to ensure food security so that increasing population can be feed. There is also need to train farmers regularly on sustainable nutrition and agriculture

waste management. On decreasing fertile land and on barren lands edible or cereal energy crop such as jatropha etc and other should be grown. Unconventional sources of energy should be researched out and any energy crop of good quality or variety should be popularize among farmers. To save biodiversity and environment, endangered species should be grown by tissue culture technique.

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