Life Sciences & Agricultural Sciences

Indian Agriculture and Climate Change

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Absract: Agriculture is a vital sector of our national economy. About 54.6 per cent of the population is engaged in agriculture and allied activities and it contributed 17.4 per cent to the country's Gross Value Added for the year 2016-17. Experts have however, determined that the rate of population increase has been decelerating in India, and if the trend continues it will stabilize at 1700 million (1.7 billion) by the year 2060.Presently farming is a dual – purpose pursuit that has to ensure both food security and income security.

The agriculture sector is currently facing a dilemma. While it has made large strides in achieving the agricultural development goals of food security, availability and accessibility, it is still being challenged by a formidable agrarian crisis. The situation has recently led to fresh thinking on the developmental approach in the agriculture sector. The farmer welfare-centric approach to agricultural development can empower the rural masses with higher income and employment and make balanced development a reality. Hence, in policies of poverty alleviation and enhancing sustainable development, agriculture has enormous potential.

Climate change has become a serious global negative externality with its multiple, far-reaching and persistent effects. Its adverse impact on food Agriculture production systems, due to rising temperatures and extreme weather events, is at the centre stage of discussion worldwide. Developing countries, in particular, with their large agrarian base, are more prone to threats due to climate change. With India's large size, its numerous agro-ecological zones, preponderance of small fragmented holdings and persistent dependence on the vagaries of the monsoon, the issue of climate change becomes even more challenging. Recently acknowledged by the world community that the Climate change caused by excessive emission of Green House Gases (GHGs) is one of the greatest challenges facing our planet today. The atmosphere carries out critical function of maintaining life sustaining conditions on earth. GHGs (for example carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), water vapour) re-emit some of the heat to the earth surface. If they did not perform this useful function, most of the heat energy would escape, leaving the earth cold (about-17^oC) and unfit to support life. Increase in the level of GHGs could lead to greater warming, which, in turn could have an impact on the world climate-the phenomenon known as "Climate change". Ever since industrial revolution began 150 years ago, manmade activities have added significant quantities of GHGs to the atmosphere. A portfolio of measures on various sectors of economy like energy, agriculture, urban and rural habitat and all measures related to environmental protection and ecological sustenance are needed to combat this grave problem.