

Standing Committee Report Summary

Comprehensive Agriculture Research based on Geographical Conditions and Impact of Climate Change to ensure Food Security in the Country

- The Standing Committee on Agriculture (Chair: Mr. Hukm Deo Narayan Yadav) submitted a report on ‘Comprehensive Agriculture Research based on Geographical Conditions and Impact of Climatic Changes to ensure Food Security in the Country’ on August 9, 2017. Key observations and recommendations made by the Committee include:
 - **Impact of climate change on agriculture:** The Committee noted that climate change effects include rising sea levels, and changes in the frequency of rainfall, floods and drought. It further observed that climate change affects the yields of major crops. In this regard, the Committee stated that there is a need to find solutions to address challenges in agriculture due to climate change. Consequently, it recommended that allocations to research projects under the National Innovations in Climate Resilient Agriculture should be increased.
 - **Food security:** The Committee noted that India’s population is estimated to be 1.65 billion by 2050 with 50% of the population living in urban areas. The Committee noted that the production of foodgrains is estimated to meet the demand by 2050. However, there may be a deficit in the production of cereals (43%) and pulses (7%). In addition, the Committee observed that due to increased urbanisation and income of households, demand for fruits, vegetables, dairy products, etc. will increase.
 - The Committee stated that there is a need for crop diversification and development of allied activities to agriculture. It further recommended that investment should be increased in areas including: (i) developing crop varieties, (ii) fertilizers, and (iii) irrigation facilities. Further, the Committee recommended that the production of oilseeds and pulses should be enhanced.
 - **Greenhouse gas emissions:** The Committee noted that paddy fields are a major source of greenhouse gases in the farm sector. These gases include methane, nitrous oxide, hydrofluorocarbons and carbon dioxide. The Committee noted that the reduction of emissions of these greenhouse gases would help India meet obligations under the International Accord on Climate Change.
 - **Crop residue:** The Committee noted that though burning of crop residue is banned, it continues to add to the high levels of pollutants in the environment. Around 20% (130-140 million tonnes) of the crop residue is burnt annually in the country. The Committee stated that the crop residue is burnt instead of being processed due to the following reasons: (i) shortage of agricultural labour, (ii) short interval between crops, and (iii) mechanised farming. In this regard, the Committee recommended that eco-friendly utilisation of crop residue should be taken up using new technologies.
- **Rising sea levels:** The Committee noted that due to rising sea levels significant portion of land is submerged. Further, agricultural land and adjoining mangrove forests turn into waste land. In this context, the Committee observed that the entry of sea water in agricultural land leads to high salinity in the soil and acute shortage of fresh water. The Committee recommended that an action plan be formulated to increase mangrove plantation to act as natural barriers of rising sea levels. It further recommended that farmers in coastal areas should be provided seeds, suitable technologies, and support to shift to paddy-fishery farming.
- **Agro-climatic classifications:** The Committee observed that crop patterns are currently influenced by factors such as Minimum Support Prices, and consumption patterns instead of geographical and ecological factors. The Committee noted that such influences force farmers to adopt water intensive cropping patterns. The Committee recommended that instead cropping strategies should be developed based on agro-ecological regions. For this purpose, the Committee observed that 20 agro-climatic regions and 60 agro-climatic sub regions were identified based on: (i) climatic conditions, (ii) local geographic parameters, (iii) land form, (iv) soil type and texture.
- **Availability of seeds:** The Committee stated that availability of good quality of seeds ensures high productivity of agriculture. Share of area sown using certified or quality seeds out of the total area sown is called the seed replacement ratio. The Committee stated that this ratio is skewed as 65% of the seed requirement is met by farmers’ own seeds or seeds distributed among themselves. It also noted that the private sector contributes to 50-57% of the seed production in India. The Committee stated that high yielding varieties of improved seeds need to be developed. Further, it recommended that the process of production, procurement and distribution of these improved seeds should be centralised.

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