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Nota di contenuto	1. Climate change: Adaptation and mitigation strategies in rainfed agriculture -- 2. Diversification of Agriculture in India: Challenges Ahead -- 3. Changes in the synoptic disturbances and its impact on extreme rainfall indices in India -- 4. Meteorological drought analysis based on rainfall data of coastal Odisha -- 5. Climate change impacts on rainfed soybean yield of central India: Management strategies through simulation modeling -- 6. Application of CERES-wheat model for wheat yield predication for climatic variability of different agro-climatic zone in India -- 7. Multispectral remote sensing to distinguish the little seed canary grass (Phalaris minor) from wheat crop under field conditions for environmental sustainability and precision weed management -- 8. Modeling of weather parameters using stochastic

methods -- 9. Geospatial methodology towards planning adaptation/mitigation measures of climate change impact on the apple orchards in India -- 10. Utilization of open source web-GIS to strengthen climate change informatics for agriculture -- 11. Design and development of rubber dams for watersheds in the climate change scenario -- 12. Impact of climatic variability on crop production in Mahanadi delta region of Odisha -- 13. Role of ICT's in sustainable agriculture: A study of e-sagu in Andhra Pradesh -- 14. Carbon Sequestration in Grassland Ecosystems of Salt-Affected Soils in Northern India -- 15. Community leadership to achieve climate resilient agriculture: A bottom-up approach to strengthen India's missions -- 16. Climate change and Indian agriculture: Impacts, solutions and adaptation -- 17. Climate Change and Hill Agriculture in North West Himalaya -- 18. Climate Change and Mitigation Options for Sustainable Agriculture in Rajasthan -- 19. Trends in Climatic Change in Last Fifty Years at Seven Agro-Climatic Regions of Tamil Nadu -- 20. The Effect of Changing Climate and Land Use/Land Cover on Water Resources in Hard Rock Region of Maharashtra State -- 21. Impact of Climate Change on Water Resources -- 22. Building climate resilient agriculture and enhancing grassroots level adaptive capacity in the semi-arid tropics of India - Indicative Policies for Action.

## Sommario/riassunto

It is well known that the impacts of climate change are tangible and hence there can be no debate about the need for appropriate adaptation measures, on a priority basis. However, it is equally important to recognize the fact that adaptation measures actually represent a dynamic synthesis of interventions pertaining to multiple systems. These are particularly of water, soil characteristics, genotypic and phenotypic variations and their expressions, age-correlated biochemical changes aligned with planting schedules and favorable weather/climate conditions. Nutrients, occurrence and distribution of associated vegetation including crop mixes also influence productivity. The overarching aspect of farming practice wields significant influence on the outcome and hence it is important to be clear about the particular focus of the investigations being carried out and reported in a suitable manner. It is essential to recognize that scientific research in agriculture in India has always produced valuable results of direct relevance to her people. Importantly, preparedness to tackle disasters due to inclement weather system has prominently featured on the agenda. The recent focus on climate change and impacts has provided the necessary impetus to reorganize the framework of investigation to capture the specifics of such impacts. In this context, the importance of micro climate variations too viz-a-viz the larger scales of impacts cannot be overemphasized. It will be useful to also help characterize natural variations versus artificially induced variations, helping us understand the complexities of individual and synergistic impacts too. Obviously, the limits and limitations of models could determine the spread and depth of the outcomes of investigations. Empirical evidences to reinforce assumptions have to also be documented with utmost care; guided by an understanding of the limits of tolerance, limiting factors, and the precautionary principle especially in the public policy interface. The present volume therefore, showcases these strands with the fond hope that they will stimulate further thinking and enable appropriate action.