100 AGRICULTURAL SCIENCES IN INDIA

This book is a science roadmap for food and agriculture system to render India hunger free, more equitable, prosperous and evergreen. Underpinning the centrality of agriculture in achieving comprehensive and sustained livelihood security in India, it is envisioned that science and technology couched in effective policy regimes will render India zero hunger and less unequal. Internalizing these profound pronouncements, the book is a saga of generation, growth, development and application of agricultural sciences, technologies and innovations during the past 100 years for dynamically transforming Indian Agriculture towards meeting the changing societal needs and priorities and to address ever-evolving and intensifying challenges of comprehensive food, nutrition, ecological and livelihood security.

The eight chapters of the book: Crop Sciences, Horticultural Sciences, Animal Sciences, Fisheries Sciences, Natural Resource Management Sciences, Plant Protection Sciences, Agricultural Engineering and Energy, and Social Sciences, give a lucid account of science-led ushering in of the Green (crops), Golden (horticulture), White (milk), and Blue (fisheries) Revolutions. The major scientific breakthroughs have been highlighted in the areas of genetics, genetic improvement and genetic resources of crops, livestock and fisheries; physiology and biochemistry; molecular biology, biotechnology and 'omics'; conservation and productivity of soil and water, and ecosystems management; pests and diseases, biotic and abiotic stress management; prevention of losses, value-addition and farmer-market linkage; mechanization and energy; and climate smart agriculture. Each chapter has analysed the gaps critically and suggested research priorities, well-thought-out paths and ways forward to develop science-informed policy options and actions to meet challenges.

It is hoped that the comprehension of the experiences of the past one century, detailed in the book, will be an inspiration and important resource not only for agricultural science students, scientists and academicians, but also for all stakeholders and partners, science managers, policy makers and farmers to capture new uncommon opportunities to meet complex challenges of developing an evergreen agriculture for green economy.

Foreword by: S. Ayyappan, President, NAAS, New Delhi

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