



(Indian Council of Agricultural Research) Old Goa - 403 402, Goa, India

Coastal Agricultural Resource Inventory: An overview and way forward

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Foreword



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FOREWORD

The coastal region of India is known for its rich diversity of climate, topography, soils, crops, livestock, fisheries, etc. Despite the abundance of natural resources, the productivity of the crops and livestock in this region is poor as compared to the inland areas. Unlike other parts of the Country, the region faces unique problems like demographic pressure, land degradation, deforestation, rapid urbanization and industrialization, environmental pollution, climate change effects like increased frequency of floods, cyclones, droughts, and sea-level rise. Owing to these, coastal agriculture is getting adversely affected, at a time when there is tremendous pressure to cater to the needs of the coastal population. In this regard, a detailed resource inventory on coastal agricultural including natural and genetic resources needs to be developed for formulating the research and developmental programs and policies for sustainable development of this region.

I am happy to learn that ICAR-Central Coastal Agricultural Research Institute, Old Goa, Goa is bringing out a book entitled "Coastal Agricultural Resource Inventory: An Overview and Way Forward" based on the status of different agricultural resources available in the coastal region of the Country. The Book covers various aspects like climate, soils, land-use pattern and land degradation, water resources, production and productivity of different crops and livestock. This compilation will serve as a baseline document for students, researchers, policymakers and many other stakeholders associated with coastal agriculture.

> Mugh (T. MOHAPATRA)

Dated the 31st July, 2020 New Delhi

Message



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30.07.2020



Message

The coastal ecosystem is one of the most fragile ecosystems and highly vulnerable to climate aberrations. There are several constraints posing threat to agriculture and allied activities in this region under the changing climatic scenarios. Important among these are frequency and intensity of natural disasters like cyclones, floods, landslides, drought, etc., sea-level rise, high demographic pressure, deforestation, coastal erosion and accretion, low productivity of the field and horticultural crops, and livestock, over-exploitation of the fishery resources, unplanned tourism activities, coastal pollution, biodiversity loss etc. characteristics of the West and East coast are different and need to be addressed with different approaches. To address the problems and constraints of this region, a detailed resource inventory on coastal agriculture needs to be developed for priority setting of research and developmental activities. Consequent upon upgradation of ICAR Research Complex for Goa to ICAR-Central Coastal Agricultural Research Institute (ICAR-CCARI), and the discussion that happened during brainstorming sessions and meetings, a need was felt to develop a detailed account of coastal resource endowement and inventory. I appreciate the efforts by ICAR-CCARI team for bringing out a 'Coastal Agricultural Resource Inventory', and I believe that it would be very much useful for planning the way forward for sustainable development of the coastal agriculture and allied sectors.

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reparation of an inventory is a herculean task and would not be possible without kind support of those who were involved in and out for its compilation. We are extremely grateful to Dr. Trilochan Mohapatra, Secretary (DARE) and Director General, ICAR for his guidance and support for bringing up the book. The guidance extended by Dr. Suresh Kumar Chaudhari, Deputy Director General (Natural Resource Management) of the ICAR, New Delhi, time to time and since inception of the idea to upgrade the Institute as ICAR-Central Coastal Agricultural Research Institute (ICAR-CCARI) to cater the research and development needs of the coastal agriculture. The suggestions by Directors of the Division – Natural Resource Management given during the brainstorming sessions and one day meeting of developing roadmap for coastal agriculture are acknowledged and give due consideration while preparing the book. We place on record our gratitude to Dr. Adlul Islam, ADG (S & WM) and Dr. S Bhaskar, ADG (AAF & CC) for the their heartfelt support, encouragement and guidance extended. While preparing the book on the coastal agricultural inventory, data from different organizations and sources were collected and interpreted and we sincerely place on record our acknowledgement to them and sources have been appropriately referred in the bibliography. We thank International Crops Research Institute for the Semi-Arid Tropics, Hyderabad; ICAR-National Bureau of Soil Survey and Land Use Planning, Nagpur; India Meteorological Department, New Delhi; Central Ground Water Board, Faridabad: ICAR-Central Research Institute for Dryland Agriculture: ICAR-Indian Institute of Soil and Water Conservation, Dehradun; Directorate of Economics and Statistics, Ministry of Agriculture, Cooperation and Farmers Welfare; Department of Fisheries, New Delhi; Department of Animal Husbandry and Dairying, New Delhi; Agricultural and Processed Food Products Export Development Authority, New Delhi; Marine Products Exports Development Authority, Kochi; ICAR-Central Marine Fisheries Research Institute, Kochi; ICAR-Central Inland Fisheries Research Institute, Barrackpore; ICAR-Central Institute of Brackishwater Aquaculture, Chennai; ICAR-Central Institute of Fisheries Technology, Kochi; ICAR-Central Institute of Fisheries Education, Mumbai; ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar; ICAR-National Bureau of Fish Genetic Resources, Lucknow; ICAR-Central Island Agricultural Research Institute, Port Blair; ICAR-National Institute of Veterinary Epidemiology and Disease Informatics, Bengaluru; ICAR-Directorate of Poultry Research, Hyderabad and Ministries and Department of Government of India for providing the required data via open-source platforms and resources. The help and cooperation, extended by our esteemed colleagues and staff of ICAR-CCARI in bringing out this book, is sincerely acknowledged.

Authors

Preface

The population of the coastal districts (75) of India is about 16.16% of the total population (Census of India, 2011). India has a coastline length of 8413 km (5778 km for mainland and 2635 km for island). Coastal and island ecosystems are one of the most fragile ecosystems and vulnerable to the climate change. There are several constraints posing threat to the agriculture and allied activities. Important among these are higher frequency and intensity of the natural disasters like cyclones, flooding, landslides, drought, etc., climate change and sea level rise, drainage congestions, high demographic pressure, deforestation, coastal erosion and accretion, low productivity of the field and horticultural crops and livestock, over-exploitation of the fishery resources, unplanned tourism activities, coastal pollution, etc.

Coastal ecosystem being most vulnerable to climate change, a systematic assessment of coastal agriculture needs to be carried out. The characteristics of the west and east coast are typically different and need to be addressed with different approaches. To address the problems and constraints of this region, a detailed resource inventory about coastal agriculture needs to be developed for priority setting of research and developmental activities. Consequent upon upgradation of ICAR Research Complex for Goa to ICAR-Central Coastal Agricultural Research Institute (ICAR-CCARI), and the discussion that happened during brainstorming sessions and meetings, a need was felt to develop such an inventory. Initially, a detailed resource (natural and genetic) inventory about coastal agriculture as Coastal Agricultural Resource Inventory needs to be developed. It would be vital for priority setting of research and policy decisions. The book entitled 'Coastal Agricultural Resource Inventory: An introduction and way forward', we believe, would be very useful for planning the way forward for sustainable development of the coastal agriculture and allied sectors.

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