Proceedings

10th National Symposium of

Indian Society of Coastal Agricultural Research (ISCAR)

Venue: Bharuch, Gujarat

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10th National Symposium on **'Managing Natural Resources for Enhancing Agricultural & Allied Productivity in Coastal Region under Changing Climate'** was held at Bharuch, Gujarat during 11-14th December 2013. Plenary session of the Symposium was held on 13th December 2013 under the Chairmanship of Dr S B Kadrekar, Former Vice Chancellor, Dr BSKVV, Dapoli (Maharashtra). Dr D. K. Sharma, Director, CSSRI, Karnal, Dr A K Bandyopadhyay, President, ISCAR and Dr B K Bandyopadhyay, Emeritus Scientist, ICAR, Dr. B. Maji, Head, CSSRI, RRS Canning Town, Dr. G Gururaja Rao, Head, CSSRI, RRS, Bharuch, were present during this plenary session apart from the delegates attended the Symposium. Based on the deliberation and discussions on various research papers following recommendations emerged-

1. The waterlogged degraded lands in several coastal areas can be reclaimed through land modification and planting trees with biodrainage potential.
2. A textile reinforced rubber composite dam with inflatable structure can be used for water conservation, flood control, regulating flow of water in the stream and ground water recharging.
3. Coconut cultivation can be made economically viable and sustainable under coastal sandy soils through adoption of various moisture conservation practices using coir pith and different inter crops, alley cropping of Glyricidia, green manuring and micro irrigation.
4. Inclusion of cassava in the cropping system is profitable for coastal region, where cassava is a popular food crop. Precision irrigation and fertigation are economical and water saving approaches for cultivation of cassava.
5. Conjunctive use of saline ground water coupled with Micro Irrigation System has been found to enhance crop productivity and economizing the stored rainwater
6. The sweet potato genotypes Samrat and CIP-440127 are tolerant to moderate salinity and offers good scope for food and nutritional security in coastal saline of eastern India.
7. Studies needs to be taken up to develop hybrid rice varieties suitable for coastal areas.
8. Drip irrigation in coastal saline soil particularly for vegetables in rabi season needs to be promoted in large scale.
9. Several rice varieties (e.g., Sumati, CSR23 and CSR 27) developed by CSSRI are suitable for coastal region in Goa also. These needs to be popularized through demonstration or PVS trial.
10. Keeping the climate change scenario, adaptation strategies needs to be focused particularly on (1) Selecting right kind of species & stocking density (2) Feed management (3) Climate adaptive fish-livestock-crop integrated farming. Information on ITKs should be preserved through well documentations regarding their functions.
11. Vegetation on the common land adjoining the farmland might be an option to reduce the salinity and improving agriculture productivity. The initiative needs strong involvement of community institutions for better governance of their natural resources.
12. Managing drainage is an important factor for increasing the production and productivity of crops in coastal areas of Sundarban delta. Advancing aman rice cultivation through drainage may lead to advancing and diversifying *rabi* crops and needs policy attention. Success of water management needs strong community participation to have larger impact.
13. Land shaping technologies have been quite successful in coastal and island ecosystem of Sundarban as well as A&N Island. The technologies have been able to enhance cropping intensities, income, employment of degraded coastal land and has lead to feasible crop diversification. Land shaping models have been effective to harvest substantial rainwater and

have reduced salinity level significantly. There is a need to upscale these technolgies in other coastal areas in India.

14. There are several opportunities to diversify and intensify the prevailing rice based cropping system in coastal region as per the suitability in different parts of the country. Some of these options are varietal replacement of salt tolerant rice, mustard and wheat crop varieties available with CSSRI, grass and forage crops, agro-forestry plants, integrated farming system like crop-fish, and crop-fish-animal like (rabbit or poultry) and multi-enterprise cropping system.
15. Several aquatic plants/weeds have been highlighted that can be possible future foods, non-food or ornamental value for livelihood support for the people of coastal areas. Some of these plants are *makhana*, lotus, water chest nut, shola etc. Utilisation of these underutilised plants need special attention and can be grown particularly in the waste land situation and aquatic plants deserved more focus towards creating more value and wealth to harness the greater benefit to the rural people.
16. Raised and sunken bed based integrated farming system can be a practical and viable technological option to restore agricultural productivity in waterlogged, waterlogged salt affected soils and flood prone areas. The raised and sunken bed model has made growing several crops feasible and has positive contribution to increase food and nutritional security.
17. Desi (*Herbaceum*) Cotton has been found a good option for coastal Gujarat having good yield potential. The variety G. Cot DH-7 showed very little reduction in productivity up to 12dS/m saline water irrigation.
18. The management in agriculture in saline areas requires participation adequate community institutions; as farmers themselves are key players in addressing issues of salinity mitigation in a sustainable manner. Coastal Salinity Prevention Cell being a nodal player and act as a knowledge resource agency, has an ability to provide common platform to all stakeholders to work together for addressing common objective at scale which require continuous efforts and engagements with sector players.
19. For maximizing productivity in the coastal Gujarat, arresting salinity ingress through reclamation bunds, and water harvesting methods/structure like check-dams, farm ponds, field bunding, etc. has been found quite effective and remunerative.
20. There is a strong need to establish a national level research Institute devoted to research and development on costal agriculture.