Chapter 5
Water Sustainable & Efficient technologies and Best Practices

1. Technologies:
    a. Agriculture:
    b. Water Resource Management, Industry and Drinking Water
        i. Department of Science and Technology and Department of Scientific and Industrial Research Nodal officers shall share the required details to all State / UT Nodal officers directly.

2. Best practices: All the States/ UTs are requested to provide a brief of best practices related to each of chapter/sub-chapter in 200 words with provide we blink for more details.

Annexure

Sector: Farming: Agriculture/ Horticulture/Plantations/ Livestock/ Fisheries/ Others

Salient water management interventions for enhancing crop and water productivity:

- Micro level water resource development through tank cum well system.
- Rainwater conservation through increased dyke height
- Sub-surface water harvesting structure for coastal areas
- Use of rubber dams for rainwater harvesting in watersheds
- Residual soil moisture utilization during rabi season
- Lining of runoff recycling tanks for seepage control
- Rainwater conservation for rice-fish integrated system
- Crop diversification in drought prone areas in rainfed upland
- Residual soil moisture utilization with conservation tillage in rice fallow in rabi season under shallow water table
- Residual soil moisture utilization in rabi season with utera/paira cropping
- Mulching for better water management
- Low cost management of acid soils for higher productivity and water use efficiency
- Water and energy efficient integrated farming system for rainfed farmers
- Rainwater harvesting through check dam and its multiple use
- Spring water collection and its utilization to grow high value crops
- CAM plants for enhancing water use efficiencies in the rainfed ecosystem
- Simulation model for integrating water balance of cropped area and tank as runoff recycling management of rain water
- Multi-criteria analysis for sustainable land use planning of watershed using remote sensing and GIS
- Raised and sunken bed technology for improved productivity in canal command
- Pressurized irrigation system in surface flow based minor irrigation system commands
- Wet seeded rice in spot sowing: a water saving rice cultivation technology
- Integrated system of rice intensification (SRI)
- Improved planting technique for saving of irrigation water in post-rainy season crops
- Micro tube wells in coastal areas having saline groundwater below 10 m
- Water quality index: tool to assess water quality for irrigation
- Drainage water management in medium and lowlands.
- Optimum crop growth stage for drainage in rice
- Biological drainage for reclamation of waterlogged lands in high rainfall areas
- Over aged rice seedlings cultivation for waterlogged areas.
- Fitting medicinal plants in rice based cropping system in post rainy season in waterlogged areas
- Pond based farming system for deep waterlogged areas
- Enhancing productivity of seasonal deep waterlogged areas
- Integrated water chestnut cultivation and aquaculture technology
- Cat tail (Typha) production technology for waterlogged areas
- Crop management interventions in post flood scenario
- Swamp taro: a promising vegetable crop in waterlogged condition

References:

Roy Chowdhury S., Rautaray, S.K., Panda, R.K., Das, M., Srivastava, R.C. and Ambast, S.K. 2016. Technological Options for Agricultural Water Management in Eastern Region of India. ICAR-Indian Institute of Water Management, Bhubaneswar. P. 39

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