

PROJECT INFORMATION

Assessment of block level agricultural vulnerability and development of land use plan for the state of Goa

PROJECT OVERVIEW

Funding Agency	Institute
Total Outlay	₹ 28,00,000
Duration	3 years
Single / Multi-Institutional	Multi-Institutional
Lead Centre if Multi-Institutional	ICAR-CCARI, Goa
Cooperating Centre(s)	ICAR-NBSSLUP, Nagpur
Principal Investigator	Dr.Sujeet Desai
Co-Investigators	Dr. Gopal Mahajan; Dr. Shripad Bhat; Dr. Bappa Das

RATIONALE

Agriculture sector in the coastal region is facing challenges due to the changing climate. Climate change and other anthropogenic factors are adversely affecting the agricultural production and food security, leading to increase in the vulnerability of agriculture. Developing region-specific climate-smart strategies demands an integrated climate change vulnerability assessment in agriculture considering regional disparities. Vulnerability assessment serves as a vital tool for recognizing, measuring, and ranking the vulnerability of a system. Therefore, local vulnerability assessment is needed for development of mitigation and adaptation strategies specific to the community needs and priorities at the local level.

RESEARCH GAPS

Block-level agricultural vulnerability assessments are constrained by the limited availability of high-resolution climate, agricultural, and socioeconomic data, as well as the lack of standardized indicator frameworks and robust validation methods. Most of the studies conducted so far are at district level or regional level and very few studies have focused on assessing the agriculture vulnerability at block level. the present research focuses on developing high-resolution, and validated vulnerability assessment frameworks by integrating exposure, sensitivity and adaptive capacity indicators to

support evidence-based adaptation planning and climate-resilient agricultural development at the block level

OBJECTIVES

- To assess the exposure, sensitivity and adaptive capacity at the block level in the state of Goa.
- To identify the most vulnerable blocks of Goa based on the composite vulnerability index.
- To develop the land use plan for the state of Goa based on the vulnerability of agriculture.

ACTIVITIES

- Collection of block level data of the vulnerability indicators.
- Data normalization and calculations of weights of the indicators.
- Estimation of Exposure, Sensitivity and Adaptive capacity indices for the blocks.
- Estimation of block level vulnerability based on composite vulnerability index (CVI).
- Identification and mapping of vulnerable blocks based on CVI.
- Develop the land use plan for the blocks based on the vulnerability of agriculture.

EXPERIMENTAL DETAILS

Treatment:	NA
Fertilizer Doses	NA
Variety	NA
Replications:	NA
Observations:	NA
GPS Coordinates:	NA

EXPECTED OUTPUT

- Identification of critical indicators of agricultural vulnerability at block level in Goa.
- Identification of the most vulnerable blocks based on the composite vulnerability index.
- Development of block level vulnerability maps of Goa.
- Development of land use plan at block level based on the agricultural vulnerability.

EXPECTED OUTCOME

- Capacity building and awareness among the farmers about the agricultural vulnerability.
- Adoption of appropriate, site specific (Block level) adaptation and mitigation strategies to reduce vulnerability.
- Increase in the resilience of agriculture, reduced vulnerability and sustainable agriculture.

FIELD INFORMATION

When the field was developed:	NA
What are crops being cultivated season-wise:	NA
Soil type:	NA
Soil pH, EC, OC:	NA
Soil depth:	NA
Soil NPK and Micronutrient status:	NA
Common pests and diseases:	NA