



Resource-use efficiency of rice production in the state of Odisha, India

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Introduction

- Odisha ranks third in rice area, behind West Bengal and Uttar Pradesh, with about 9% of the country's rice area.
- Assessing resource use efficiency helps policymakers to understand if environmental policy should be aimed at minimizing input or maximizing output using the current quantity of inputs.

Objectives

- To estimate the Resource Use Efficiency in Paddy production
- To determine the level of Technical Efficiency in Paddy cultivation

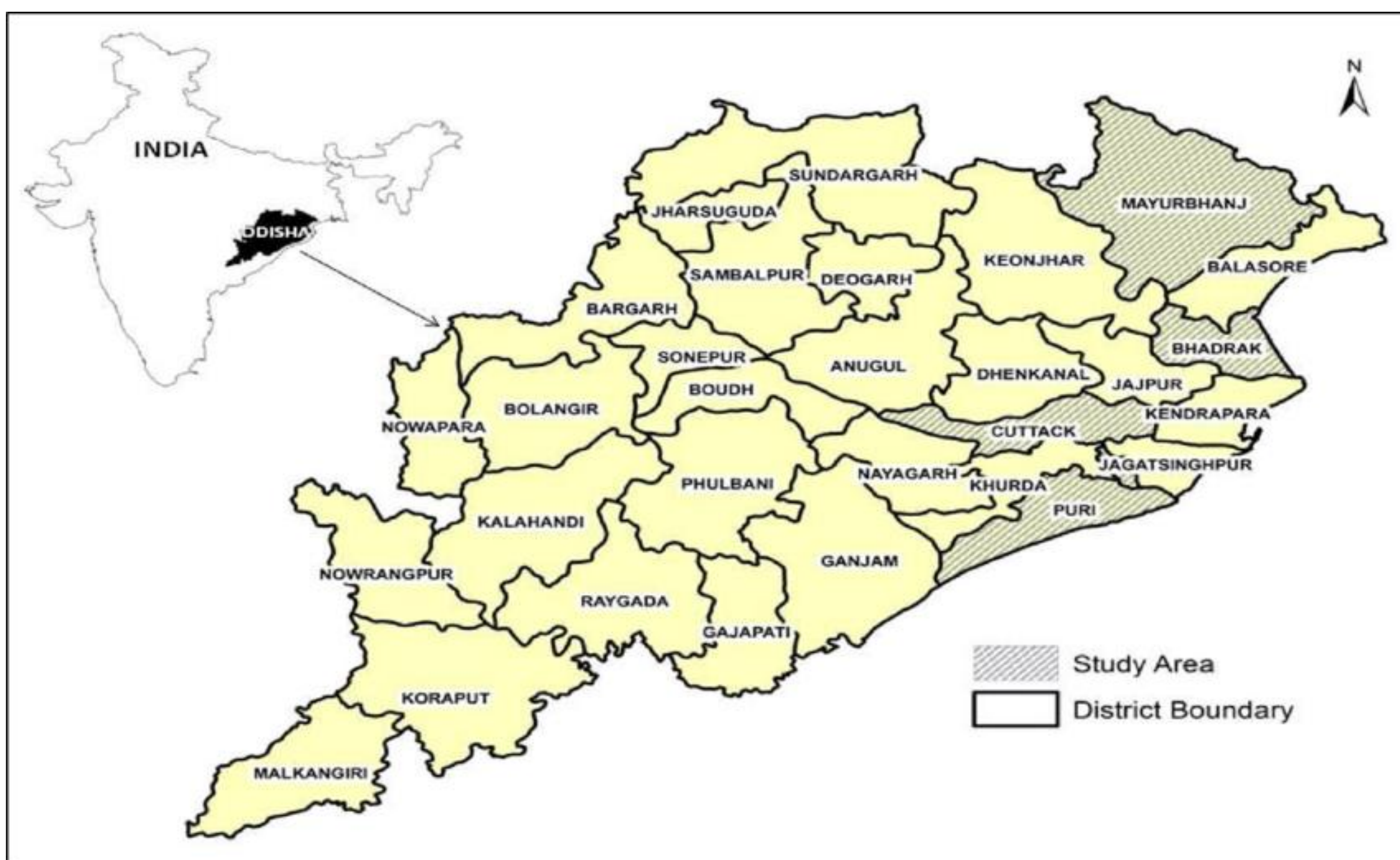


Figure1. Study area



Figure2. Interacting with farmers

Methodology

- Sampling:** 400 farmers were chosen using Multistage Sampling from 4 districts, blocks from each, and 50 farmers from each block.
- Analytical tool:** The Cobb-Douglas production functions, Small Group Discussion (SGD), Excel and SPSS software

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Results

Table1. Estimates of Cobb-Douglas production function for paddy Production in Odisha

Particulars	Estimate	Standard Error
Crop area in ha	0.038**	0.013
family labour	0.003	0.012
Hired labour	0.023***	0.003
Hired animal labour	-0.006***	0.001
Owned Animal labour hours	-0.003*	0.001
Seed in Kg.	0.001	0.016
Fertilizer in Kg.	0.303***	0.016
Manure in Qtl.	-0.001	0.002
Insecticides in rupees	0.006***	0.001
Machine in hours	0.034**	0.011
R ²	0.72	
Adjusted R ²	0.71	
Intercept	2.246***	0.137
F- Statistics	68.17***	

Note: "****", "***" and "**" represents significance level at 1%, 5% and 10% level

Table2: Input use efficiency for various inputs used in paddy production in Odisha

Family Labour	0.0002
Hired Animal Labour	-0.0004
Owned Animal labour	-0.0082
Seed	0.0005
Fertilizer	0.2625
Manure	-0.0028
Insecticide	0.0005
Machine	0.0010

Conclusions

- Steps must be taken to strengthen the extension machinery to improve technical knowledge.
- Possible policy support to create easy access to supply farm inputs.
- Reduction of input price, increases in the minimum support price (MSP) and easy access to credit are to be noted down for the benefit of the paddy growers.

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