

# Measuring Environmental and Economic Sustainability of Vegetable Production in Karnataka, India

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## **INTRODUCTION**

Increased demand, high value, and excellent response to external inputs have resulted in vegetable cultivation's intensification in India. It is imperative to understand how sustainable this intensification of vegetable production is? Against this backdrop, economic and environmental sustainability was studied for the two major vegetables, viz., onion and tomato in Karnataka state, India.

## RESULTS

- Mean composite indicator scores of economic sustainability were 0.57 and 0.62 for onion and tomato, respectively.
- Cultivating onion in rainfed conditions had healthier economic sustainability than irrigated conditions for all its principals, except productivity.
- The two crops had peripheral differences in composite environmental indicators, with average scores of 0.47 and 0.49 for onion and tomato.
- The environmental performance of flood and drip-irrigated cultivation of tomato farms was similar, although drip cultivation marginally outperformed the flood system in relation to space organisation and energy consumption.



<b>-</b> Tomato	-Onion

### **Figure 1: Environmental sustainability scores of onion** and tomato cultivation

**Figure 2: Economic sustainability scores of** onion and tomato cultivation

#### **Figure 3: Composite sustainability** indicator values

## **METHODOLOGY**

- Among the vegetables, tomato and onion had been selected for this study, as they together contribute to more than 50 per cent of the total area under production of vegetables
- Districts with highest area was selected. Further villages and lacksquarerespondents were selected by randomly
- Indicators for assessing sustainability were systematically chosen. ullet
- First, through an extensive review of literature candidate indicators for both the dimensions were selected and then they were finalized by the multidisciplinary expert panel.

## **CONCLUSION**

Overall, this reflects the crucial role of farmers' productive decisions, which finally determine the level of sustainability of each individual farm. Thus, there is room to incentivize agricultural producers to modify the way they manage their resources through appropriate policy instruments in order to upgrade their sustainability performance.



#### Figure 4 : Map of the study Figure 5 : Sampling Frame for the study area

**Figure 6 : Data collection from** sample respondents

#### **Figure 7 : Onion Farmer with his** produce