

## **Impact Assessment of New Pearl Millet Technology in Arid Rajasthan<sup>§</sup>**

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### **Abstract**

This paper has assessed the impact of high-yielding short-duration pearl-millet hybrid on farmers' income in the arid region of Rajasthan. The decomposition of total change in net returns has shown that adoption of modern technology accounted for 86 per cent of the incremental net income, in which the share of varietal change was 58 per cent. This suggests that there is a considerable potential of raising farm income through widespread dissemination of modern pearl millet technology in Rajasthan.

**Key words:** Pearl millet, high-yielding varieties, technology, decomposition analysis, hybrid, Rajasthan

**JEL Classification:** Q12, Q16

### **Introduction**

Rajasthan with land area of 3.42 lakh km<sup>2</sup> is the largest state of India and 61 per cent of the area has hot arid climate. The agriculture in the arid ecosystem is constrained by environmental limitations such as low precipitation, high temperature, high wind speed, high evapo-transpiration and poor soils. Pearl millet is the most dominant crop in arid Rajasthan, occupying about 41.1 lakh hectares, mostly under the rainfed conditions. The average yield of pearl millet in this region is 772 kg/ha (GoR, 2011). It is lower than in other regions of the country and is also below the potential yield. This suggests a great potential for enhancing yield with the adoption of suitable high-yielding varieties and better management practices. The short-duration pearl-millet hybrids have helped in increasing yield, but their

adoption has been far less than expected in the state. The present study has assessed the impact of short-duration pearl-millet hybrid HHB 67 on farm income and has analyzed its determinants.

### **Data and Methodology**

The data on pearl millet (local variety) as well as hybrid (HHB-67) were collected from 60 and 50 farmers, respectively from two tehsils of Jaisalmer district during 2008-2010 using multistage stratified random sampling technique. The detailed data were collected for different inputs used in the production of these crops, marketing cost, sale prices, etc.

### **Analytic Approach**

The production function approach was used to establish the input-out relationship for modern and traditional technologies. The term 'modern technology' used in the study includes adoption of hybrid (HHB 67) and associated modern package (seed rate and its treatment, method and time of sowing, method and time

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