



A study on the mechanized farming of vegetable cultivation in Odisha

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Abstract : In this paper, a study was carried out regarding the impact of using improved implements and machinery with regard to cost of cultivation, yield and benefit-cost ratio for the cultivation of vegetables over traditional tools and implements. The experiment was conducted at Bhubaneswar in coastal Odisha in the cropping year 2008-09 for cultivation of okra in *Kharif*, potato in *Rabi* and pumpkin in summer season in an area of 0.4 ha (1 acre) each for traditional farming (TF) using traditional tools and implements and for mechanized farming (MF) adopting improved implements. The cost of cultivation was found to be about 30 per cent less in mechanized farming over traditional farming by using improved implements in case of mechanized farming on custom hiring basis. The study also revealed that okra was most remunerative crop with a benefit-cost ratio of 5.64:1 followed by potato (4.37:1) and pumpkin (4.29:1) in the mechanized farming. Similarly, for traditional farming, the benefit-cost ratio was found to be 3.29:1, 2.72:1 and 2.99:1 for okra, potato and pumpkin, respectively. The percentage savings of human labour in mechanized farming was about 56 compared to traditional farming. The yield per hectare in the mechanized farming was 5 per cent and 3 per cent more for okra and potato, respectively and 2 per cent less for pumpkin over traditional farming. Hence, there is the necessity of creating awareness and popularizing the improved horticultural implements in the state for their mass scale adoption and commercialization.

Key Words : Mechanized farming, Horticultural mechanization, Vegetable cultivation, Benefit-cost ratio

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INTRODUCTION

Mechanization of horticultural crops particularly for vegetable cultivation in Odisha is at a very low level (Anonymous, 2007). Majority of the farmers are using traditional tools and implements for various field operations involving drudgery, high cost of operation, wastage of agricultural inputs and damage of crop produce. Efficient and good quality agricultural implements have been developed and are commercially available. These implements need to be popularized amongst the farmers to increase the productivity and to reduce losses. Since vegetable crops are high value crops, but are highly perishable in nature, improved implements have been developed and are being used in developed countries for achieving timeliness in farm operations, reducing losses and maximizing production. Details of such implements and machines have been discussed

in this paper for their usefulness in vegetable crops.

It is estimated that by 2020, the vegetable production will touch about 11 million tones and fruit production about 2.5 million tones (Alam, 2000). Mechanization is, therefore, an essential input for horticultural crops. It not only achieves timeliness of farm operations but also increases productivity and reduces cost of cultivations as well as post harvest losses to a great extent. Odisha has emerged as the third largest producer of fruits and vegetables after Uttar Pradesh and Bihar. The farmers of Odisha, in general, use traditional tools and methods for cultivation and adopt traditional post harvest practices for handling, storage and processing of the crop produce. As a result of this, the yields are low, cost of cultivation is high and there occurs high losses ranging between 30-40 per cent of the total produce due to damage during harvesting, handling, storage, transport and processing. If improved implements are used in production