Costs and returns of rainfed and irrigated *rabi* jowar in Osmanabad district of Maharashtra

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ABSTRACT

Osmanabad district was purposely selected for present study because of higher area under *rabi* jowar. The data are pertained for the year 2005-06. The results revealed that use of hired human labour, family human labour, machine labour and use of fertilizers were more in irrigated *rabi* jowar production than rainfed *rabi* jowar production. On the contrary, use of bullock labour and use of seed was more in rainfed *rabi* jowar production than in irrigated condition. Per hectare net profit of irrigated *rabi* jowar was Rs.2519.17 and by that of rainfed *rabi* jowar was Rs.1470.00. The output-input ratio was 1.29 on irrigated *rabi* jowar and 1.14 on rainfed *rabi* jowar farms. In general, per quintal cost of production was Rs.680.33 on irrigated *rabi* jowar farm and Rs.649.92 on rainfed *rabi* jowar farm.

Jowar [*Sorghum bicolor* (L.) Moench] belongs to family Gramineace. It is one of the main staple foodgrains of the worlds for poorest people, particularly in many parts of Africa and Asia. Jowar is a dual purpose crop, yielding high quality grains for human consumption and fair quality of fodder for livestock. In India, jowar contributes a major portion of foodgrains requirement. Jowar is the major food grain crop in Osmanabad district. It appears that foodgrains have the predominance in the cropping pattern of the country. Foodgrains occupy 76 per cent of the total area under cultivation and contributes 45 per cent of the total value of agricultural output in the country. Among foodgrains, rice, wheat, jowar, bajra and maize are the important cereal crops. In view of this, an attempt was made to analyse and compare the cost and returns from *rabi* jowar production by taking rainfed and irrigated farms in Osmanabad district of Maharashtra.

METHODOLOGY

The survey design of the study was based on four stage sampling incorporated at four different stages, so as to elicit adequate and accurate information by the field of enquiry in Osmanabad district of Maharashtra. The study was purposively conducted in Osmanabad district as the large area under *rabi* jowar in first stage. In second stage, Kallam and Paranda tehsil were selected from Osmanabad district on the basis of highest area under *rabi* jowar crop. In third stage, four villages from each of tehsils were selected on the basis of highest area under rainfed as well as irrigated *rabi* jowar. In fourth stage, six rainfed and six irrigated *rabi* jowar growers were selected from each of the villages. Thus, from eight selected villages, size of sample for each of the categories was sixteen. In this way, 48 rainfed and 48 irrigated *rabi* jowar growers consisted with ninety six cultivators selected for present study. The data were pertained to the year 2005-06. The cost concept such as cost-A, Cost-B and Cost-C were used to analyze the data in present investigation. Cost-A included the item namely, hired human labour, bullock labour, machine labour, seed, fertilizer, manure, plant protection, land revenue, incidental expenditure, interest on working capital and depreciation on asset. Cost-B included the cost-A plus, rental value of land and interest on fixed capital. Cost-C included the cost-B plus, imputed value of family labour. The terms and concepts used in present study were as follows. Land revenue was considered actually paid by the cultivators for crop area. Incidental expenditure included minor repairs, refreshing charge and other expenditures for cultivation of the crop. Interest on working capital included by charging interest at the rate of 14 per cent on items of expenditure as hired human labour, bullock labour, machine labour, seed, fertilizers, manure, plant protection, land revenue and incidental charges for crop duration. Depreciation is the decrease in the value of asset and 10 per cent on the present value at the beginning of the year of farm implements and machinery was taken and only the proportionate changes were taken for the estimate as

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