

## Resource use efficiency in Alphonso mango production in Sindhudurg district (M.S.)

S.A. Wagale, J.M. Talathi\*, V.G. Naik and D.B. Malave

Department of Agril. Economics, Dr. B.S.Konkan Krishi Vidyapeeth, Dapoli, RATNAGIRI (M.S.) INDIA

### ABSTRACT

The present study entitled "An economic analysis of resource use efficiency in Alphonso mango production in Sindhudurg district" was undertaken with a cross-sectional sample of forty farmers each from small (upto 1.00 ha), medium (1.01 to 2.00 ha) and large (above 2.00 ha) mango orchard categories were selected randomly from Vengurla and Deogad Tahsils. The average size of holding of sample mango growers was 2.54 ha. At overall level, the average size of mango growers using different inputs in mango production revealed that overall level, 61.67 per cent mango growers were using manures, 70.83 per cent were using fertilizers and 76.67 per cent mango growers were using plant protection chemicals. The growth retardant users were negligible (12.5%). The per hectare quantity of manures used was 33.33 quintals. The per hectare quantities of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O used were 110.34 kg, 38.39 kg and 48.62 kg, respectively. At overall level, the plant protection chemicals i.e. carbamate (1.04 kg) was used on large scale, followed by copper based fungicide (1.02 lit), cyclodine compound (1.01 lit), sulphur based fungicides (0.91 lit) and organophosphate (0.62 lit). The per hectare cost of cultivation (Cost-C) Rs. 43198.00, Rs. 44310.00 and Rs. 48103.00 in small, medium and large size groups, respectively. At overall level, the per quintal cost of cultivation was Rs. 1445.00 and that of production Rs. 1729.00, profit at Cost-A, Cost-B and Cost-C was Rs. 45703.00, Rs. 32290.00 and Rs. 25318.00, respectively, leaving the net returns of Rs. 16409.00. The net returns were Rs. 13594.00, Rs. 16747.00 and Rs. 18879.00 in small, medium and large size of orchard, respectively. The Cost : Benefit ratio at total cost of production was estimated to 1.26, 1.31 and 1.33 in small, medium and large size of orchard, respectively, while it was 1.30 at overall level. The coefficient of determination (R<sup>2</sup>) indicated 96.00 per cent variation in mango production. The applied 't' test indicated that constant return to scale have prevailed in mango production. The ratio of MVP/FC was more than unity in case of manures, phosphorus and potassium indicating the scope of expanding the use of these inputs. The expenditure on area, nitrogen, human labour and plant protection need to be curtailed. The constraint faced by mango growers, marketing of mango in the hands of commission agents (47.50%), lack of technical knowledge (42.50%) and non-availability of cold storage facility (29.17) were of high intensity.

**Key words :** Input use, Cost Returns, Profitability, Resource Productivity and Allocative efficiency.

### INTRODUCTION

Mango (*Mangifera indica* L.) a member of Anacardiaceae, the fourth most important crop of the world and is the most important fruit crop in Asia, since a time immemorial (Mathew *et al.*, 1993). Mango consists of more than one thousand varieties and is cultivated in the Indian sub-continent over 4000 years ago.

In Maharashtra, the area under mango cultivation is 381466 hectares and production is 810384 M.T. In Maharashtra, the Konkan region is well known for mango production having an area of 140319 hectares and production of Konkan region is 293673 M.T. In Konkan region, the Sindhudurg district is popular for mango production having an area of about 22498 hectares and production is about 63634 M.T. (Srinivasan, 2005).

Mango plantation is capital intensive and its gestation period is quite long. Low productivity is the major bottleneck in boosting its exports. The world mango productivity is about 14 to 16 tonnes/ha, while in India, it ranges from 8 to 10 tonnes/ha (Anonymous, 1993). However, the mango production in the Konkan region particularly Alphonso variety is very low which ranged about 2.5 tonnes/hectares (Goveker, 1995). This may be due to various factors like alternate bearing, application of inadequate fertilizer doses, lack of proper management of spraying schedule, difference in productivity, duration of flowering and fruiting and upto

some extent inequality of Alphonso fruits, across different farm size and locations. Further, there is no proper utilization of available resources that affect the yield and management of mango and its profitability. Therefore, to estimate practically, whether there are real differences across the different farm size, the present study was undertaken with following specific objectives.

### Objectives :

- i) To study inputs utilization across the farm size.
- ii) To study size productivity relationship in mango production.
- iii) To study resource use efficiency on different size of farms.
- iv) To analyze the constraint faced by mango growers in production process.

### MATERIALS AND METHODS

Mango cultivation is mostly concentrated in Ratnagiri and Sindhudurg districts accounting for about 46.26 per cent of the area under mango in the Konkan region. In view of this, Sindhudurg district was selected purposively for present investigation. From two Tahsils, i.e. Vengurla and Deogad, eight villages were selected randomly i.e. four villages from each tahasil. Then all mango growers were classified for selected villages in three different size groups

\* Author for correspondence.