INFERENCES
AND
SUGGESTIONS

CHAPTER VI
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The study was conducted in Malwa Plateau of Madhya Pradesh. A sample of 720 respondents (240 small, 240 medium and 240 large) was selected using multi stage random sampling procedure.

On the basis of average and percentage, land utilization, cropping pattern, production and price of potato, onion and garlic per farm (in q), identification of different marketing channels, price spread, market margins and market efficiency of marketing channels under study, monthly marketing arrivals and average price behaviour of potato, onion and garlic constraints in potato, onion and garlic marketing were worked out. The data were collected using the tested interviews schedules through survey method related to Agricultural year 2007-08.

Inferences

On the basis of results of the present study the following conclusions were observed.

In potato growing district the results are as follows

➢ The average size of holding of the respondents (potato growers) was 4.63 ha. The net cultivated area was noted 84.73 per.cent of total holding. The irrigated area was observed 82.42 per cent of net cultivated area.

➢ In *Rabi* season potato and wheat were reported as the major crops occupying the area 32.83 and 19.74 per cent over gross cultivated area. Soybean was the main crop in *Kharif* and occupied 71.90 per cent gross cultivated area. The average production of potato was estimated 216.26 q/ha.

➢ On an average, total human labour utilization per hectare came to 203.78 days in potato. The average utilization of family and hired human labour days was worked out to be 45.75 days and 158.03 days in potato. The per hectare utilization of bullock labour days came to 12.29 days in potato. The average utilization of seed per hectare was calculated as 1932.04 kg in potato. The

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average utilization of manures was worked out to be 17.69 tons in potato. The average utilization of fertilizers in terms of N, P and K were worked out at 193 kg, 77 kg and 50 kg in potato per hectare. The average number of irrigation came to 7 in potato. The per hectare utilization of plant protection chemicals, came to 1.72 kg in potato. The per hectare utilization of packing material, came to 225 bags in potato.

➢ On an average, the cost of cultivation per hectare of potato over cost A_1, cost B_1, cost B_2, cost C_1, cost C_2 and C_3 was worked out to be Rs. 53146.49, Rs. 53539.42, Rs. 57039.42, Rs. 56492.87, Rs. 59992.87 and Rs. 65992.16, respectively.

➢ Potato, on an average, gave a yield of 216.25 quintals per hectare. The average gross returns were worked out to be Rs. 104383.59 per hectare. It was highest being Rs. 116543.60 on large farms and lowest Rs. 92318.46 on small farms. The average net returns over cost A_1, cost B_1, cost B_2, cost C_1, cost C_2 and cost C_3 were calculated at Rs. 51237.09, Rs. 50844.16, Rs. 47344.16, Rs. 47890.72, Rs. 44390.72 and Rs. 38391.43 per hectare of potato, respectively. The average input-output ratio at cost A_1, cost B_1, cost B_2, cost C_1, cost C_2 and cost C_3 were worked out to be 1: 1.96, 1: 1.95, 1: 1.83, 1: 1.85, 1: 1.74 and 1: 1.58, respectively. The return per rupee of investment of potato was higher in large size group of farms.

➢ The maximum average arrival was recorded in the month of February (52645.73 tons) followed by April (39401.90 tons) and March (38982.41 tons). The minimum average arrival was observed in June (10337.38 tons). Whereas, minimum average price per quintal was observed in the month of April (Rs.300.10) and maximum average price was in the month of November (Rs.750.10).

➢ Five marketing channels were observed mainly in practice. Channel I comprised of producer to wholesaler to retailer and then final to the consumer. Channel II comprised of producer to private company and then to the consumer; channel III specifies different farmers of market producer, to

wholesaler, to retailer and then to consumer. The middlemen were found to be maximum in channel IV and minimum in channel V.

➤ In various marketing channels the maximum cost was Rs. 238.02 per quintal in case of channel I, which was due to the cost increased in cold storage. The least cost was seen in channel V in Rs. 7.45 per quintal due to the direct marketing of onion from producer to consumer. The consumer's price was maximum in channel I Rs. 1293.37 and minimum in channel V Rs. 750.75 per quintal. The marketing efficiency was highest in channel V 99.77 per cent and 4.43 per cent in cannel I. It was lowest in channel II 2.73 per cent because company adds maximum cost with margin.

➤ The main consumers of potato chips and wafers are families especially in urban areas. Besides, hotels, restaurants, canteens, army establishments require potato chips in significant quantities. In urban areas, the per capita consumption of potato chips or wafers or vegetable may be conservatively taken at 21.35 kg per annum. The annual demand in year the 2007 in Malwa Plateau was having a population of 15336581 is estimated at 327436.02 tons per year. Hence, there are good prospects for potato chips especially near the potato growing areas.

➤ The most serious constraints as perceived by the respondent in potato marketing were the lack of price at peak period, followed by inadequate storage facility, unauthorized charges, farmers organization, large number of middlemen, price fluctuation and crasher, no correct weighing, high charges of transportation, traders collusion, lack of transportation, link road, higher market charges, lack of market yard, communication problems, lack of packing material, information about quality parameters, delayed of payment, malpractices in market, lack of market information, processing facility, price information, knowledge and regulated market, credit facilities, in proper handling and packing, standardization and grading .

In onion growing district the results are as follows

➤ The average size of holding of the respondents (onion growers) was 4.69 ha. The net cultivated area was noted 83.64 per cent of total holding. The irrigated area was observed 82.65 per cent of net cultivated area.

➤ In *Rabi* season onion and wheat were reported as the major crops occupying the area 28.92 and 21.57 per cent over gross cultivated area. Soybean was the main crop in *Kharif* and occupied 71.00 per cent gross cultivated area. The average production of garlic was estimated 307.96 q/ha.

➤ On an average, total human labour utilization per hectare came to 204.26 days in onion. The average utilization of family and hired human labour days was worked out to be 40.83 days and 163.43 days in onion. The per hectare utilization of bullock labour days came to 10.00 days in onion. The average utilization of seed per hectare was calculated as 8.09 kg in onion. The average utilization of manures was worked out to be 12.66 tons in onion. The average utilization of fertilizers in terms of N, P and K were worked out at 175 kg, 70 kg and 29 kg in onion per hectare, respectively. The average number of irrigation came to 7 in onion. The per hectare utilization of plant protection chemicals, came to 1.68 kg in onion. The per hectare utilization of packing material, came to 350 bags in onion.

➤ The cost of cultivation per hectare of onion over cost A_1, cost B_1, cost B_2, cost C_1, cost C_2 and C_3 was worked out to be Rs. 47427.26, Rs. 47805.66, Rs. 50805.66, Rs. 50892.35, Rs. 53892.35 and Rs. 59281.59, respectively. The average net returns over cost A_1, cost B_1, cost B_2, cost C_1, cost C_2 and cost C_3 were calculated at Rs. 81870.39, Rs. 81491.99, Rs. 78491.99, Rs. 78405.30, Rs. 75405.30 and Rs. 70016.06 per hectare of onion, respectively. The average input-output ratio at cost A_1, cost B_1, cost B_2, cost C_1, cost C_2 and cost C_3 were worked out to be 1: 2.73, 1: 2.70, 1: 2.54, 1: 2.54, 1: 2.40 and 1: 2.18, respectively. The return per rupee of investment of onion was higher in small size group of farms.

➢ The trend of onion arrival was in upward direction starting from June to May. The maximum average arrival was recorded in the month of April (15801.88 tons) followed by May (12074.52 tons) and March (9248.39 tons). The minimum average arrival was observed in September (2056.17 tons). Whereas, minimum average price per quintal was observed in the month of April (Rs.250.10) and maximum average price was in the month of September (Rs.775.25).

➢ Five marketing channels were observed mainly in practice. Channel I comprised of producer to village merchant to wholesaler to retailer and then final to the consumer. Channel II comprised of producer to commission agent to wholesaler to retailer and then final to the consumer; channel III specifies different farmers of market in producer, to wholesaler, to retailer and then to consumer. The middlemen were found to be maximum in channel II and minimum in channel V.

➢ In various marketing channels the maximum cost was Rs. 282.89 per quintal in case of channel II, which was due to the cost increased in large number of middleman. The least cost was seen in channel V in Rs. 19.81 per quintal due to the direct marketing of onion from producer to consumer. The consumer's price was maximum in channel I Rs. 857.75 and minimum in channel V Rs. 800.00 per quintal. The marketing efficiency was highest in channel V 39.38 per cent and 5.25 per cent in cannel IV. It was lowest in channel II 1.96 per cent because middleman adds maximum cost with margin.

➢ The main consumers of onion powder and pastes are families especially in urban areas. Besides, hotels, restaurants, canteens, army establishments require onion powder in significant quantities. In urban areas, the per capita consumption of onion powder or paste or vegetable may be conservatively taken at 28.55 kg per annum. The annual demand in year the 2007 in Malwa Plateau was having a population of 15336581 is estimated at 437859.40 tons per year. Hence, there are good prospects for onion powder and paste especially near the onion growing areas.

➤ The most serious constraints as perceived by the respondent in onion marketing were the lack of price at peak period, followed by higher market charges, unauthorized charges, farmers organization , no correct weighing, price fluctuation and crasher, large number of middlemen, high charges of transportation, lack of transportation, traders collusion, inadequate storage facility, in proper handling and packing , lack of link road, market yard, packing material, communication problems, lack of information about quality parameters, delayed of payment, malpractices in market, lack of market information, processing facility, standardization and grading , price information, knowledge and regulated market.

In garlic growing district the results are as follows

➤ The average size of holding of the respondents (garlic growers) was 4.58 ha. The net cultivated area was noted 85.65 per cent of total holding. The irrigated area was observed 81.94 per cent of net cultivated area.

➤ In *Rabi* season garlic and gram were reported as the major crops occupying the area 32.83 and 19.54 per cent over gross cultivated area. Soybean was the main crop in *Kharif* and occupied 72.67 per cent gross cultivated area. The average production of garlic was estimated 135.53 q/ha.

➤ On an average, total human labour utilization per hectare came to 206.88 days in garlic. The average utilization of family and hired human labour days was worked out to be 48.35 days and 158.53 days in garlic. The per hectare utilization of bullock labour days came to 9.72 days in garlic. The average utilization of seed per hectare was calculated as 5012.03 kg in garlic. The average utilization of manures was worked out to be 13.46 tons in garlic per hectare. The average utilization of fertilizers in terms of N, P and K were worked out at 184 kg, 77 kg and 36 kg in garlic per hectare, respectively. The average number of irrigation came to 5 in garlic. The per hectare utilization of plant protection chemicals, came to 1.51 kg in garlic. The per hectare utilization of packing material, came to 275 bags in garlic.

➤ The cost of cultivation per hectare of garlic over cost A_1 cost B_1, cost B_2, cost C_1, cost C_2 and C_3 was worked out to be Rs. 48888.81, Rs. 49204.77, Rs. 51704.77, Rs. 52416.56, Rs. 54916.56 and Rs. 60408.21, respectively. The average net returns over cost A_1, cost B_1, cost B_2, cost C_1, cost C_2 and cost C_3 were Rs. 25749.45, Rs. 25433.50, Rs. 22933.50, Rs. 22221.71, Rs. 19721.71 and Rs. 14230.05 per hectare of garlic, respectively. The average input-output ratio at cost A_1, cost B_1, cost B_2, cost C_1, cost C_2 and cost C_3 were worked out to be 1:1.53:, 1:1.52, 1:1.44, 1:1.42, 1:1.36, and 1:1.24, respectively. The return per rupee of investment of garlic was higher in medium size group of farms.

➤ The trend of garlic arrival was in upward direction starting from June to May. The maximum average arrival was recorded in the month of April (7358.92 tons) followed by May (5521.34 tons) and March (4990.78 tons). The minimum average arrival was observed in September (970.55 tons). Whereas, minimum average price per quintal was observed in the month of April (Rs.194.10) and maximum average price was in the month of September (Rs.850.85).

➤ Five marketing channels were observed mainly in practice. Channel I comprised of producer to village merchant to wholesaler to retailer and then final to the consumer. Channel II comprised of producer to commission agent to wholesaler to retailer and then final to the consumer; channel III specifies different farmers of market in producer, to wholesaler, to retailer and then to consumer. The middlemen were found to be maximum in channel II and minimum in channel V.

➤ In various marketing channels the maximum cost was Rs. 284.00 per quintal in case of channel II, which was due to the cost increased in large number of middleman. The least cost was seen in channel V in Rs. 18.75 per quintal due to the direct marketing of garlic from producer to consumer. The consumer's price was maximum in channel V Rs. 1000.00 and minimum in channel IV Rs. 800.55 per quintal. The marketing efficiency was highest in channel V

52.33 per cent and 6.19 per cent in cannel IV. It was lowest in channel II 2.44 per cent because middleman adds maximum cost with margin.

➢ The main consumers of garlic powder and pastes are families especially in urban areas. Besides, hotels, restaurants, canteens, army establishments require garlic powder in significant quantities. In urban areas, the per capita consumption of garlic powder or paste or vegetable may be conservatively taken at 2.32 kg per annum. The annual demand in year the 2007 in Malwa Plateau was having a population of 15336581 is estimated at 35580.87 tons per year. Hence, there are good prospects for garlic powder and paste especially near the garlic growing areas.

➢ The most serious constraints as perceived by the respondent in garlic marketing were the lack of price at peak period, followed by higher market charges, unauthorized charges, farmers organization, no correct weighing, price fluctuation and crasher, large number of middlemen , high charges of transportation, lack of transportation, traders collusion, inadequate storage facility, in proper handling and packing, lack of link road, market yard, packing material, communication problems, lack of information about quality parameters, delayed of payment, malpractices in market, lack of market information,   processing facility, standardization and grading, price information, knowledge, regulated market and credit facilities.

Suggestions

On the basis of the findings the following major points are suggested.

(i)   State government should be provided up-to-date regulated market in price information, to the farmers, so that they can regulate the supply of their produce for sale.

(ii)   About 65 per cent of the arrivals were concentrated in the peak season (December, January, February, March and April) when price was low. If adequate storage facility is provided to farmers, they can get better price.

(iii) There should be regular supervision of the administrative authorities to check mal-practices in the market.

(iv) The authorities of Krishi Upaj Mandi should be more vigilant and equipped with more power to check unauthorized deduction, cheating and delay payment in Mandi.

(v) To reduce the transportation cost, the villages should be connected with all weather roads.

(vi) Minimum support price should be declared well in advance so that cultivators may adjust the area under potato, onion and garlic.

(vii) Efforts should be made to popularize the advantages of state ware house in the area of cheap marketing credit facilities.

(viii) Cash crops are an economically viable crops, it has a vital potential in increasing the income and employment so the area should be increased and should find adequate place in the cropping pattern of the farmers.

(ix) It's suggested that farmers may be provided with up to date advance market price information so that they can regulate the supply of their produce which help in minimizing garlic price fluctuation and also avoid distress sale.

(x) For remunerative price, grading of produce should be done in the market on the basis of the characteristics like size, colour, quality etc.

(xi) Many of the farmers were ignorant about market news. They must be communicated at village level so that they can sell their produce when they get attractive remunerative price.

In view of the major cost on labour, there is immediate need to develop the labour saving practices such as use of weedicides, improved tools for planting, harvesting, etc. Appropriate extension method may be adopted to evaluate the farmers on optimum use of inputs. Though the farmers are producing adequate quantity of cash crops to meet the consumer demand, they are facing problems in marketing of their produce. On the other hand, market intermediaries are

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occurring higher margin by incurring less cost and services. Therefore, in order to regulate the expenditure on commission, transportation and packing, efforts should be made to develop the necessary infra-structure for the marketing of cash crops in the state.