

**ECONOMIC ANALYSIS OF *RASAVANTIES* (SUGARCANE JUICE UNITS)
IN AHMEDNAGAR DISTRICT OF MAHARASHTRA**

by

Shinde Sanketa Sunil

Reg. No. 016/205

A Thesis submitted to the

**MAHATMA PHULE KRISHI VIDYAPEETH,
RAHURI- 413 722. DIST. AHMEDNAGAR,
MAHARASHTRA, INDIA**

In partial fulfilment of the requirements for the degree

of

MASTER OF SCIENCE (AGRICULTURE)

in

AGRICULTURAL ECONOMICS



DEPARTMENT OF AGRICULTURAL ECONOMICS

POST GRADUATE INSTITUTE

MAHATMA PHULE KRISHI VIDYAPEETH

RAHURI - 413 722. DIST. AHMEDNAGAR

MAHARASHTRA, INDIA

2018

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CANDIDATE'S DECLARATION

I hereby declare that this thesis or part

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by me or any other person

to any other University

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Degree or

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This is to certify that the thesis entitled, “**Economic Analysis of Rasavanties (Sugarcane Juice Units) in Ahmednagar district of Maharashtra**” submitted to the Faculty of Agriculture, Mahatma Phule Krishi Vidyapeeth, Rahuri, Dist. Ahmednagar (Maharashtra) in partial fulfilment of the requirements for the award of degree of **MASTER OF SCIENCE (AGRICULTURE) in AGRL. ECONOMICS**, embodies the results of a piece of bonafide research work carried out by **Miss. SHINDE SANKETA SUNIL** under my guidance and supervision and that no part of this thesis has been submitted to any other university for degree or diploma.

The assistance and help received during the course of this investigation have been duly acknowledged.

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ACKNOWLEDGEMENTS

I avail this opportunity to acknowledge all those who helped and guided me during the course of my research work.

Before giving to way my feelings, I cordially want to salute that supreme cosmic consciousness from which everything originates in the beginning and to which everything goes to end. Though formal and dead words cannot carry the fragrance of emotions with them, still they are the only available way of expressing emotions in such formal acknowledgement.

With deepest sense of gratitude, I wish to express my heartfelt and profound thanks towards my research guide, Dr. A.V. Gavali, Field Officer (I), Comprehensive Scheme, Department of Agril. Economics, M.P.K.V., Rahuri for his inspiring guidance, keen interest, constructive criticism, constant encouragement and immense sympathy during the preparation of this manuscript and PG life.

I am deeply indebted to Dr. A. L. Pharande, Dean, Faculty of Agriculture, MPKV, Rahuri and Dr. R. S. Patil, Associate Dean, Post Graduate Institute, MPKV, Rahuri for providing necessary facilities useful suggestions and constant encouragement at all the time.

I extend my heartfelt thanks to the members of my Advisory Committee, Dr. D. B. Yadav, Head, Department of Agricultural Economics, Dr. V. G. Pokharkar, Agricultural Rresearch Officer, Strengthening Scheme, Department of Economics, Dr. V. P. Kad Associate Professor, Department of Agricultural Process Engginering, Dr. Annasaheb Shinde College of Agricultural Engginering and Technology, Dr. V. S. Wani, Associate professor, Department of Statistics for their constructive criticism, valuable guidance and critical evaluation of this manuscript.

My special thanks to Dr. B. V. Pagire, Dr. R. B Hile, Dr. Tai Deokate, Dr K. G. Sonawne, Department of Agril. Economics for their constant guidance and support during my course work.

I wish to convey greatest reverence and sincere feelings of respect to my beloved Papa (Mr. Shinde Sunil Dnyaneshwar), Mummy (Mrs. Shinde Alaka Sunil), whose everlasting love, inexhaustible efforts, blessings and affection made me able to make my academic career. Any vocabulary will be insufficient to express my deepest sense of respect and gratitude towards my parents. My brother Nakul, for their continuous inspiration and love helped me to build up my abilities and to bring a long cherished dream into reality. I find no such a measure adequate to quantify all that my family members have done for me.

I wish to extend my gratitude towards my bosom friends and colleagues Renuka, Sonali, Apurva, Kalyani, Tejasweeni, Shilpa, Kalpna, Aishwarya, Harish, Akshay, Sampat, Khambalshwar, Someshwar and all my loving juniors for their warmth company and co-operation during my research work.

I am also thankful to the staff members of Department of Agricultural Economics, MPKV, Rahuri, who rendered their invaluable help during the course of my post graduation programme. I am also thankful to Mr. K. N Patil sir, Librarian, MPKV, Rahuri and Ghodke Madam, Librarian, Department of Agricultural Economics, M.P.K.V. Rahuri who provides me easy access to various books, journals and research reports for the completion of this research endeavor.

Finally, I would like to thank one and all who helped directly or indirectly during this investigation.

Place: MPKV, Rahuri

Date : / / 2018

(S. S. Shinde)

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ABSTRACT

ECONOMIC ANALYSIS OF RASAVANTIES (SUGARCANE JUICE UNITS) IN AHMEDNAGAR DISTRICT OF MAHARASHTRA

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Sugarcane juice is one of the most important extract of sugarcane. It is consumed as a beverage worldwide and especially in regions where sugarcane is commercially grown. Sugarcane juice has several health benefits and medicinal properties. It's medical properties get enhance when mixed with juices of lemon and ginger. The most of people visited to the holy places Shri Sai Baba, Shirdi and Shani-Shingnapur, Dist. Ahemadnagar of Maharashtra due to religious purpose via Rahuri, on this route number of sugarcane growers have been established their own *rasavanties* for better income to their family in addition to farm income and also recreation centers to many customers as well as tourists from Gujarat, Andhra Pradesh, Karnataka states etc. The study was conducted to examine socio-economic status, income and employment pattern of *rasavanti* owners, costs structure, gross returns, benefit-cost ratios and problem faced by *rasavanti* owners.

The Ahemadnagar district was selected purposively, out of that area across Rahuri-Shanishingnapur road was selected on the basis of the highest unit of *rasavanties*. The samples of *rasavanties* were selected randomly. All samples were divided into three sections across the road on proportionate basis. In that first section was Sonai Phata to Gotumbe Akhada (3 km), second section was Gotumbe Akhada to Umbre (7 km) and third section was Umbre to Sonai (8 km), there were 22,10 and 13 *rasavanties* selected out of 125 *rasavanti*.

The study revealed that, size of family of *rasavanti* owners was 6.55 persons per family at overall level. Out of which 51.90 per cent members were earners. The percentage of secondary education was the highest and 80 per cent of the total family members were educated. The size of holding owned by the *rasavanti* owner was 1.09 ha at overall out of which 87.16 per cent area was irrigated. Cropping pattern dominated by food grains, followed by cash crops. The area under sugarcane was 0.35 ha (21.60 per cent). The total number of the livestock per family was 4.34 at over all level. The value of capital assets possessed by the *rasavanti* owner's family was 10.05 lakh at overall level, among that residential house shared maximum. The annual income of *rasavanti* owner's family from different sources was 10.65 lakh at overall. The share of income from *rasavanti* was 5.99 lakh (56.29 per cent).

The total annual employment of male and female was 329.01 and 275.06 days at overall level. However for *rasavanti*, 166.56 days for male(45.63 per cent) and for female it was 11.11 days (3.04 per cent) only. In case of female, the 116.78 (31.099 per cent) days the highest employment days onothers farm works.

The total capital investment for *rasavanti* was ₹ 140961.56 out of which bullock, wooden crusher and sheds were the main items of investments. The total operating cost of *rasavanti* was ₹ 428408.74. Out of which ₹ 375244.40 (87.59 per cent) was variable cost and ₹ 19457.68 (4.54 per cent) was fixed cost. The maximum share in operating cost was the highest for sugarcane ₹ 133480.53 (31.16 per cent). The gross returns were ₹ 994499.13. While net returns over total costs were ₹ 599797.05. Per liter gross returns were ₹ 70.51 and net returns over total costs were ₹ 42.52. The benefit cost ratio in *rasavanti* was 2.32 at overall level.

The major problems regarding *rasavanties* were unavailability of own land for *rasavanti*, laggardness in technology adoption, seasonal effect of production, inadequate credit supply and also high commission charges paid to middlemen.

The study suggested that, *rasavanti* owners may formulate / implement the union that there should be a possibility of their problem solution and getting of more returns for all. Being profitable business farmers should be diverted towards *rasavanti* for better income and employment which helpful for doubling the farmers income.

1. INTRODUCTION

1.1 History of Sugarcane

Sugarcane originated in New Guinea where it has been known since about 6000 BC. From about 1000 BC its cultivation gradually spread along human migration routes to Southern Asia and India. It is thought to have hybridized with wild sugarcane of India and China, to produce the 'thin' canes. Sugarcane has a very long history of cultivation in the Indian sub-continent. The earliest reference to it is in the Atharva Veda [1500-800 BC] where it is called ikshu and mentioned as an offering in sacrificial rites. The Atharva Veda uses it as a symbol of sweet attractiveness. The word 'sugar' is derived from the ancient Sanskrit word sharkara. By the 6th century BC sharkara was frequently referred in Sanskrit texts which even distinguished superior and inferior varieties of sugarcane. A Persian account from the 6th century BC gives the first account of solid sugar and describes it as coming from the Indus Valley. This early sugar would have resembled what is known as 'raw' sugar: Indian dark brown sugar or gur.

1.2 Origin of the Crop

Cultivation of sugarcane in India dates back to the Vedic period. The earliest mention of sugarcane cultivation is found in Indian writings of the period 1400 to 1000 B.C. It is now widely accepted that India is the original home of *Saccharum* species. *Saccharum barberi* and Polynesian group of island especially New Guinea is the centre of origin of *S. officinarum*. It belongs to family Gramineae (Poaceae), class-monocotyledons and order-glumaceae sub family-panicoidae, tribe-Andropogoneae and sub tribe-saccharininea. The cultivated cane belongs to two main groups: (a) Thin-Hardy north Indian types *S. barberi* and *S. sinense* and (b) Thick-Juicy noble canes *Saccharum officinarum*. Highly prized cane is *S. officinarum*.

1.3 Statistics of Sugarcane Production

1.3.1 Sugarcane Production In World

Sugarcane is grown over 115 countries. Brazil stands at the top regarding the production level followed by India. The top eleven sugarcane growing countries are Brazil, India, China, Cuba, USA, Australia, Mexico, South Africa, Thailand, Philippines and Pakistan.

Table 1.1 India's position in leading countries of sugarcane production

Sr. No.	Country / Years	1961	1971	1981	1991	2001	2011
1	Brazil	2	2	1	1	1	1
2	India	1	1	2	2	2	2
3	China	9	8	7	4	3	3
4	Cuba	3	3	3	3	7	12

5	Australia	7	7	8	10	8	9
6	Guatemala	11	11	11	11	11	10
7	Indonesia	6	9	9	8	10	8
8	Mexico	4	4	5	6	5	6
9	Pakistan	9	6	6	7	6	5
10	Philippines	5	5	7	9	9	7
11	Thailand	10	10	10	5	4	4
12	Vietnam	12	12	12	12	12	11

Data source: FAOSTAT, online database at <http://www.fao.org>, July 2014

1.3.2 Sugarcane Production In India

Sugarcane occupies very prominent position on the agriculture map of India. India is world's second largest producer of sugarcane next to Brazil. In India, sugarcane is grown over 4.5 million ha of land (2014-2015).

In India, Uttar Pradesh is the major sugarcane growing state, contributing about 48 per cent of area and 40 per cent of production. The other cane growing states are Maharashtra, Tamil Nadu, Karnataka, Gujarat and Andhra Pradesh. These states contribute around 85 per cent sugarcane production of country (2014-2015).

Table 1.2 Area, production and yield of sugarcane in major growing states (2015)

States	Area(Million Hectare)	Production(Million Tones)	Yield(Kg/Hectare)
Andhra Pradesh	0.12	9.31	76328
Assam	0.03	1.04	35931
Bihar	0.25	14.68	59024
Gujarat	0.18	12.96	70820
Haryana	0.09	6.51	70000
Karnataka	0.45	38.48	85500
Madhya Pradesh	0.10	5.03	48841
Maharashtra	0.99	72.26	73207
Odisha	0.01	0.58	64415
Punjab	0.09	6.58	73067
Tamil Nadu	0.26	26.50	102998
Telangana	0.04	2.42	69000
Uttar Pradesh	2.17	145.39	67029
Uttarakhand	0.10	5.98	61608
West Bengal	0.02	2.08	119232
Others	0.06	2.40	-
All India	4.49	352.16	71095

Data source: Indian Agriculture at a Glance, 2016

1.3.3 Sugarcane Production In Maharashtra

Sugarcane crop is a boon to Maharashtra. It plays vital role in the economy of the state. Maharashtra ranked second in area and production. It contributes about 22 per cent of India's production.

1.4 Sugarcane Juice

Sugarcane juice is one of the most important extracts of sugarcane. It is consumed as a beverage worldwide, and especially in regions where sugarcane is commercially grown such as Southeast Asia, South Asia, and Latin America. It is coined with different names in different parts of the world. Garapa (var. Guarapa) or Caldo de cana is the Brazilian Portuguese term for the juice of raw sugarcane. Sugarcane juice is also known as "guarapo", "guarapo de caña", or "jugo de guarapo" in various dialects of Spanish, "ganne ka ras" or "roh" on the Indian subcontinent, (Cheruku Rasam in Telugu) "aseer asab" in Egypt, "air tebu" in Indonesia, Malaysia and Singapore, and "nuroc mia" in Vietnam. It is the national drink of Pakistan, where it is called "roh" and sold fresh by roadside vendors only. In Egypt, sugarcane juice is an incredibly popular drink served by almost all fruit juice vendors, who can be found abundantly in most cities. In both Indonesia and Malaysia, sugarcane juice is sold nationwide especially among street vendors. It is also bottled for local distribution in some regions and sold at food courts daily. In Singapore, it is sold in food courts only.

1.4.1 Benefits of Juice

1.4.1.1 Medicinal value of sugarcane juice

Sugarcane juice has several health benefits and medicinal properties most of which remains unknown to the masses. The sugarcane juice extracted from healthy canes has high medicinal value. Its medicinal properties get enhanced when mixed with juices of lemon and ginger. It strengthens the stomach, kidneys, heart, eyes, brain and sex organs. It can be used in the treatment of fevers, urinary related diseases, cancer. Ayurveda acharyas recommend this sweet liquid in diseases which arise due to vitiation of rakta (blood) and pitta. Sugar cane juice relieves the burning sensation which arises due to infections of the urinary tract. In folk lore medicines sugar cane juice is considered as an excellent remedy for jaundice.

1.4.1.2 Nutritional value of sugarcane Juice

Nutritionally, sugarcane juice has no simple sugar. Sugarcane juice is a mild laxative too due to its high potassium content. It is a rich source of iron and calcium also. The juice extracted from sugarcane not only pacifies the palate, but strengthens the body by providing several nutrients. Sugarcane juice contains iron, vitamins A, C, B1, B2, B3, B5, and B6, plus a high concentration of phytonutrients (including chlorophyll), antioxidants, proteins, soluble fiber and numerous other health supportive compounds.

Table1.3 Nutritional value of sugarcane juice

Sr. No.	Contents	Quantity
1	Magnesium	2.5 mg
2	Calcium	32.57mg
3	Calories	111 cal
4	Fats	0.09 g
5	Water	0.19 g
6	Ash	0.66 g
7	Carbohydrate	27.40 g
8	Protein	0.20 g

(Satus paper on sugarcane 2013)

1.5 Objectives of the Study

- i. To study the socio-economic status of *rasavanti* owners.
- ii. To estimate the costs and returns of *rasavanties* .
- iii. To examine employment pattern of *rasavanti* owners.
- iv. To study the problem in running *rasavanties*.

1.6 Problems of the Study

Sugarcane juice is one of the most important extract of sugarcane. It is consumed as a beverage worldwide and especially in regions where sugarcane is commercially grown. The most of people visited to the holy places Shri Sai Baba, Shirdi and Shani-Shingnapur due to religious purpose via Rahuri, on this route many sugarcane owner they have been established their own *rasavanties* for additional income to their family in addition to farm income and also recreation centers to many customers as well as tourists from Gujarat, Andhra Pradesh, Karnataka etc.

1.7 Scope And Utility of the Study

In this context, the study will be of great importance to recognize whether the *rasavanties* is on profitable lines in the area and understand whether it has provided considerable income to the *rasavanti* owners and created employment opportunities. The results of present study would, be useful to the policy makers. The study results would also be useful the *rasavanti* owners to identify shortcomings of the existing *rasavanti* system and adopt corrective measures if necessary. More specifically, the analysis relative to efficiency / inefficiency of juice production will be immense use to the *rasavanties* in realizing the need for effective changes in the existing resources use and cost structure. The study would provide the per liter cost of production and profitability of *rasavanties*.

Thus, the said study would not only be useful for the *rasavanti* owners but also for farmers, newly emerging entrepreneur, extension worker, Government planner, policy makers and also for researchers. Though the study was confined only to the *rasavanti* owners across Rahuri-

Shanishingnapur road, findings would be applicable to other areas in general with similar conditions and in cities also.

1.8 Limitations of the Study

The study is however, based on the micro level survey data of a limited sample of 45 *rasavanties* with different capacities drawn from Rahuri-Shanishingnapur road alone in Ahemadnagar district alone for year 2017. There is possibility of mixing or overlapping the income and expenditure of *rasavanties* with other juice centers. The study findings therefore need to be verified carefully if they are to be applied in other areas with different time periods, with changing resource prices and returns from juice.

The estimation of production cost was relevant to the existing market scenario at the time of study, pertaining to purchasing price, consumer's preference and purchasing power. Hence, change in these factors would results in the changes in production marketing cost and practices.

2. REVIEW OF LITERATURE

Review of literature on relevant aspects under study forms an integral part of any systematic research work. This review helps in highlighting the methodology as well as results obtained by different research workers on similar aspects and serves as a guideline for the research to be carried out. The literature closely related to the present investigation has been briefly presented fewer than four sub-headings as,

1. Socio-economic status of *rasavanti* owner
2. Costs and returns of *rasavanties*
3. Employment pattern of *rasavanti* owner
4. Problem in running *rasavanties*

2.1. Socio-Economic Status Of *Rasavanti* Owner

Bhapkar *et al.* (1984) undertook a study of socio-economic conditions of random sample of 44 seasonal migrants at co-operative sugar factory in Satara district of Western Maharashtra. They concluded that, the proportion of younger labourers between the age of 21 to 35 years was the highest. The highest literacy was among the landless and small size classes of holdings. Majority of them had agriculture as their main occupation.

Palve (1991) studied 282 seasonal migrants engaged in harvesting and transporting of sugarcane from Pathardi tahsil irrespective of sugar factory where they had worked. He found that, large number of family members were in the age group of 14 to 44 years (66.41 per cent), while few were up to 13 years (24.55 percent) of age, most of them were illiterate and indebted. The cropping pattern was dominated by cereals and pulses.

Jadhav (2001) studied employment, income and expenditure pattern of rural weaker section in scarcity region of Satara district of Maharashtra. He concluded that, the size of family for marginal farmers and agricultural labourers was 4.55 and 4.03 members, respectively. There were 49.45 per cent earners and 50.55 per cent dependants in marginal farmers, while earners were to the extent of 51.61 and 48.39 per cent were dependents in case of agricultural labourers.

Jhamatani *et al.* (2003) examined the entrepreneurial orientation of educated unemployed rural youth. They revealed that, more than half of the respondents (52.88 per cent) were engaged in farming as their major occupation, where as 20.44 per cent respondents were engaged in service followed by 12.00 per cent of respondents who were engaged in more than one occupation, while 11.55 per cent of the respondent were engaged in labour work while only 3.11 per cent respondents were engaged in business.

Khedkar (2003) studied 120 marginal farmers households spread over dry land areas of Ahmednagar district. He concluded that, the size family was 4.53 members per household. The literacy percentage was relatively high in case of small farm size. The proportion of illiteracy was around 17.18 per cent. The cropping pattern of farm families dominated by bajra (38.77 per cent), rabi jowar (15.39 per cent) and tur (15.69 per cent).

Desai (2005) studied management in agriculture and the role of agricultural economics in India. He reported that, the socio-economic background of agricultural labour was similar across state. The dominated age profile of agricultural labour was between 21 to 50 years of age, but younger and older people also accomplished and contributed to family labour.

Patel (2005) in a study of personality modernization in integrated Tribal Development Project Area of Dahod district of Gujarat state and reported that, a great majority (85.50 per cent) of the respondents were found to be dependent on farming and animal husbandry, whereas 10.00 per cent of them engaged in farming and animal husbandry along with services, while only 4.50 per cent had farming along with business as source of income.

Changule *et al.* (2010) examine the aonla processing business unit in Maharashtra. Socio-economic characteristics of aonla processing business owner were estimated and results revealed that, age of the owner was found to be 58.20 years. Family size was 5.75 persons, education level was 3.10 that was more than high school. The experience of the owner in fruit processing was more than eight years. The owner attended two trainings on processing aspect. It implied that age old, educated, experienced and trained persons were engaged in aonla processing business in the region. The owner possessed 1.20 hectares of land and 1.12 milch animals. Thus, it inferred that the owner was found from farming community, aonla processing business unit consisted with eight aonla product enterprises in which raw aonla was processed about 60 quintals while per annum running period of the unit was 75 days.

2.2. Costs And Returns Of Rasavanties

Deorukhakar *et al.* (2007) conducted study on economic analysis of kokum fruit products in Sindhudurg district of Maharashtra. The results revealed that the total costs for processing kokum syrup was ₹ 2440.88 and gross return obtained after processing was ₹ 3780.52, while net return was ₹ 1339.63.

Asmotoddin *et al.* (2009) studied on economic analysis of tomato soup as value added product in Ahmednagar district and showed total cost for preparation of tomato soup for 33.8 q was ₹1.31 lakh and the return was ₹ 1.69 lakh and BCR's ratio was 1.29.

Changule *et al.* (2010) reported in study of economics of aonla processing business unit in Maharashtra, that total cost for processing unit as whole was found to be ₹ 252135.34 and the gross return from all product enterprises was ₹ 478155.39 in aonla processing unit as whole. The net profit of aonla processing unit as whole was found to be ₹ 226020.05. On an average, BCR's was 1.90 in processing unit as whole.

Rama Rao (2010) studied the economics of value addition in sugarcane in North Costal Zone of Andhra Pradesh. He reported that, BCR's for sugarcane juice production was 1.73 in North Costal Zone of Andhra Pradesh in the year 2007-2008.

Rama Rao and Babu (2011) studied on value addition in sugarcane: A critical analysis of various consumables produced in Andhra Pradesh, estimated the B-C ratio. Among the value added product of sugarcane juice was found most profitable, followed by jaggery and sugar with B-C Ratio of 2.5, 1.22 and 1.13.

Kusuma *et al.* (2013) conducted study on economics of production and value addition in foxtail millet in Bellary district of Karnataka. The results revealed that in the preparation of papad, the total cost of production worked out to be ₹ 7000, gross returns realized were ₹ 11880 and net returns were ₹ 4880. In preparation of tambittu, gross returns were ₹ 14250 and net returns were ₹ 5960.

Kumbhar (2016) studied the gur (jaggery) industry in Kolhapur and reported that total expenditure on investment was ₹ 26000. The total cost of production was ₹ 34800 and net profit ₹ 8,800 with benefit- cost ratio of 1.33.

Pokharkar *et al.* (2017) conducted study economics of value added product phule drinks (Mango) in M.P.K.V. Rahuri. They reported that, the total cost on account of raw material (Mango) was ₹39320. The quantity of Phule drinks produced from 983 kg mango was 2496 lit with the recovery of 253.92 per cent. The processing cost was ₹ 54.20 per litre. The Phule drinks have a net profit of ₹14244.39. The benefit cost ratio in RTS Phule (Mango) drinks processing was 1.11 at counter sale, indicated that each rupee invested fetched higher returns from this processed products

Sonawane *et al.* (2017) conducted study economic evaluation of aonla candy processing unit in M.P.K.V. Rahuri and observed that the investment on building was the major cost of fixed capital (20.70 per cent). The total variable cost was ₹ 112136.50. The per Kg cost of aonla candy processing was estimated to ₹ 116.90. Aonla candy was profitable with a net profit of ₹ 63763.50 and benefit- cost ratio was 1.54. The added gross returns and net returns were ₹ 130070 and ₹ 63763.50, respectively. The ICBR ratio was 1.96 aonla candy processed was much higher than that the quantity required for break-even. It is therefore inferred that, the performance of processing the

aonla candy was satisfactory and it is a profitable processing unit. The benefit cost ratio in aonla candy processing was 1.54 at counter sell indicated that each rupee invested fetched higher returns from these processed products.

2.3. Employment Pattern Of *Rasavanties*

Singh (1973) studied the labour utilizations and earnings of farm workers in Bihar state. He observed under utilization of the farm labourers on different holding size groups. Assuming 313 working days in a year, the weighted mean of work days performed by a male worker was 206.9 days in a year and that of female worker it was 135.5 days.

Sharma *et al.* (1974) studied green revolution and changing trends in wage structure of landless labourers in Hissar (Haryana State). The results indicated that, casual male labourer got employed for 258 days in a year and 59 per cent of samples were below the average figure. The employment opportunities were found not only inadequate but also highly seasonal.

Anonymous (2000) studied income, employment and expenditure pattern of the farm families in sub-mountain zone of Maharashtra. The study concluded that, the total employment in farming was found to be 350 days at the overall level. In the total employment, share of crop production, dairy enterprises and off farm employment was 30.00, 28.78 and 26.35 per cent, respectively.

Anonymous (2001) studied employment, income and expenditure pattern of sample households in plane zone of Maharashtra. The study revealed that, on an average individual male were employed for 136 days, while female had an employment of 110 days.

Gosavi (2002) studied employment, income and consumption of rural families below poverty line in Satara district. He concluded that, the total annual employment of a male worker of marginal farmer and landless labour was 214 and 287 days, respectively. The female workers of marginal farmer and landless labour were employed for 167 and 179 days, respectively.

Anonymous (2003) studied income, employment and expenditure pattern of farm and non-farm families in irrigated and rained areas of western Maharashtra. The study revealed that, the male worker was employed for 210 and 215 days in the case of farm families and 269 and 239 days of non-farm families in irrigated and rained areas, respectively.

Patil (2005) studied employment and earning of farm women workers in Ahemadnagar district. She concluded that, the contribution of women workers to the total work force of the farm families was relatively high among the small size groups of the farm. The women workers put lesser number of days of their work on farm than that of men workers. The women workers belonging to

the large sized farm families retrained from hard work to some extent as compared to the women worker of small sized farms.

Deorukhakar *et al.* (2007) estimated the employment potential in kokum processing units in Sindhudurg district of Maharashtra. They concluded that most of the operations were done with the help of human labour. They also stated that, this type of business provides employment opportunities to rural people as well as self-employment opportunities to small entrepreneurs.

2.4. Problem In Running Rasavanties

Reddy and Kumar (2010) studied on an economic appraisal of mango processing plants of Chittoor district in Andhra Pradesh and revealed that, the major problems faced by the processors were inadequate storage facilities, inadequate transport facilities, power shortages, credit constraints and non-availability of credit and high cost of credit.

Karthik *et al.* (2013) studied mango pulp processing industry in Tamil. They studied problems in running mango pulp processing unit. The study revealed that, fluctuations in prices of mangoes, labour shortage and frequent power cut during processing period. These were major problems faced by the processors.

Kusuma *et al.* (2013) studied on an economic analysis of production and value addition in foxtail millet in Bellary district of Karnataka and revealed that, the major problems faced by the farmers were lack of technical guidance, non-availability of quality seeds, lack of marketing information, standardization of value added products and tough competition with existing products.

Kumbhar (2016) studied on gur (jaggery) industry in Kolhapur and reported that, the major problems which were identified are low profit, transportation, high raw material cost, and lack of research and development. But out of this low profit is the major problem of gur plant units. If they have their own transportation they get more profit. The reason identified that due to lack of unity and of inter-competition, the plant owners are not ready to form any association, cooperative or society for development of transportation and R and D. Now a day labour problem is also big issue because of this number of running plant in Kolhapur decreases to 250 from 1000 in last 4 years. Also demand of high pay from labors reduces profit of plant and this effect gur market very badly.

Pokharkar *et al.* (2017) studied on economic analysis of value added product phule drinks (Mango) reported that, the major problems regarding processing were storage, shortage of skilled manpower, shortage of raw material due to seasonal availability of fruits, wastage of raw material, under-utilization of installed capacity, weak marketing chain, etc.

Sonawane *et al.* (2017) studied on an economic evaluation of aonla candy processing unit and observed that the major problems regarding processing, storage and marketing were shortage of

skilled manpower, shortage of raw material due to seasonal availability of fruits, wastage of raw material, underutilization of installed capacity, weak marketing chain, etc

3. MATERIALS AND METHODS

The present chapter deals with the methodology adopted to arrive at specific findings. The study of any research problem needs to be conducted on specific lines by adopting appropriate methodology to arrive at meaningful conclusions with the specific objectives of the study. The detail of the methodological aspects of the present investigation with regards to the selection of area, sampling, collection of data and analytical procedure adopted etc. are explained in brief in order to meet the requirement of the objectives of the study. The methodological aspects has been discussed as under the following head

1. Data requirement
2. Sources of data
3. Sampling design
4. Method of data collection
5. Analysis of data

3.1 Data Requirement

To study the economics of *rasavanties* in Rahuri tahsil of Ahemadnagar district, the data of various aspects are required. The major aspects of data requirements were as under,

1. General information of the sample *rasavanti* owner's family
2. Information on *rasavanti* owner's family income and employment pattern
3. Detail information regarding investment, resource use, cost of production and returns from *rasavanti*
4. Information on problems faced by owner in economic analysis of *rasavanti*.

3.2 Sources of Data

The data on cost of processing and other aspect of *rasavanti* were collected through well prepared schedules. By personal interviews with owners, all requirements for the present study were covered. Several visits were made to collect correct information in year 2017.

3.3 Sampling of Design

Since the study was aimed to find out the economics of *rasavanties*, the sampling for the study necessarily involves the selection of area i.e. district/ tahsils/ village/ samples as well as *rasavanties*.

3.3.1 Selection of Area

The Ahemadnagar district was purposively selected for the present study as most of *rasavanties* were running in the vicinity area of Rahuri and Newasa tashil of Ahemadnagar district. The area and production under sugarcane is also higher as compared to other tahsils of district.

3.3.2 Selection of Samples

From Ahemadnagar district area across Rahuri-Shanishingnapur road was selected on the basis of the highest unit of *rasavanties*. The samples of *rasavanties* were selected randomly.

3.3.3 Selection of *Rasavanties*

Selection of *rasavanties* are done across Sonai Phata to Sonai road, near about 125 *rasavanties* were running out of these 45 sample units were randomly selected from three sections of villages on proportionate basis.

3.4 Method of Sampling

Total distance from Sonai Phata to Sonai is near about 18 km and 125 number of *rasavanties* accommodate in these area. At starting point of road more *rasavanties* are concentrated and closely associated and visitors firstly approach to this place. Then at middle area where the *rasavanties* were found in dispersed manner and again in last area *rasavanties* are closely associated. Out of 125 *rasavanties* 45 *rasavanties* were randomly selected on purposively for the present study. All *rasavanties* were divided into three sections on the basis of consantration of units. First section from Sonai Phata to Gotumbe Akhada is 3 km which is consisting total 63 *rasavanties* out of that 22 *rasavanties* were selected, In second section Gotumbe Akhada to Umbre 7 km which consist of 28 *rasavanties* out of that 10 *rasavanties* were selected and in third section Umbre to Sonai 8 km which consist of 34 *rasavanties* out of that 13 *rasavanties* were selected these are shown in Table 3.1.

Table 3.1 Method of sampling

Sections	Sections	Total No. of <i>Rasavanties</i>	Purposively selected <i>Rasavanties</i>	Percentage
I	Sonai Phata- Gotumbe Akhada (Distant area-3 km)	63	22	34.92
II	Goutumbe Akhada-Umbre (Distant Area-7 km)	28	10	35.71
II	Umbre-Sonai (Distant Area-8 km)	34	13	38.23
Total	Sonai Phata-Sonai (Total Distant Area-18 km)	125	45	36.00

3.5 Analysis of Data

Simple tabular analysis was adopted to interfere the findings of the present enquiry. Besides, appropriate analytical tools were used as discussed below.

Tabular Analysis

The costs and returns of selected processing units were estimated. The cost involved was grouped into fixed and variable cost. The gross returns of units were estimated by adding the revenues from the sale. The net profit was derived by deducting total cost from total returns. Lastly, Benefit-Cost Ratio (BCR) calculated.

a. Cost 'A'

It includes the costs on account of hired human labour, bullock labour, machinery charges, land revenue, depreciation and repairs, Interest on working capital etc.

b. Cost 'B'

Rental value of land and interest on fixed capital represent imputed cost which is added to the Cost 'A'.

Cost 'B' = Cost 'A' + rental value of land + interest on fixed capital.

c. Cost 'C'

It is the total cost of production, which included all the costs items, actual as well as imputed. The value of owned labours is imputed and added to cost 'B' to work out cost 'C'.

Cost 'C' = Cost 'B' + imputed value of family labour.

d. Fixed Cost

Fixed costs includes following items,

1. Land rent
2. Building/infrastructure
3. Depreciation (Furniture and Equipment)
4. Interest on fixed capital

e. Variable Cost

Variable cost includes following items

1. Raw material prices
2. Labour charges
3. Serving material prices (glasses, straws)
4. Additive, preservative, (Lemon, Ginger)
5. Other expenses (Light bill, Stationary)
6. Working Capital
7. Interest on working capital

f. Processing Cost

Processing costs includes both fixed and variable costs,

Processing Cost = Fixed Cost + Variable Cost

g. Total Cost

Total cost was calculated by including all costs incurred in processing. It includes both fixed and variable cost.

h. Total Returns / Gross returns

Total returns were calculated by whole profit gain after selling.

i. Net Returns

Net returns were derived by deducting total cost from gross return.

Net returns = Gross returns – total cost

j. Benefit-Cost Ratio (BCR)

The B:C ratio was calculated by dividing total costs by total returns

$$\text{BCR} = \frac{\text{Total cost (₹)}}{\text{Total returns (₹)}}$$



Plate 1 Bullock drawn wooden crusher at section II



Plate 2 Furniture in *rasavanti* at section I



Plate 3 Decoration of *rasavanti* at section III



Plate 4 Customer drinking sugarcane juice at *rasavanti* section II



Plate 7 Interviewing with Rasavanti owner at time of data collection at section III
Name- Rajesh Darade **Date- 25/12/2017**



Plate 5 Crushing of sugarcane by bullock drawn wooden crusher at section II



Plate 6 Serving of juice by rasavanti owner to customer at section II

4. SALIENT FEATURES OF STUDY AREA

4.1 General Information

The purpose of this chapter is to explain briefly the information of Ahmednagar district. This helps in understanding the salient features of Ahmednagar district as well as the results obtained from the study. It's very clear that agriculture field is not totally depends upon man made process only but it depends upon soil and climatic conditions of the area such as soil type, rainfall, temperature, etc. Every time an agriculturist has to manage his farm with all these factors for doing efficient and fruitful farming. In addition to these factors the economic factors like marketing facilities, banking facilities, transport and communication facilities, education, irrigation projects, electricity and availability of sufficient and timely credit at cheaper rate also determines the crop to be grown and has influence on farmer's economy. This is true particularly in case of perishable commodities which faces transport problems, cash crops which fight for availability of credits, for quick transport facilities. Taking into consideration all these points, the general information of the tract under study is discussed below.

4.2 Features of the Ahmednagar District

Ahmednagar district is the largest district of Maharashtra state in Western India. Although Ahmednagar district was created as early as in the year 1818, modern history of Ahmednagar may be said to have commenced from the year 1869, the year in which parts of Nashik and Solapur which till then had comprised Ahmednagar were separated and the present Ahmednagar district was formed. Ahmednagar district was created after the defeat of the Maratha Confederacy in the Third Anglo-Maratha War in the year 1818, when most of the Peshwa's domains were annexed to British India. The district remained part of the Central division of Bombay Presidency until India's independence in the year 1947, when it became part of Bombay State, and in the year 1960 the new state of Maharashtra.

4.3 General Characteristics of the District

Ahmednagar district, which is known to be the 'Place of Saints', is located between Pune and Aurangabad on road line and between Manmad and Daund on railway line. Ahmednagar district is on the fore-front in co-operative movement in the country owing to the strong presence of 22 sugar factories, distilleries, spinning mills, paper mills, milk federation, dairy etc. in the co-operative sector and a few co-operative industrial estates. The district has well road network connecting it to all the mega markets in the country. It can be said that, the district is the 'Gateway' of Marathwada and Vidarbha to Mumbai. The North belt of the district is richer in water resources with the help of Godavari and Pravara rivers and South belt is dry land except few spots in Shirampur and Parner.

4.3.1 Location and Geographical Area

Ahmednagar district popularly known as ‘Nagar’ is one of the important districts of Western Maharashtra, which is situated partly in upper Godavari basin and partly in the Bhima basin. It lies between North latitudes 18°20’ and 19°00’ and East longitudes 73°00’ and 75°00’. It is bounded on the North by Nashik district, on the North-East by Aurangabad district, on the North by Beed and Osmanabad districts, on the South by Solapur district and in the West by Pune and Thane district. The total geographical area of Ahmednagar district is 17196 sq.km. which is first in Maharashtra state.

4.3.2 Climate

The climate of the district is characterized by a hot summer and general dryness throughout the year except during the South-West monsoon season, i.e, June to September. The mean minimum temperature is 12.3°C and mean maximum temperature is 39.1°C when the relative humidity is between 60 to 80 per cent, thereafter it decreases rapidly.

4.3.3 Rainfall

Ahmednagar district gets rainfall mainly from South- West monsoon but the distribution of rain is mostly uneven. Agro climatically, the district falls in drought prone area. The average rainfall of the district is between 500 to 550 mm. The average rainfall of Akola and taluka is high as compare to other talukas.

4.3.4 Soil

The entire district is occupied by basaltic lava flows, which are popularly known as ‘Deccan Traps’. These lava flows are sometimes associated with inter trapper beds such as limestone, clay, shale, red bole beds, porous thin mantle of black cotton soil present almost everywhere on the basalts. River alluvial sand, gravel, clays and silts represent the recent deposits in the district.

4.3.5 Rivers

Godavari and Bhima are the major rivers of the district. The Pravara is the tributary of Godavari. The Mula, the Adhala and the Mahalungi are the important tributaries of the Pravara. The southern part of the district consisting of Parner, Ahmednagar, Pathardi, Shrigaonda and Karjat tehsils constitutes the Bhima basin with the tributaries Kukadi and Ghod.

4.3.6 Forest

The total area under the forest is 1905 sq. km. which is 10.94 per cent of the total geographical area of the district. Akole taluka have the maximum forest area in the district. The forest produce includes hirda, custard apple, fuel wood, grass, gum and tendu leaves.

4.3.7 Administrative Set Up

Ahmednagar district has 14 tehsils viz. Ahmednagar, Akole, Jamkhed, Karjat, Kopergaon, Newasa, Parner, Pathardi, Rahuri, Sangamner, Shevgaon, Shrirampur, Shrigonda and Rahata. There are 14 Panchayat Samities, 18 cities, 1584 villages, 1 Mahanagar Palika, 8 Nagar Parishads, 1 Nagar Panchayat and 1316 Gram Panchayats. At the district level, the Collector is the administrative Chief and at tehsil level, Tehsildars are looking after the administration as per Collector's instructions. For rural development, Chief Executive Officer of Zilla Parishad and at block level, Block Development Officers are incharge of the administration. Municipal Councils are responsible for urban development of all the tehsils.

For administrative purpose Ahmednagar district has 7 revenue sub-divisions as mentioned in Table 4.1

Table 4.1 Administrative set up of Ahmednagar district

Sr. No.	Sub-division	Included tahsils
1	Ahmednagar	Nagar, Newasa
2	Karjat	Karjat, Jamkhed
3	Pathardi	Pathardi, Shevgaon
4	Shrigonda	Shrigonda, Parner
5	Sangamner	Sangamner, Akole
6	Shirdi	Kopergaon, Rahata
7	Shrirampur	Shrirampur, Rahuri

4.4 Socio Economic Features of the Study Area

The information relating to the socio economic features of the study area is depicted in Table 4.2.

Table 4.2 Socio economic features of Ahmednagar district

Sr. No.	Particulars	Quantity	Percentage
1	Total geographical area (ha)	1667788	
2	No. of villages	1584	
3	No. of town	18	
4	No. of families	930024	
	i) Rural	739083	
	ii) Urban	190941	

5	Total population (No.)	4543159	100.00
	i) Rural	3630542	79.91
	ii) Urban	912617	20.09
6	Male population (No.)	2342825	51.57
	i) Rural	1872907	41.23
	ii) Urban	469918	10.34
7	Female Population (No.)	2200334	48.43
	i) Rural	1757635	38.69
	ii) Urban	442699	9.74
8	Population density	1086.5	
	i) Rural	217	
	ii) Urban	1956	
9	Male Female ratio	940	
	i) Rural	938	
	ii) Urban	942	
10	Total workers (No.)	2204590	48.53
	i) Farmer	1013050	45.95
	ii) Agril. Labour	559009	25.36
	iii) Other worker	632531	28.69

(Source- District Socio-Economic Survey Report, Ahmednagar - 2014)

4.5 Area and Demography

It can be observed from the table that, total geographical area of the Ahmednagar district is 1667788 hectares with the population according to 2011 census is 4543159 in which 3630542 (79.91 per cent) and 912627 (20.09 per cent) were the rural and urban population respectively. Out of the total population males population is 2342825 (51.57 per cent) and females 2200334 (48.43 per cent). The population density of Ahmednagar district is 217 in rural and 1956 in urban.

4.6 Agriculture

Land use and cropping pattern in respect of Ahmednagar district is explained below to have brief idea of the mode of agriculture in the district.

4.6.1 Land Utilization Pattern

Land is one of the most important factors of production. The topography of the district makes most of the part of its land unsuitable for cultivation. Land utilization in Ahmednagar district is given in Table 4.3

Table 4.3 Land use pattern of Ahmednagar district

Sr. No.	Category	Area(ha)	Percentage to total geographical area
1	Total geographical area	16,67,788	100.00
2	Area under forest	1,31,592	7.89
3	Area not available for cultivation	1,68,381	10.11
a.	Land under non-agril. Use	14,162	0.85
b.	Barren and uncultivable area	1,54,219	9.25

4	Other uncultivable land	33,842	2.03
5	Fallow land	1,30,049	7.80
	a)Current fallow	55,839	3.35
	b)Other fallow	74,210	4.45
6	Net sown area	12,03,924	72.19
	a)Irrigated area	10,75,687	64.50
	b)Unirrigated area	1,28,237	7.69
7	Area sown more than once	1,26,626	7.59
8	Total cropped area	13,30,550	79.78
9	Cropping intensity (per cent)	110.52	

(Source: Socio-Economic Review and District Statistical Abstract of Ahmednagar district, 2016-17)

It is observed from the data presented in Table 4.3.that, there is good scope for increasing area under cultivation by bringing the other uncultivable waste land under cultivation, which was 2.03 per cent of the total geographical area in the district. The proportion of area under forest was very low, 7.89 per cent of the total geographical area, which needs to be increased. As a result of high proportion of cultivable land, the proportion of net area sown to total geographical area was 72.19 per cent.

4.6.2 Cropping Pattern of the Ahmednagar District

The data on cropping pattern of the selected district for the year 2016-17 is presented in the table 4.4.

Table 4.4 Cropping pattern of the Ahmednagar district

Sr. No.	Crop	Area (ha)	Percentage
A	Cereals		
1	Bajra	190000	14.28
2	Rabi Jowar	485000	36.45
3	Wheat	119000	8.50
B	Pulses		
4	Bengal gram	105325	7.92
5	Red gram	17600	1.32
6	Green gram	18800	1.41
C	Oilseeds		
7	Soyabean	55000	4.13
8	Groundnut	3700	0.28
9	Sunflower	4200	0.32
D	Cash Crops		
10	Sugarcane	125000	9.39
11	Cotton	108000	8.12
E	Fruit crops		
12	Mango	3251	0.24
13	Sapota	3092	0.23
14	Pomegranate	6093	0.46
15	Guava	2000	0.15
16	Other fruits	3550	0.27
17	Lime	3200	0.25
F	Vegetables		

18	Onion	65000	4.90
19	Potato	1115	0.09
20	Tomato	2200	0.20
21	Brinjal	1400	0.14
22	Okra	1000	0.08
23	Chili	1800	0.16
24	Cabbage/ Cauliflower	790	0.06
25	Peas	222	0.04
26	Other leafy vegetables	1100	0.09
G	Flowers	3,112	0.24
	Gross cropped area	1330550	100
	Cropping intensity %	110.52	

(Source: Socio-Economic Review and District Statistical Abstract of Ahmednagar district, 2016-17.)

It is seen from the Table that, cereal crops dominate the cropping pattern of Ahmednagar district. Among the cereal crops, wheat is predominating crop accounting for 120000 ha. The area under pulses is 143400 ha. The area under cash crops, fruits, vegetables and oil seeds are 238000, 21186, 74627 and 62900 ha., respectively. Looking to the cropping pattern, it was observed that cropping pattern of Ahmednagar district was directed towards cash crops like sugarcane, cotton, fruits and vegetables which results into the higher returns per hectare to the cultivators of this region.

4.6.3 Livestock

Livestock gives a substantial contribution to the economy by providing employment potential to landless labourer, food to human population and subsidiary income to farmers. Livestock population of the Ahmednagar district is given in the Table 4.5.

Table 4.5 Livestock population in Ahmednagar district

Sr.No.	Category	Population (No.)
1	Cattle	
a.	Crossbred	467007
b.	Indigenous	380450
2	Buffalo	173783
3	Sheep	452276
4	Goats	134369
5	Pigs	7689
6	Rabbits	682
7	Poultry	1112209
8	Emu	409

Source: Socio-Economic Review and District Statistical Abstract of Ahmednagar district, 2016-17.

4.7 Irrigation

For the development of agricultural sector wells, tanks and rivers are used for the purpose of irrigation in Ahmednagar district. Shrirampur, Ahmednagar, Pathardi, Karjat, Parner, Sangamner, Kopergaon and Rahata tehsils have a large number of wells than in other tehsils. There are lakes at

Visapur, Bhatodi, Musalvadi and Gunvadi in Ahmednagar district. Bhandardara dam in Akola tehsil constructed on Pravara River, which irrigated the land of Rahata, Shrirampur, Rahuri and Sangamner tehsils. Baragaon Nandur dam in Rahuri tehsil on Mula River irrigated the land of Rahuri, Newasa and Shevgaon tehsils. Devthana dam on the river Adhala, Mandohal dam in Parner tehsil and Pargaon Ghatsheel dam in Pathardi tehsil are some of other dams in the district. Other sources of the irrigation in the district are percolation tanks and lift irrigation schemes. Kukadi dam of Pune district also irrigated to Parner and Shrigonda tehsil.

4.8 Development of Infrastructure Facilities In Ahmednagar District

In Ahmednagar district, the agricultural sector was not well developed before few years. It was, moreover of subsistence nature. Agriculture in the district was mainly dependent on rainfall and there. But now, this condition is changing. Due to the establishment of various cooperative factories and construction of different irrigation projects the farmers are getting encouragement to commercialize their farming.

Ahmednagar district is called “Sugar Bowl” of Maharashtra. At present 17 co-operative and 5 private sugar factories are operating in the Ahmednagar district.

The district is well connected with other district by road. The total road length in the district is 8249 k.m. Daund-Manmad line of the Central Railway is the only railway line passing through the Ahmednagar district. It is a broad gauge single line covering a length of 197 k.m. and 24 stations in the district. The railway line almost bisects this district vertically and traverses through Shrigonda, Ahmednagar, Rahuri, Shrirampur, Rahata, Kopergaon and Parner talukas. It thus, serves the transport need of the area having sugar factories in the district. The other talukas of the district do not benefit by any railway line.

In Ahmednagar district constructing new air transport service near to the Rahata tahsil. However, an aircraft landing strip had been provided by the Indian Air Force near Ahmednagar town. This air strip is also used for the landing of aircraft carrying the dignitaries as and when required.

The factors like well developed transport facilities, railway, airway, regulating marketing, establishment of co-operatives, increase in electricity supply and progress of processing industries are helping in development of district.

4.8.1 Transport and Communication

Ahmednagar is well connected by roads with various major cities of Maharashtra and other states. National highway 222 from Kalyan to Nirmal near Adilabad in Telngana passes through the city. Ahmednagar has four lane road which is connected to Aurangabad, Parbhani, Pune, Nashik,

Beed, Solapur, and Osmanabad. The Maharashtra State Road Transport Corporation (MSRTC) and different private transport operators provide bus service connecting the city to all parts of the state. Most of the villages and towns are connected by small roads.

4.8.2 Bank

There is a District Central Co-operative Bank (150 branches) and Urban Co-operative Banks in the district. There are 14 other banks in the district. The Central Bank of India is the lead bank of the district.

4.8.3 Co-operatives

The district economy is mainly dependant on co-operative sector. Late Padmashree Dr. Vitthalrao Vikhe Patil started the first co-operative sugar factory in the district at Pravaranagar during the year 1949, which was the first of its kind in the Asian continent. Ahmednagar is a pioneer district in co-operative development and in upliftment of sugarcane cultivators through the sugar factories. Similarly dairy co-operatives have also developed as a secondary movement for the benefit of the dairy farmers. 17 co-operative sugar factories, 9310 co-operative societies, 1281 co-operatives dairy societies and 4 fruit and vegetable co- operative societies are the backbone of the district providing impetus to the rural economy. The irrigation water co-operatives and transports co-operatives are also playing an important role in the district. The problem related to credit inputs and marketing has been addressed to a great extent that has made the farming community free from the clutches of middlemen and private lenders through the dynamic leadership of the co-operative movement.

4.9 Background Information of Selected Area and Villages

The selected area is situated between holly places of Shirdi and Shani Shingnapure. So that large number of tourists constantly visited to these places. The selected area is placed across Rahuri – Shani Shingnapur road.

Total distance from Sonai Phata to Sonai is near about 18 km. Large number of *rasavanties* accommodate in these area. At starting of road more *rasavanties* are concentrated and closely associated and visitors firstly approach to this *rasavanties*. Then at middle area these *rasavanties* are found in dispersed and again in last area *rasavanties* are closely associated. The study area i.e. the road from Sonai phata to Sonai of 18 km has been grouped into three sections for the present study. Total distance from Sonai to Sonai Phata is near about 18 km. 125 numbers of *rasavanties* accommodate in this area. First section from Sonai Phata to Gotumbe Akhada is 3 km which is consisting total 63 *rasavanties* out of that 46 *rasavanties* were running. In second section Gotumbe Akhada to Umbre 7 km which consist of 28 *rasavanties* out of which 17 *rasavanties* were running

and Umbre to Sonai 8 km which consist of 34 *rasavanties* out of which 25 *rasavanties* were running in that 25 km distance.

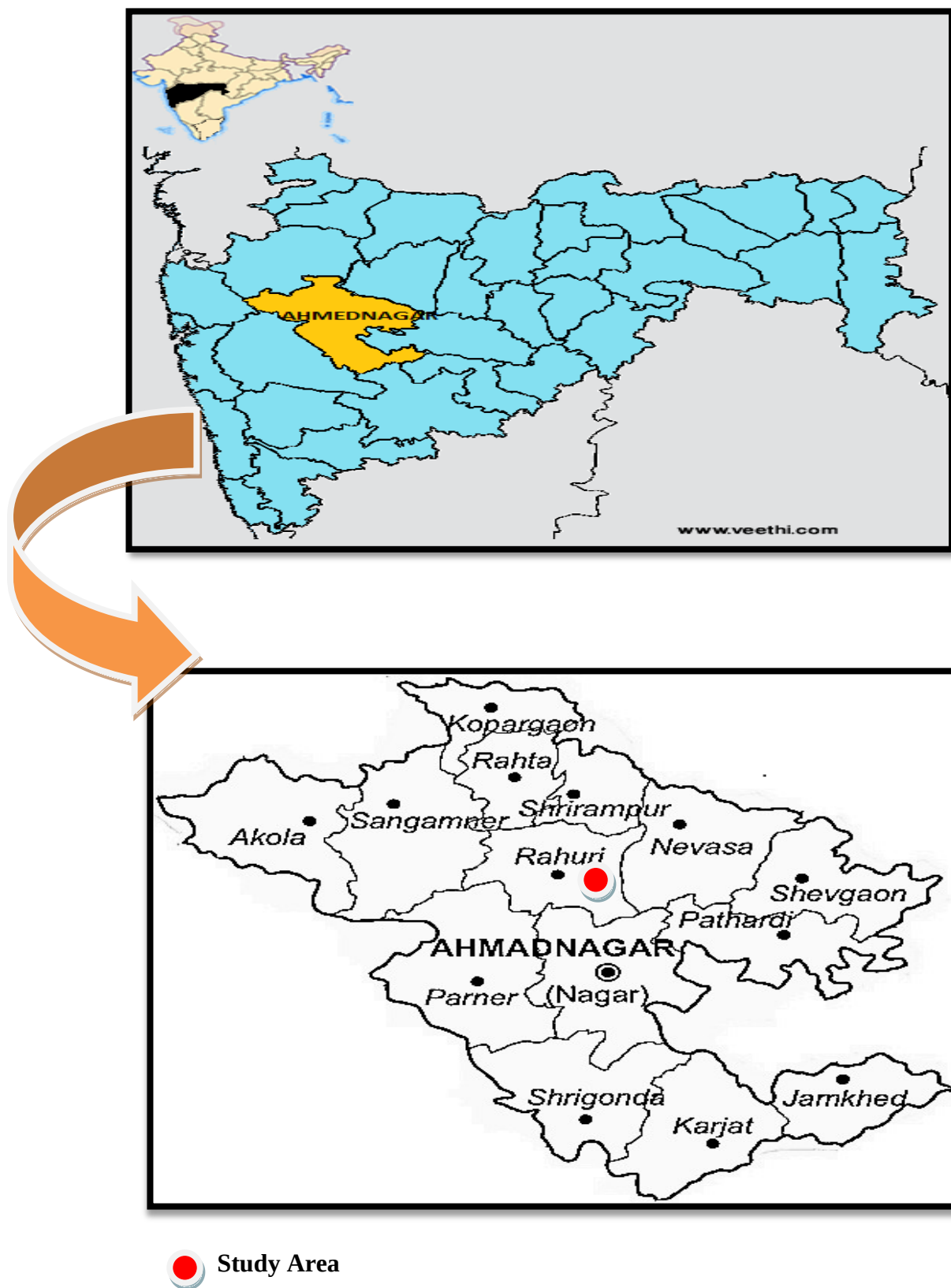


Fig 4.1 Location of study area

5. RESULTS AND DISCUSSION

Sugarcane juice is one of the most important extract of sugarcane. It is consumed as a beverage worldwide and especially in regions where sugarcane is commercially grown. The most of people visited to the holy places Shri Sai Baba, Shirdi and Shani-Shingnapur due to religious purpose via Rahuri, on this route many sugarcane owner they have been established their own *rasavanties* for additional income to their family in addition to farm income and also recreation centers to many customers as well as tourists from Gujarat, Andhra Pradesh, Karnataka etc.

There were 125 *rasavanties* present across 18 km distant, which shows that *rasavanties* are highly concentrated. First section from Sonai Phata to Gotumbe Akhada is 3 km which is consisting total 63 *rasavanties* in that 17 were closed and in second section Gotumbe Akhada to Umbre 7 km which consist of 28 *rasavanties* out of which 11 *rasavanties* were closed and Umbre to Sonai 8 km which consist of 34 *rasavanties* out of which 9 *rasavanties* were closed.

In this context, the study has of great importance to recognize whether the *rasavanties* are on profitable business in the area and are they provided considerable income to the *rasavanti* owners and how many days employment opportunities are created. The results of present study are described in the following subheads

- 5.1 Socio-economic background of the *rasavanti* owners
- 5.2 Costs and returns of *rasavanties*
- 5.3 Employment pattern of *rasavanti* owners
- 5.4 Problem faced in running of *rasavanties*

5.1 Socio-Economic Background of the *Rasavanti* Owners

The social and economic aspects of *rasavanti* owners would influence the income, employment and expenditure pattern of directly and indirectly. The social and economic aspects were analyzed for the presentation of results.

5.1.1 Family Composition

The information about the size and composition of a family gives an idea about the available labour force and also indirectly indicates the consumption needs of the family. The details of size of families and its composition are presented in the Table 5.1.

It can be seen from the Table 5.1 that, at the overall level the average size of the family was 6.55 persons consisting of 40.31 per cent males, 38.32 per cent females and 21.37 per cent children. The average size of family in respect of section I, II and III was 6.22, 6.20 and 7.38 persons, , respectively.

At overall level, it can be observed that 51.90 per cent of family members were earners and remaining 48.10 per cent were dependents. The earners were more in case of section II as compared to sections I and III. The percentage of male earners was more than the female in all the sections.

Table 5.1 Family composition of *rasavanti* owners

(No. / Farm)

Sr. No.	Particulars	Sections			
		I (N=22)	II (N=10)	III (N=13)	Overall (N=45)
1	Family composition				
	a. Male	2.45 (39.39)	2.60 (41.94)	3.00 (40.65)	2.64 (40.31)
	b. Female	2.27 (36.50)	2.40 (38.71)	3.00 (40.65)	2.51 (38.32)
	c. Children	1.50 (24.11)	1.20 (19.35)	1.38 (18.70)	1.40 (21.37)
	Total size	6.22 (100.00)	6.20 (100.00)	7.38 (100.00)	6.55 (100.00)
2	Earners				
	a. Male	1.91 (30.71)	1.90 (30.65)	2.23 (30.21)	2.00 (30.53)
	b. Female	1.14 (18.33)	1.80 (29.03)	1.54 (20.83)	1.40 (21.37)
	Total	3.05 (49.04)	3.70 (59.68)	3.77 (51.04)	3.40 (51.90)

(Figures in the parenthesis indicates percentage to the respective total)

5.1.2 Educational Status of *Rasavanti* Owners

Education is another important factor influencing managerial ability and technical knowledge of the owners. The information regarding the educational status of selected *rasavanti* owners are presented in the Table 5.2.

It is noticed that in section I, 13.18 per cent family members were having education upto degree level, 39.39 per cent family members were having education upto secondary education, 27.81 per cent family members were having education upto primary education and 19.62 per cent family members were illiterate. In section II, 9.68 per cent family members were having education upto degree level, 38.71 per cent family members were having education upto secondary education, 32.26 per cent family members were having education upto primary education and 19.35 per cent family members were illiterate. Where as in section III, 12.50 per cent family members were having education upto degree level, 42.71 per cent family members were having education upto secondary

education, 23.96 per cent family members were having education upto primary education and 20.83 per cent family members were illiterate.

At overall level, 80.00 per cent of the total family members were educated. Out of which, the percentage of secondary education was high (40.34 per cent) and the percentage of degree level was low (12.20 per cent). Due to illiteracy and high percentage lower education i.e. primary and secondary, they depend on the unskilled job like *rasavanti*, farm employment, daily wages etc.

Table 5.2 Educational status of *rasavanti* owners

(No/farm)

Sr. No.	Particulars	Sections			
		I (N=22)	II (N=10)	III (N=13)	Overall (N=45)
1	Up to Primary	1.73 (27.81)	2.00 (32.26)	1.77 (23.96)	1.80 (27.46)
2	Up to Secondary	2.45 (39.39)	2.40 (38.71)	3.15 (42.71)	2.64 (40.34)
3	Up to degree	0.82 (13.18)	0.60 (9.68)	0.92 (12.50)	0.80 (12.20)
4	Illiterate	1.22 (19.62)	1.20 (19.35)	1.54 (20.83)	1.31 (20.00)
	Total	6.22 (100)	6.20 (100)	7.38 (100)	6.55 (100)

(Figures in the parenthesis indicates percentage to the respective total)

5.1.3 Livestock Composition of the *Rasavanti* Owners

Total numbers of livestock inventory including poultry birds for *rasavanti* owners are shown in the Table 5.3.

Table 5.3 Livestock composition of the *rasavanti* owners

(No/farm)

Sr. No	Particulars	Sections			
		I (N=22)	II (N=10)	III (N=13)	Overall (N=45)
1	Bullocks	1.50 (31.71)	1.00 (24.39)	1.08 (28.14)	1.27 (29.26)
2	Milch animals	2.00 (42.28)	1.70 (41.46)	2.00 (52.08)	1.93 (44.47)
3	Calves and heifers	0.32 (6.77)	0.50 (12.20)	0.38 (9.89)	0.38 (8.76)
4	Goats and sheep	0.91 (19.24)	0.90 (21.95)	0.38 (9.89)	0.76 (17.51)
	Total	4.73 (100)	4.10 (100)	3.84 (100)	4.34 (100)
5	Poultry birds	1.50	1.90	0.92	1.42

(Figures in the parenthesis indicates percentage to the respective total)

It can be observed from the Table 5. 3 that at overall level, the average number of livestock per family were 4.34. The availability of bullocks, milch animals, goats and sheep and poultry were 1.27, 1.93, 0.76 and 1.42 numbers, respectively. The percentage of milch animals to the total livestock was found the highest (44.47 per cent) and calves and heifers was the lowest (8.76 per cent). However, the large number of goats/sheep and poultry birds found in section II as compared to sections I and III. This livestock composition helps to show the economic condition of *rasavanti* owners.

5.1.4 Average Land Use Pattern of *Rasavanti* Owners

The land is one of the important capital assets for the farmers. The particulars regarding average holding size, cultivable land and gross cropped area are given in the Table 5. 4.

At overall level, the average land holding was 1.09 hectares, with net sown area 0.96 hectares (88.08 per cent), permanent and current fallow was 0.07 hectares (6.42 per cent) and 0.06 hectares (5.50 per cent), respectively. The area under irrigation was 0.95 hectares (87.16 per cent). The cropping intensity was 168.75 per cent.

Table 5.4 Land use pattern of *rasavanti* owners

Sr. No	Particulars	(ha /farm)			
		Sections			
		I	II	III	Overall
1	Total size of holding	0.75 (100)	0.62 (100)	2.02 (100)	1.09 (100)
2	Permanent fallow	0.05 (6.66)	0.02 (3.23)	0.12 (5.94)	0.07 (6.42)
3	Operational holding	0.70 (93.33)	0.60 (96.77)	1.9 (94.06)	1.02 (93.58)
	a) Irrigated	0.66 (88.00)	0.57 (91.93)	1.78 (88.12)	0.95 (87.16)
	b) Unirrigated	0.04 (5.33)	0.03 (4.84)	0.12 (5.94)	0.07 (6.42)
4	Current fallow	0.05 (6.67)	0.03 (4.84)	0.08 (3.96)	0.06 (5.50)
5	Net sown Area	0.65 (86.67)	0.57 (91.93)	1.82 (90.10)	0.96 (88.08)
6	Gross cropped area	1.06	0.96	3.06	1.62
7	Cropping intensity %	165.63	171.43	170.00	168.75

(Figures in the parenthesis indicates percentage to the respective total)

The average land holding was 0.75, 0.62 and 2.02 hectares and net sown area was 0.65 (86.67 per cent), 0.57 (91.93 per cent) and 1.82 hectares (90.10 per cent) in I, II and III sections, respectively. The area under permanent fallow was 0.05 (6.66 per cent), 0.02 (3.23 per cent), 0.12 hectares (5.94

per cent) and for current fallow was 0.05 (6.67 per cent), 0.03 (4.84 per cent), 0.08 hectares (3.96 per cent) in sections I, II and III, respectively. The proportion of area under irrigation was 88.00, 91.93 and 88.12 per cent and the cropping intensity was 165.63 per cent, 171.43 per cent and 170.00 per cent in sections I, II and III, respectively.

Due large size of holding, good economic condition was found in section III, which was important factor influencing on the income and employment pattern of *rasavanti* owners.

5.1.5 Cropping pattern of *rasavanti* owners

The cropping pattern is another vital factor influencing the level of expenses on farm and returns from farm business. It is also indicator of the economic condition of selected owners. The cropping pattern of *rasavanti* owners are presented in the Table 5. 5.

Table 5.5 Cropping pattern of *rasavanti* owners

(ha/farm)

Sr. No	Particulars	Sections			
		I	II	III	Overall
1	Jowar	0.05 (4.72)	0.06 (6.25)	0.10 (3.27)	0.07 (4.32)
2	Wheat	0.12 (11.32)	0.10 (10.42)	0.56 (18.30)	0.24 (14.81)
3	Bajara	0.03 (2.83)	0.00 (0.00)	0.04 (1.31)	0.03 (1.85)
	Total cereals (1+2+3)	0.20 (18.87)	0.16 (16.67)	0.70 (22.88)	0.34 (20.99)
4	Total pulses	0.11 (10.38)	0.17 (17.71)	0.44 (14.38)	0.22 (13.58)
5	Total oilseeds	0.11 (10.38)	0.12 (12.50)	0.20 (6.54)	0.14 (8.64)
6	Sugarcane				
	Adsali	0.11 (10.38)	0.10 (10.42)	0.35 (11.44)	0.17 (10.49)
	Suru	0.03 (2.83)	0.02 (2.08)	0.06 (1.96)	0.06 (3.70)
	Preseasonal	0.04 (3.77)	0.04 (4.17)	0.15 (4.90)	0.07 (4.32)
	Ratoon	0.04 (3.77)	0.02 (2.08)	0.09 (2.94)	0.05 (3.09)
	Total	0.22 (20.75)	0.18 (18.75)	0.65 (21.23)	0.35 (21.60)
7	Cotton	0.20 (18.87)	0.20 (20.83)	0.65 (21.24)	0.30 (18.52)
8	Fodder Crops	0.07 (6.60)	0.04 (4.16)	0.10 (3.27)	0.09 (5.56)
9	Fruit and vegetables	0.15 (14.15)	0.09 (9.38)	0.32 (10.46)	0.18 (11.11)
8	Gross cropped area	1.06 (100)	0.96 (100)	3.06 (100)	1.62 (100)

(Figures in the parenthesis indicates percentage to the respective total)

At overall level, the gross cropped area was 1.62 ha. It was 1.06, 0.96 and 3.06 ha in section I, II and III, respectively. The area was dominated by the food grains i.e. cereals 0.34 ha (20.99 per cent), pulses 0.22 ha (13.58 per cent) and oilseeds 0.14 ha (8.64 per cent), Followed by cash crops such as sugarcane 0.35 ha (21.60 per cent) and cotton 0.30 ha (18.52 per cent).

Sugarcane occupied 0.22 ha (23.75 per cent), 0.18 ha (18.75 per cent) and 0.65 ha (21.23 per cent) in I, II and III sections, respectively to the total gross cropped area of their sections.

5.1.6 Capital Assets of the *Rasavanti* Owners

The capital assets of *rasavanti* owners are another vital factor influencing and also indicator of the economic condition of selected owners. The capital assets investment of the *rasavanti* owners are given in the Table 5. 6.

At overall level, the value of capital assets was ₹ 1005622.22 and the value of residential and farm building, irrigation structure and other households was worked out to ₹ 205311.11 (20.42 per cent), ₹ 61677.78 (6.13 per cent) and ₹ 49673.33 (4.94 per cent), respectively. The investment for farm machinery and implements was worked out to ₹ 35626.67 (3.54 per cent) at overall level and total value of capital assets excluding land was ₹ 352288.89. It can be seen that the investment in land was the highest (64.97 per cent) among all the capital assets.

Total value of assets was ₹ 703040.91, ₹ 620830.00 and ₹ 1794339.86 and value of land was ₹ 452727.27, ₹ 372000.00 and ₹ 1209230.77 in section I, II and III, respectively. It shows that, capital assets of *rasavanti* owners were the highest in section III, this indicate that economic condition of *rasavanti* owners is sound in section III.

Table 5.6 Capital assets of *rasavanti* owners

Sr. No.	Particulars	Sections			
		I	I	III	Overall
1	Land	452727.27 (64.40)	372000.00 (59.92)	1209230.77 (67.39)	653333.33 (64.97)
2	Residential and farm buildings	155727.27 (22.15)	154150.00 (24.83)	328576.92 (18.31)	205311.11 (20.42)
3	Irrigation structure	33795.45 (4.81)	27300.00 (4.40)	75909.09 (4.23)	61677.78 (6.13)
4	Farm machinery & Implements	28750.00 (4.09)	28630.00 (4.61)	92707.69 (5.17)	35626.67 (3.54)
5	Other households assets	32040.91 (4.56)	38750.00 (6.24)	87915.38 (4.90)	49673.33 (4.94)
	Total value of assets	703040.91 (100.00)	620830.00 (100.00)	1794339.86 (100.00)	1005622.22 (100.00)

(₹/farm)

	Total value of assets excluding land	250313.64	248830.00	585109.09	352288.89
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(Figures in the parenthesis indicates percentage to the respective total)

5.1.7 Total Annual Income of *Rasavanti* Owners

The total annual income is another vital factor influencing the level of expenses on farm and returns from farm business. It is also indicator of the economic condition of selected owners. The details of per family annual income from various sources are presented in the Table 5.7 and Figure 5.1.

It is observed that the major sources of total annual income was crop production, livestock rearing, wage earning, business and services and miscellaneous. At overall level, total annual income was ₹ 1065554.83, out of that, income from *rasavanti* was the highest i.e. ₹ 599797.05 (56.29 per cent) followed by crop production ₹ 207911.11 (19.51 per cent) and business and services ₹ 167344.44 (15.70 per cent). The share of wage earning, livestock and miscellaneous was very less in the total income. In all three sections the share of income from *rasavanti* was the highest followed by the crop production activity.

Table 5.7 Income pattern of *rasavanti* owners

(₹/farm)

Sr. No.	Particulars	Sections			
		I	II	III	Overall
1	<i>Rasavanti</i>	700831.14 (67.62)	324234.02 (43.59)	640787.86 (47.04)	599797.05 (56.29)
2	Crop production	130954.55 (12.63)	181250.00 (24.37)	395000.00 (28.99)	207911.11 (19.51)
3	Livestock Rearing	16500.00 (1.59)	19400.00 (2.61)	20769.23 (1.52)	18377.78 (1.72)
4	Wage earnings	61272.73 (5.91)	79590.00 (10.70)	67830.77 (4.98)	67237.78 (6.32)
5	Business and services	122590.91 (11.83)	134000.00 (18.02)	232384.62 (17.06)	167344.44 (15.70)
6	Miscellaneous	4300.00 (0.42)	5330.00 (0.72)	5538.46 (0.41)	4886.67 (0.46)
	Total	1036449.32 (100.00)	743804.02 (100.00)	1362310.94 (100.00)	1065554.83 (100.00)

(Figures in the parenthesis indicates percentage to the respective total)

In case of section I, total annual income from all sources was ₹ 1036449.32 comprising of income from *rasavanti* was ₹ 700831.14 (67.62 per cent) which was followed by crop production ₹ 130954.55 (12.63 per cent) and then business and services ₹ 122590.91 (11.83 per cent). The share of income from *rasavanti* to the total income was the highest in section I as compare to the other sections. In case of section II, total annual income was ₹ 743804.02 comprising of income from

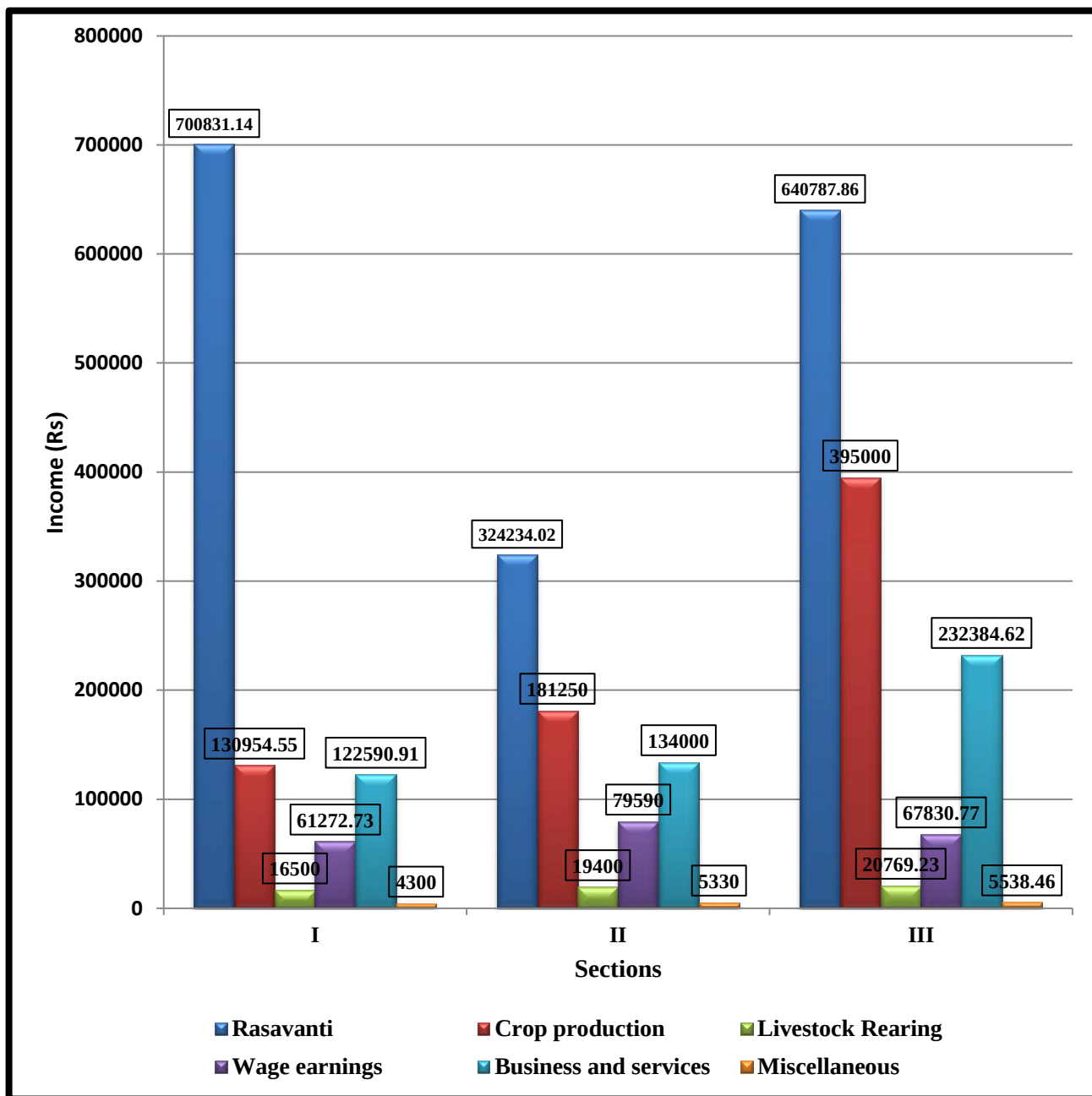


Fig. 5.1 Income Pattern of *rasavanti* owners

rasavanti was ₹ 324234.02 (43.59 per cent), followed by crop production ₹ 181250.00 (24.37 per cent) and then business and services ₹ 134000.00 (18.02 per cent). The share of income from

business and services and wages to the total income was the highest in section II as compared to other sections. However in section III, the total annual income was ₹ 1362310.94 comprising of income from *rasavanti* was ₹ 640787.86 (47.04 per cent) which was followed by crop production ₹ 395000.00 (28.99 per cent) and then business and services ₹ 232384.62 (17.06 per cent). The share of income from crop production to the total income was the highest in section III as compared to other sections.

5.2 Costs and Returns of *Rasavanties*

The processing activity being an important economic aspect in realizing the better price for the agricultural product, processing of sugarcane becomes important agro-based industry. The role of agro- processing industry is significant in respect of value added but manufacturer in the developing and developed countries of the world. The food industry is beneficial to Indian agriculture. It also gives the crucial contribution in the nation's food security.

The value addition gives better returns from the raw material as compared to traditional disposal to market. The costs and returns show the profitability of *rasavanties*.

5.2.1 Per Unit Capital Investment in *Rasavanties*

The magnitude of the capital investment slightly varies with the size of the *rasavanties*. The details of the average capital investment cost of the different *rasavanties* are presented in the Table 5.8 and Figure 5.2.

Table 5.8 Per Unit Capital investments for *rasavanties*

Sr. no	Particulars	Sections			
		I	II	III	Overall
1	Land	4695.45 (3.30)	4450.00 (3.63)	5730.77 (3.47)	4940.00 (3.50)
2	Shed / building	28863.64 (20.30)	20100.00 (16.43)	48700.00 (29.51)	29246.67 (20.75)
3	Wooden crusher	35227.27 (24.78)	29000.00 (23.70)	35769.23 (21.68)	34000.00 (24.12)
4	Furniture	3506.82 (2.47)	3065.00 (2.50)	2957.69 (1.79)	3250.00 (2.31)
5	Decorative assets	1766.36 (1.24)	264.00 (0.22)	6009.23 (3.64)	2658.22 (1.89)
6	Bullock	68090.91 (47.91)	65500.00 (53.52)	65846.15 (39.90)	66866.67 (47.44)
	Total	142150.45 (100.00)	122379.00 (100.00)	165013.08 (100.00)	140961.56 (100.00)

(Figures in the parenthesis indicates percentage to the respective total)

It revealed from the Table 5.8 that, at the overall level, the total investment in capital assets (inclusive of land) worked out to ₹ 140961.56 per *rasavanti* unit. More than 3 per cent cost of the total investment was account for land. The investment on bullock (47.44 per cent) was the major investment followed by wooden crusher (24.12 per cent) and then shed/building (20.75 per cent). The investment on furniture (2.31 per cent) and decorative assets (1.89 per cent) was negligible items of the total investment cost. In all three sections investment on bullock was major one.

In section I, bullock ₹ 68090.91 (47.91 per cent) was the major investment item followed by the wooden crusher and shed / buildings which was ₹ 35227.27 (24.78 per cent) and 28863.64 (20.30 percent), respectively. In case of section II, because of the weaker section there was the lowest investment. More than 50 per cent of investment ₹ 65500.00 (53.52 percent) was account for the bullock only. However, investment for shed/building (16.43 per cent) and decorative assets (0.22 per cent) was very less as compared to others. In case of section III, investment on shed/building ₹ 48700.00 (29.51 per cent) and decorative assets ₹ 6009.23 (3.64 per cent), which was the highest among all three section. This may be because of owners have their owned land available for *rasavanti*.

5.2.2 Monthwise Number of Working Days and Production Of Juice

The performance of the *rasavantis* belonging to different sections has been studied in the terms of their number of working days and quantity of juice production during different months of the year and details are presented in the Table 5.9 and in Figure 5.3.

Table 5.9 Monthwise number of working days and production of juice

Months	Sections							
	I		II		III		Overall	
	No. of days	Quantity (lit)	No. of days	Quantity (lit)	No. of days	Quantity (lit)	No. of days	Quantity (lit)
Jan.	27.86	1325.64	29.50	728.90	29.62	1239.92	28.73	1168.27
Feb.	25.36	1214.05	27.10	685.80	27.31	1106.08	26.31	1065.47
March	27.64	1330.27	28.90	755.70	28.38	1219.15	28.13	1170.49
April	27.50	1517.14	29.50	927.80	29.38	1380.77	28.49	1346.78
May	28.68	1690.00	31.00	1170.80	30.09	1538.62	29.89	1530.89
June	26.18	1247.64	27.30	708.90	27.77	1196.23	26.89	1113.07
July	23.86	1198.27	23.10	597.40	23.77	1078.00	23.80	1029.96
Aug.	24.41	1196.86	23.70	603.80	24.54	1080.23	24.16	1031.42
Sept.	26.18	1254.18	28.20	719.70	28.54	1167.54	27.31	1110.38
Oct.	27.27	1319.18	28.50	717.70	28.38	1199.85	27.87	1151.04
Nov.	27.73	1357.59	29.00	764.70	28.77	1193.00	28.31	1178.29
Dec.	28.55	1365.73	30.50	797.20	30.15	1259.31	29.44	1208.64
Total	321.23	16016.55	336.30	9178.40	337.69	14658.69	329.33	14104.69

Per day	-	49.86	-	27.29	-	43.41	-	42.83
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It can be seen from the Table 5. 9 that, in general, the numbers of working days of the *rasavanties* were relatively higher in the months of April and May than those of remaining months of a year. The number of working days was least in months of July and August as compared to the other months; this was because of rainy season.

At overall level, the number of working days and quantity of juice produced during study period was 329.23 days and 14104.69 liters, respectively. The working days and production was the highest in month of May (29.89 days and 1530.89 lit), because of summer season and in holidays tourists prefers to visits holy places like Shirdi and Shanishingnapure. While in month of July, the working days and production was the lowest (23.80 days and 1029.96 liters), because of the rainy season tourists dose not prefer sugarcane juice. The per day juice production in section I, II and III was 49.86, 27.29 and 43.41 liters, respectively. It was observed that, the section II produced very low as compared to others. At overall level it was 42.83 liters.

The pattern of variations in the number of working days and quantities of juice production in different months during the year seems to have been common in case of all sections of *rasavanties*. Among all three sections, the working days were 321.23, 336.30 and 337.69 days and production was 16016.55, 9178.40 and 14658.69 liters, respectively during a year. The number of working days in section II was similar to others but the production of juice was low. In case of section II, very less amount of juice was sold as compared to section I and III because of parking facilities to vehicle, decoration and ample space for children tourist prefers the sections I and III as compared to section II.

5.2.3 Total Juice Production, Disposal and Recovery Percentage

In context of production economics, sugarcane forms the raw material supplies of *rasavanti*, whereas, juice is the finished product and sugarcane trashes as by-products obtained from *rasavanties*. Keeping in the view, the details of sugarcane processed and recovery of juice obtained from *rasavanties* of different sections are given in the Table 5.10

At the overall level, the percentage of recovery of sugarcane juice was 31.70, out of which gratis and wastage was 1081.56 liter (7.67 per cent), while quantity of juice sold was 13023.13 liter (92.33 per cent).

The recovery of total juice received from sugarcane was higher in section II as compared to the sections I and III, which was 33.33 per cent of the total quantity cane crushed in *rasavanti*.

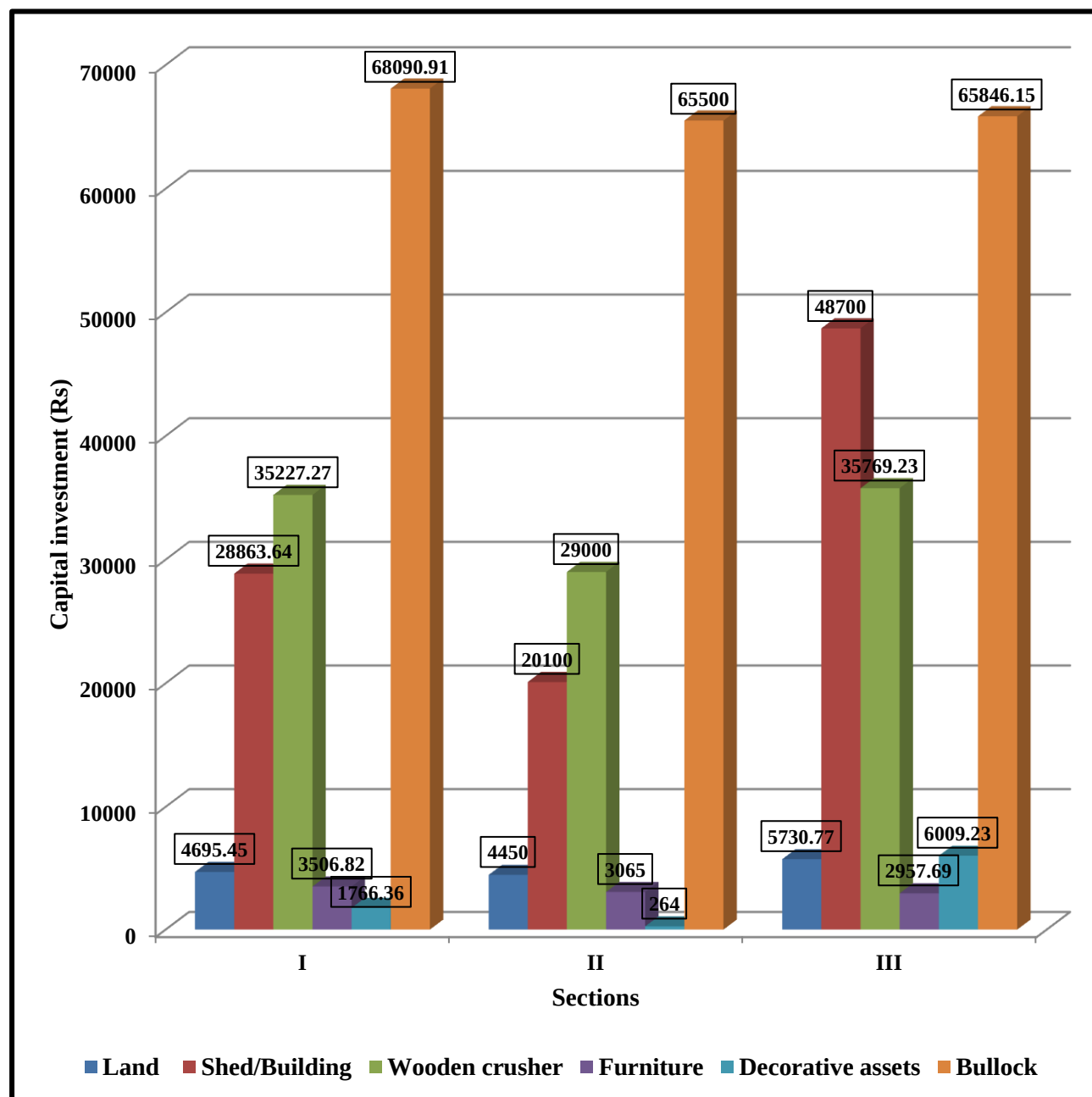


Fig. 5.2 Per unit capital investment for rasavanti

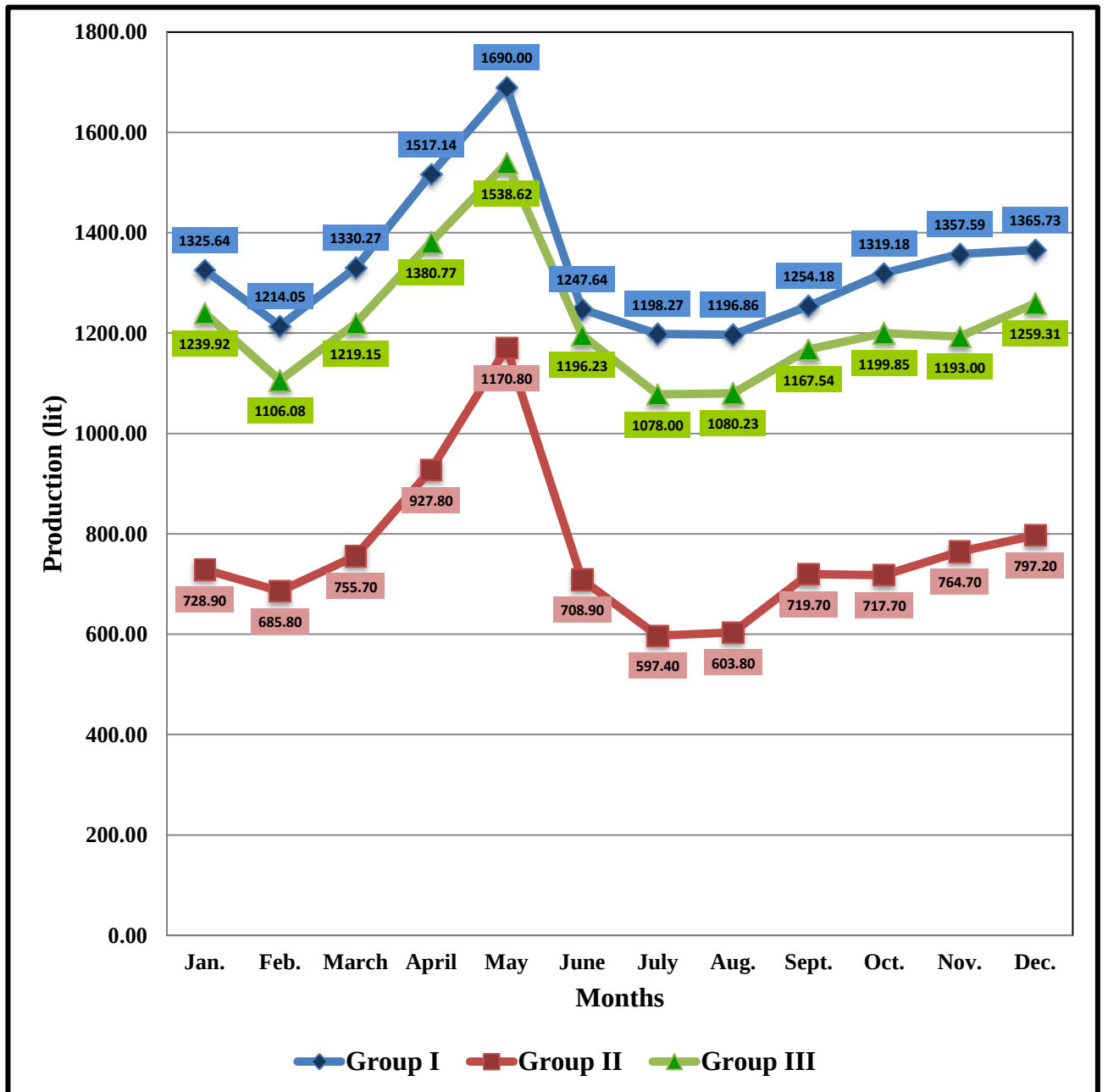


Fig 5.3 Monthwise production of juice

While in section I and III, it was 31.43 and 31.47 per cent, respectively. The juice quantity on gratis and wastage in section I and III was 1282.86 and 1182.60 liters (8.01 and 4.07 per cent) during a year, while in section II, it was the lowest 507.36 liter (5.53 per cent) during a year.

Table 5.10 Total production, disposal and recovery percentage of juice from sugarcane in *rasavanties*

Sr. No.	Particulars	Sections			
		I	II	III	Overall
1	Raw material (Sugarcane kg)	50965.86	27535.20	46585.15	44493.51
2	Juice produced (lit)	16016.55 (100.00)	9178.40 (100.00)	14658.69 (100.00)	14104.69 (100.00)
3	Recovery (%)	31.43	33.33	31.47	31.70
4	Gratis and Wastage of juice (lit)	1282.86 (8.01)	507.36 (5.53)	1182.60 (8.07)	1081.56 (7.67)
5	Quantity of juice sold (lit)	14733.69 (91.99)	8671.04 (94.47)	13476.09 (91.93)	13023.13 (92.33)

(Figures in the parenthesis indicates percentage to the respective total)

5.2.4 Average Annual Cost Structure of *Rasavanties*

The itemwise average cost structure of juice in *rasavanties* belonging to different sections are presented in the Table 5. 11

At overall level, the average total cost of *rasavanti* was worked out to ₹ 428408.74 per annum. However the total fixed cost was ₹ 19457.68 (4.54 per cent), the total variable cost was ₹ 375244.40 (87.59 per cent) and family labour charges was ₹ 33706.67 (7.87 per cent) of total cost. Among various items to total cost of *rasavanti*, an expenditure on raw material i.e. sugarcane was the highest ₹ 133480.53 (31.16 per cent) and followed by labour charges were major cost item.

In section I, the total cost was ₹ 485063.46 per annum comprising of total fixed cost of ₹ 19183.57 (3.95 per cent), total variable cost ₹ 432202.62 (89.10 per cent) and family labour charges ₹ 33677.27 (6.94 per cent) per annum. However, in section II, the total cost was ₹ 237217.83. Out of which total fixed cost was ₹ 17542.98(7.40 per cent), total variable cost was ₹ 185984.85 (78.40 per cent) and family labour charges was ₹ 33690.00 (14.20 per cent) and in section III, total cost was ₹ 479601.44. Out of which the fixed cost was ₹ 21394.39 (4.46 per cent), total variable cost was ₹ 424437.82 (88.50 per cent) and a family labour charge was ₹ 33769.23 (7.04 per cent).

Among the various item in section I, II and III, the percentage to the total cost of *rasavanti* on account of expenditure on raw material i.e. sugarcane was the highest 31.52, 34.82 and 29.14. The hired labour charges were higher in section I and III (20.20 and 21.95 per cent, respectively) as compared to section II. The expenditure on account of others (commission to middle man, electricity charges etc.) was 16.96 and 17.39 per cent in section I and III and in section II it was 5.68 per cent

of the total annual cost. Section II account for labour and other expenditure was less as compared to other sections, because of less production.

Table 5.11: Average annual operating cost *rasavanties*

(₹/unit)

Sr. No.	Particulars	Sections			
		I	II	III	Overall
	Fixed costs				
1	Land rent	4695.45 (0.97)	4450.00 (1.88)	5730.77 (1.19)	4940.00 (1.15)
2	Depreciation on sheds / buildings	1114.12 (0.23)	625.00 (0.26)	1538.08 (0.32)	1127.90 (0.26)
3	Depreciation on wooden crusher	2348.48 (0.48)	1933.33 (0.82)	2384.62 (0.50)	2266.67 (0.53)
4	Depreciation on furniture and equipment	1105.61 (0.23)	927.50 (0.39)	965.77 (0.20)	1025.63 (0.24)
5	Depreciation on decorative assets	160.91 (0.03)	73.87 (0.03)	615.13 (0.13)	272.79 (0.06)
6	Depreciation on bullock	5237.76 (1.08)	5038.46 (2.12)	5065.09 (1.06)	5143.59 (1.20)
7	Interest on fixed cost	1743.96 (0.36)	1594.82 (0.67)	1944.94 (0.41)	1768.88 (0.41)
8	Others (Major repairs)	2777.27 (0.57)	2900.00 (1.22)	3150.00 (0.66)	2912.22 (0.68)
A	Total fixed capital	19183.57 (3.95)	17542.98 (7.40)	21394.39 (4.46)	19457.68 (4.54)
	Variable costs				
1	Cost of sugarcane	152897.59 (31.52)	82605.60 (34.82)	139755.46 (29.14)	133480.53 (31.16)
2	Cost of lemon	20270.30 (4.18)	12329.90 (5.20)	18094.62 (3.77)	17877.24 (4.17)
3	Cost of ginger	1673.64 (0.35)	961.40 (0.41)	1471.54 (0.31)	1456.98 (0.34)
4	Cost of ice	11995.91 (2.47)	8314.00 (3.50)	10846.15 (2.26)	10845.56 (2.53)
5	Cost of glasses	7175.43 (1.48)	3171.51 (1.34)	6254.50 (1.30)	6019.62 (1.41)
6	Bullock maintenance charges	27821.59 (5.74)	27108.00 (11.43)	27140.77 (5.66)	27466.33 (6.41)
7	Labor charges	97977.27 (20.20)	18375.00 (7.75)	105265.38 (21.95)	82393.33 (19.23)
8	Other expenditure (commission, electricity charges etc.)	82272.73 (16.96)	13480.00 (5.68)	83407.69 (17.39)	67313.33 (15.71)
9	Minor repair and miscellaneous charges	5678.18 (1.17)	9112.00 (3.84)	8176.92 (1.70)	7163.11 (1.67)
11	Interest on working cost	27133.96 (5.59)	11744.42 (4.95)	26104.74 (5.44)	23416.73 (5.47)
B	Total variable capital	432202.62 (89.10)	185984.85 (78.40)	424437.82 (88.50)	375244.40 (87.59)
	Total costs (A+B)	451386.19 (93.06)	203527.83 (85.80)	445832.21 (92.96)	394702.07 (92.13)
C	Family labour charges	33677.27 (6.94)	33690.00 (14.20)	33769.23 (7.04)	33706.67 (7.87)

	Total costs (A+B+C)	485063.46 (100.00)	237217.83 (100.00)	479601.44 (100.00)	428408.74 (100.00)
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(Figures in the parenthesis indicates percentage to the respective total)

5.2.5 Total Operating Costs, Gross Returns and Net Returns from *Rasavanties*

The estimates of per unit annual gross returns and net returns over total variable and total cost are presented in the Table 5. 12

Table 5.12 Total annual operating costs, gross returns and net returns from *rasavanties*

(₹/unit)

Sr. no.	Particulars	Sections			
		I	II	III	Overall
1	Returns from juice	1106297.83	489878.45	1038998.02	949873.58
2	Returns from others	45919.50	37883.40	47622.06	44625.55
3	Gross return	1152217.33	527761.85	1086620.07	994499.13
4	Total variable cost	432202.62	185984.85	424437.82	375244.40
5	Total fixed cost	19183.57	17542.98	21394.39	19457.68
6	Total cost (variable + fixed cost)	451386.19	203527.83	445832.21	394702.07
7	Net return over variable cost	720014.71	341777.00	662182.25	619254.73
8	Net return over total cost	700831.14	324234.02	640787.86	599797.05

At the overall level, per unit gross return was ₹ 994499.13, However, the net returns over variable cost worked out to ₹ 619254.73 and that over total cost came to ₹ 599797.05. Among the different sections, per unit gross return was ₹ 1152217.33, ₹ 527761.85 and ₹ 1086620.07, respectively. Similarly, net returns over variable cost were ₹ 720014.71, ₹ 341777.00 and ₹ 662182.25 and a net return over total cost was ₹ 700831.14, ₹ 324234.02, and ₹ 640787.86, respectively. In case of the section II, per unit net returns over variable cost and over total cost were comparatively less than the others, because of less production of juice in section II as compared to sections I and III.

To be able to judge relative of deriving profits from juice, the information on the estimated per liter costs of juice, per liter gross returns and per liter variable and fixed costs are given in the Table 5. 13

At the overall level, per liter gross return was ₹ 70.51 and per liter net return over total variable cost estimated to ₹ 43.90 and that over total came to ₹ 42.52. Among the different sections, the gross return was ₹ 71.94, ₹ 57.50 and ₹ 74.13, respectively. Similarly, per liter net

returns over total variable cost in the sections I, II and III amounted to ₹ 44.95, ₹ 37.24 and ₹ 45.17 and that over the net returns over total cost were ₹ 43.76, ₹ 35.33 and ₹ 43.71, respectively.

The estimates of per liter net returns over total variable cost as well as total cost, thus confirm the earlier observation that the sections I and III was relatively more efficient than section II in economizing the costs of juice production and thereby making more profits.

Table 5.13 Per liter total operating costs, gross returns and net returns from *rasavanties*
(₹/lit)

Sr. No.	Particulars	Sections			
		I	II	III	Overall
1	Returns from juice	69.07	53.37	70.88	67.34
2	Returns from others	2.87	4.13	3.25	3.16
3	Gross return	71.94	57.50	74.13	70.51
4	Total variable cost	26.98	20.26	28.95	26.60
5	Total fixed cost	1.20	1.91	1.46	1.46
6	Total cost (variable + fixed)	28.18	22.17	30.41	27.98
7	Net return over variable cost	44.95	37.24	45.17	43.90
8	Net return over total cost	43.76	35.33	43.71	42.52

5.2.6 Estimation of Benefit-Cost Ratio

The decision regarding starting of *rasavanti* and modernizing the traditional units depended upon benefit-cost analysis. Benefit-cost ratio is the ratio of total returns received from juice to its total cost including cost of raw material i.e. sugarcane. The benefit-cost ratios for average *rasavanties* from individual sections are presented in the Table 5. 14

Table 5.14 Benefit-Cost ratio for *rasavanties*

Sr. no.	Particulars	Sections			
		I	II	III	Overall
1	At variable costs	2.67	2.84	2.56	2.65
2	At total costs (Variable cost + Fixed cost)	2.55	2.59	2.44	2.52
3	At total costs (Total cost + Family labour)	2.38	2.22	2.27	2.32

At the overall level, the benefit-cost ratio of juice production worked out to 2.32 and it was estimated to section I, II, and III 2.38, 2.22 and 2.27, respectively. Thus, the benefit-cost ratios was little lower in case of section II than that of the section I and III. It was may be due less production and sale of juice in section II.

5.3. Employment Pattern of *Rasavanti* Owners

The information regarding the annual employment of family members according to different categories is given in the Table 5.15 and in Figure 5.4 and Figure 5.5.

The total annual employment of family members were from farm employment i.e. own farm, livestock and other's farm and nonfarm employment i.e. *rasavanti*, daily wages, business and services and others. The total annual employment of male was 329.49 days out of which *rasavanti* has 166.56 days (45.63 per cent) and 275.06 days for female, on other farm was the highest 116.78 days (31.09 per cent) while for *rasavanti* it was only 11.11 days. In all sections, annual employment for males was higher than female.

Table 5.15 Employment pattern of *rasavanti* owners

(No. of days)

Sr. No.	Particulars	Sections							
		I		II		III		Overall	
		M	F	M	F	M	F	M	F
1	Farm employment								
	a) Own farm	56.24 (15.41)	32.22 (8.83)	51.89 (14.22)	43.22 (11.84)	73.62 (20.17)	55.20 (15.12)	60.92 (16.69)	43.68 (11.97)
	b) Livestock rearing	5.67 (1.55)	14.22 (3.90)	4.89 (1.34)	8.44 (2.31)	5.28 (1.45)	13.65 (3.74)	5.38 (1.47)	12.84 (3.52)
	c) Other's farm	11.67 (3.20)	126.00 (34.52)	32.00 (8.77)	122.11 (33.46)	16.76 (4.59)	87.85 (24.07)	17.60 (4.82)	116.78 (31.99)
2	Nonfarm employment								
	a) <i>Rasavanti</i>	173.83 (47.63)	9.52 (2.61)	175.21 (48.00)	10.53 (2.88)	150.34 (41.19)	13.79 (3.78)	166.56 (45.63)	11.11 (3.04)
	b) Daily wages	18.79 (5.15)	68.11 (18.66)	12.58 (3.45)	74.17 (20.32)	13.76 (3.77)	35.45 (9.71)	15.86 (4.34)	61.63 (16.89)
	c) Services/ Job	21.67 (5.94)	0.00 (0.00)	25.89 (7.09)	17.50 (4.79)	41.90 (11.48)	15.00 (4.11)	29.08 (7.97)	9.76 (2.67)
	d) Other business	32.38 (8.87)	18.11 (4.96)	36.11 (9.89)	20.72 (5.68)	33.79 (9.26)	17.55 (4.81)	33.62 (9.21)	19.25 (5.28)
4	Employed days	320.24 (87.74)	268.19 (73.48)	338.58 (92.76)	296.69 (81.29)	335.45 (91.90)	238.49 (65.34)	329.01 (90.14)	275.06 (75.36)
6	Total days	365.00 (100)	365.00 (100)	365.00 (100)	365.00 (100)	365.00 (100)	365.00 (100)	365.00 (100)	365.00 (100)

(Figures in the parenthesis indicates percentage to the respective total)

The annual employment for males was 320.24 days, 338.58 days and 335.45 days with share of employment from *rasavanti* was 173.83 days (47.63 per cent), 175.21 days (48.00 per cent) and 150.34 days (41.19 per cent) in section I, II and III, respectively. In section I, employment from *rasavanti* was the highest which was also the highest in all three sections, followed by own farm employment (15.41 per cent). In section II, the employment from *rasavanti* was the highest which was followed by own farm employment (14.22 per cent). Other's farm and business were also the major source of employment in section II that was the highest in all three sections. In section III, the

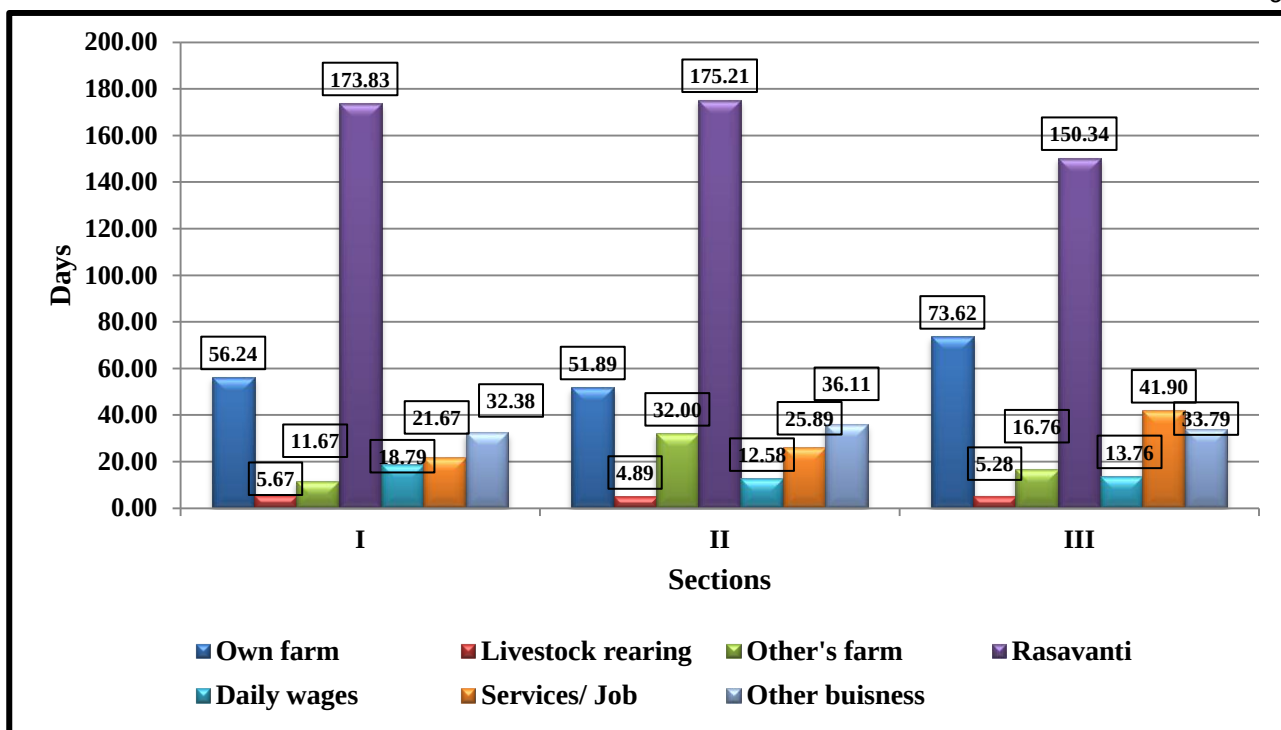


Fig 5.4 Employment pattern of male

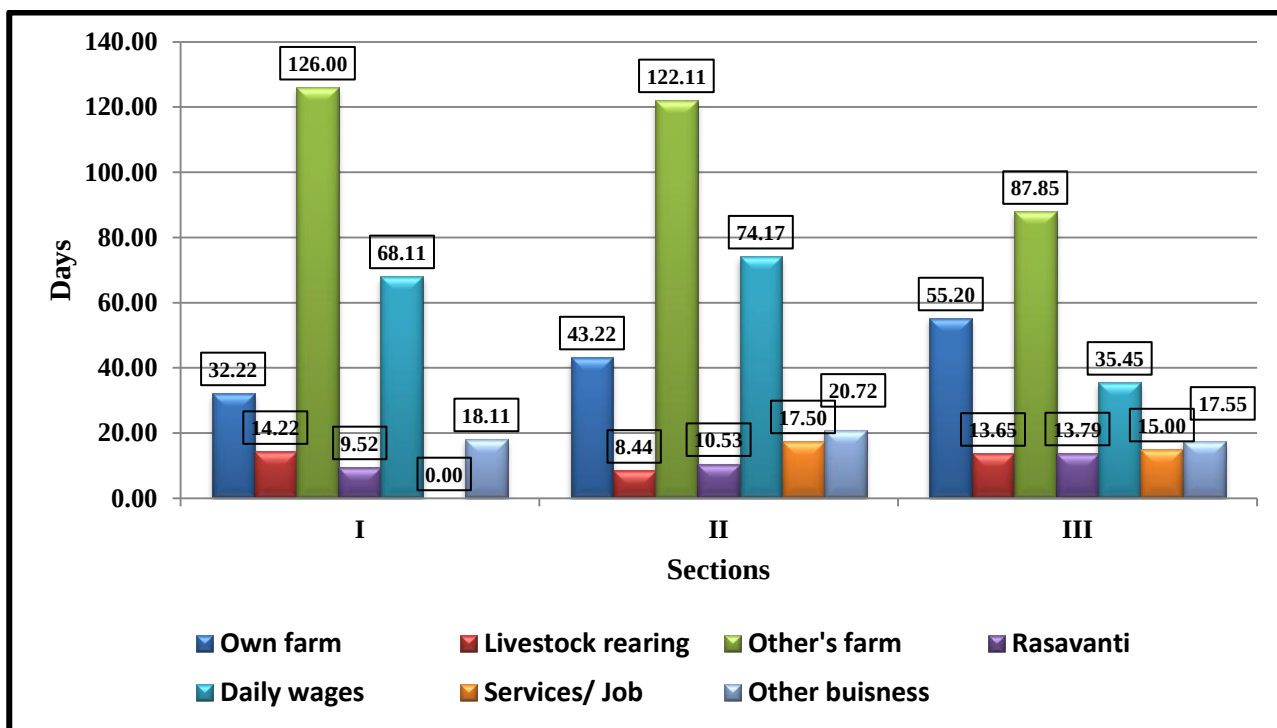


Fig 5.5 Employment pattern of female

employment from *rasavanti* was the highest, followed by own farm employment (20.17 per cent).

The employment from own farm and services was major source of employment in section III that was the highest among all three sections. In all three section employment from *rasavanti* was followed by own farm employment.

The annual employment for females was 268.19 days, 296.69 days and 238.49 days with the share of employment from *rasavanti* was very less in total annual employment of female, that was 9.52 days (2.61 per cent), 10.53 days (2.88 per cent) and 13.79 days (3.78 per cent) in section I, II and III, respectively. In section I and II, the employment from other's farm (34.52 and 33.46 per cent respectively) was the highest which was followed by daily wages (18.66 and 20.32 per cent respectively) but in section III employment from other's farm (24.07 per cent) was the highest, followed by own farm employment (15.12 per cent).

5.4 Problems Faced in Running of *Rasavanties*

The distributions of the sections according to the problems faced by them are presented in the Table 5. 16.

Table 5.16 Problems faced in running *rasavanties*

Sr. No.	Particulars	Sections			
		I (N=22)	II (N=10)	III (N=13)	Overall (N=45)
1	Unavailability of own land for <i>rasavanti</i>	20 (90.90)	9 (90.00)	11 (84.61)	40 (88.89)
2	Unavailability of credit facility for <i>rasavanti</i>	22 (100.00)	10 (100.00)	13 (100.00)	45 (100.00)
3	Non availability of electric supply	20 (90.90)	9 (90.00)	11 (84.61)	40 (88.89)
4	Unavailability of sugarcane in time	2 (9.09)	0.50 (5.00)	1 (7.69)	3 (6.67)
5	Clean and inadequate water supply	9 (20.00)	2 (20.00)	2 (15.38)	13 (28.89)
6	High commission charges paid to middlemen	22 (100.00)	10 (100.00)	13 (100.00)	45 (100.00)
7	Lack of new technologies adoption	22 (100.00)	10 (100.00)	13 (100.00)	45 (100.00)
8	Seasonal effects on sale of sugarcane juice	18 (81.82)	9 (90.00)	9 (69.23)	36 (80.00)

(Figures in the parenthesis indicates percentage to the respective total sample size)

It observed from the Table 5.16 that, at overall level 88.89 per cent of *rasavanti* owners reported that problem of unavailability of own land, however, the *rasavanties* were situated at the Rahuri Sani-shinganapur road side. The problem was more acute in section I and II.

It was observed that, 100 per cent rasavanti owner reported that problem of unavailability of credit facility for running the rasavanti units because of financial institutions asking too much securities for sanctioning of loans. While getting the approval, number of documents and enclosures were asked by the officers, which was difficult to *rasavanti* owners.

Non-availability of electric supply is also the major problem for rasavanti owners, more than 88.89 per cent owner reported this problem, and because of those who don't have their own land they don't get their own the electric connections. Due to seasonal effect or due to long durational crop some time owner didn't get raw material in time and this was the major problem faced by the *rasavanti* owners. As *rasavanties* placed on road side and which was also far from villages, near about 28.89 per cent owners didn't get clean and hygienic water supply.

High commission charges paid to middleman was the major problem, which was faced by the 100.00 per cent owners, in all sections because the vehicles were travelled between Rahuri-Shanishingnapur get commission from the rasavanti owners to take a rest at rasavanti and these charges kept on the basis of number of customers. The commission was paid to drivers and polish man.

The lack of new technology adoption is also major problem. All the owners used a bullock drawn wooden crusher; the maintenance cost of the bullock was very high. The electric machines has very less maintenance cost so it is profitable than the wooden crusher. But the electric machines are costly and customers prefer a juice drawn from wooden crusher juice. It is also observed that the bullock drawn wooden crusher is a symbol of attraction to the tourists.

At the overall level 80 percent rasavanti owners reported the problem of seasonal effect on sale of sugarcane juice.

6. SUMMERY AND CONCLUSIONS

6.1 Findings of the study

1. At overall level, size of family was 6.55 persons per family comprising of 40.31 per cent male, 38.32 per cent female and 21.37 per cent was children per family. It was observed that 51.90 per cent members were earners and remaining were dependents. Out of those, male earners was 30.53 per cent and 21.37 per cent was female.
2. At overall level, 80 per cent of the total family members were educated and of which, 27.46 per cent were completed their primary education, 40.34 per cent completed their secondary education and 12.20 per cent completed their education at degree level while 20.00 per cent were illiterate.
3. The number of livestock per family was 4.34 at overall level. Out of that, 44.47 per cent were milch animals and 29.26 per cent were bullocks.
4. Size of holding owned by the *rasavanti* owner was 1.09 hectare at overall level and irrigated area was 87.16 per cent. The area under permanent fallow and current fallow were 6.42 and 5.50 per cent, respectively. Total land holding in section II was 0.62 hectare which was the lowest as compare to remaining sections.
5. The cropping pattern dominated by food grains. The area under cereals was 20.99 per cent, while pulses and oilseeds was 13.58 per cent and 8.64 per cent of the total gross cropped area, respectively. The area under sugarcane was 0.35 hectare (21.60 per cent) to total GCA. GCA was the highest in section III (3.06 hectare).
6. At the overall level, the value of capital assets possessed by the *rasavanti* owner's family was ₹ 352288.89 while residential house shared was maximum (58.28 per cent) to the total value of assets excluding land. The capital assets were the highest in section III(₹ 1794339.86) and the lowest in section II (620830.00). The capital assets including land were ₹ 1005622.22, it was seen that investment was more in land.
7. At the overall level, annual income of *rasavanti* owner's family from different sources was ₹ 1065554.83 however the share of income from *rasavanti* was ₹ 599797.05 (56.29 per cent). In section I, income from *rasavanti* was ₹ 700831.14 (67.62 per cent), which was the highest as compare to other sections. Income from crop production was the highest in section III as compared to other sections.

8. The total capital investment for *rasavanti* was ₹140961.56, out of which bullock, wooden crusher and sheds were the major items of investment.
9. At overall level, the number of working days and production of juice during the year was 329.23 days and 14104.69 liters, respectively. The working days and production of juice was the highest in month of May (29.89 days and 1530.89 lit), while in month of July, the working days and production was the lowest (23.80 days and 1029.96 liters).
10. At the overall level the total cost of *rasavanti* was ₹ 428408.74 (87.56 per cent) and share of fixed cost was 19457.68 (4.54 per cent). The expenditure on raw material was found to be highest 133480.53 (31.16 per cent).
11. At the overall level, gross returns from *rasavanti* unit ₹ 994499.13 while net returns over variable cost was ₹ 619254.73 and over total cost was ₹ 599797.05. However, per liter gross returns was ₹ 70.51 and returns over variable cost and total cost was ₹ 43.90 and ₹ 40.13, respectively.
12. The benefit cost ratio at overall level was 2.32, while in case of section I it was maximum (2.38) and minimum in case of section II (2.22).
13. At the overall level the total employment days for male and female workers were 329.01 and 275.06 days, respectively. While it was observed that employment days of male and female workers for running *rasavanti* was 166.56 days (45.64 per cent) and 11.11 days (3.04 per cent), respectively.
14. Unavailability of credit facility, high commission charges paid to middlemen, lack of new technology adoption unavailability of own land, non-availability of electric supply and seasonal effect on sale of sugarcane juice were major problems faced by *rasavanti* owners.

6.2 Conclusions

Based on the findings of the study the following conclusions have been drawn.

1. Number of earners was more in section II than section I and III. Education at degree level was the lowest in section II. The *rasavanti* owners in section II were mostly poor due to less land holding and less income from *rasavanti*.
2. The cropping pattern was predominant with food grains which was followed by the cash crop i.e. sugarcane.
3. The investment in capital assets was the highest in section III because of they have high land holding. It can be seen that investment in capital assets was more in land.
4. As regards the income, the main source of income was *rasavanti* in all the sections. In section III, crop production was the major source because of the high land holding. In section

II wage earning was also a major source because they have high employment in daily and farm wages.

5. According to employment pattern, it was observed that, employment from *rasavanti* was the highest for males in all the sections, while females have very less employment from *rasavanti*. Own farm employment in males was also a good source of employment, while for female employment on others farm was main source employment. In section III, female have lower employment. Because of good financial condition in section III females have less employment.
6. The proportionate share of individual items of investment in the total investment cost varied slightly among the sections. In case of investment for *rasavanti*, the main investment found in bullock, wooden crusher and shed/buildings. Because of own land in section III, they have high investment in shed/building and decorative assets.
7. Monthwise number of working days was mostly similar in all sections but the production varies with the region/ area of *rasavanties*. The section II was weaker, because visitors firstly approach to section I and section III.
8. The recovery of whole juice received from sugarcane was good in all the sections. Section II has high recovery because they have less production than others.
9. The proportionate share of fixed cost was very less in total investment of *rasavanti*. The proportionate share of variable cost was high in all the sections. The investment for raw material i.e. sugarcane was the highest in total investments.
10. The estimates of per liter net returns over total variable cost as well as total cost were relatively more in section I and III.
11. The Benefit-Cost ratio was little lower in the case of section II than section I and III.

6.3 Suggestions

1. The *rasavanti* is a low investment with high profitable agri- venture therefore farmers may divert towards *rasavanti* for additional income and employment which may helpful for doubling the farmer's income.
2. Due to the high commission charges and unavailability of credit to *rasavanti*, the owners may formulate a union for credit requirement and solution to their problem.
3. Sugarcane sets as a raw material is the major cost item of variable cost is a sugarcane set, the *rasavanti* owners may grow sugarcane on their own field during the year in order to get timely supply sugarcane for maximizing the profits.

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8. APPENDIX

ECONOMIC ANALYSIS OF *RASAVANTIES* (SUGARCANE JUICE UNITS) IN AHMEDNAGAR DISTRICT OF MAHARASHTRA

QUESTIONNAIRE

1. INFORMATION ABOUT *RASAVANTI* OWNER AND HIS FAMILY YEAR: 2017

Name:

Village:

Tahasil:

Dist:

Age:

Phone no.

Main Occupation:

Secondary occupation:

2. DETAILS OF FAMILY MEMBERS

Sr. No.	Name	Relation	Sex. M/F	Age Yrs.	Marital Status	Education	Occupation / Job
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

3. LAND (HA/R)

Sr. No.	Total land holding (ha)	Permanent fallow (ha)	Leased in (ha)	Leased out (ha)	Operational holding (ha)	Current fallow (ha)	Not cropped area (ha)	
							Irri.	Unirri.
1.								
2.								

4. ASSETS OWNED BY FARMER

A) Inventory of fixed capital assets-farm buildings and wells.

Sr. No.	Item	No	Year of construction	Cost of construction	Expend. On repair during yrs.	Present value	Remaining life
1.	House(kaccha/pacca)						
2.	Farm House						
3.	Byre Shade						
4.	Implement Shade						
5.	Irrigation a)Well b)Pipeline c)Overhead tank d)Drip/ sprinkler						
6.	Television set						
7.	Refrigerator						
8.	Washing Machine						
9.	Radio/Tape recorder						
10.	Air cooler/Fan						
11.	Mobile phone						
12.	Computer						
13.	Other 1.						

	2.						
--	----	--	--	--	--	--	--

B). Inventory of livestock

Sr. No.	Name	No. of breeds		Purchased price	Age at present	Present value	Expt. Remaining life.
		Home	Purchased				
1.	Bullocks						
2.	Cows a) local b) Crossbreed c) Other						
3.	Buffaloes a) Local b) Improved						
4.	Young stock						
5.	Goats						
6.	Sheeps						
7.	Poultry birds						
8.	Others.						

C. Implements and Machinery

Sr. No.	Particulars	No.	Year of purchased	Purchased value	Present value	Repairing charges during year	Expt. Remaining life.
a.	Implements						
	1. Iron plough						
	2. Wooden plough						
	3. Harrow						
	4. Seed drill						

	5. Two bowl seed drill						
	6. Hoe i)Entire blade ii)Silt blade iii)Peg tooth hoe						
	7. Spray pump						
	8. Duster						
	9. Other						
b.	Machinery						
	1.Tractor						
	2.Trolley						
	3.Plough						
	4.Cultivator						
	5.Leveller						
	6. Electric pump						
	7. Thresher/Harvester						
	8. Oil engine						
c.	Bullock cart						
d.	Hand tools						
	1.Spade						
	2. pick axe						
	3.Crowbar						
	4.Sickles						
	5.Khurapi						
	6.Ghamela						
	7. Other						
e.	Vehicle						
	1.Jeep						
	2.Motorcycle						

	3.Cycle						
	4.Truk						
	3Tempo						

5. CROPPING PATTERN

Sr. No.	Survey/ Gat No.	Season/Crop	Sole/ Intercropping	Variety	Area under crop (ha)	
					Irrigated	Unirrigated
1.		<i>Kharif</i>				
		I)				
		II)				
		III)				
2.		<i>Rabi</i>				
		I)				
		II)				
		III)				
3.		Summer				
		I)				
		II)				
		III)				
4.		Annual				
		I)				
		II)				
5.		Perennial				
		I)				
		II)				
6.		Other				

7. INCOME OF FARMER FROM DIFFERENT SOURCE

Sr. No.	Source	Year (₹)
1.	Crop production	
	Main	
	Others	
2.	Live stock production	
	Sale of animals (Goats, Sheep)	
	Sale of Milk	
	Others	
3.	Wages	
4.	Job/Services	
5.	Business	
6.	<i>Rasavanti</i>	
7.	Others	

8. EMPLOYMENT PATTERN

Sr. No.	Particular	Male	Female	Bullock
I)	Own farm employment			
	1.Crop Production			
	2.Livestock activity			
	3.Other			
	Total			
II)	Own farm employment			
	1.Crop Production			
	2.Livestock activity			
	3.Other			
	Total			

III)	Employment From <i>Rasavanti</i>			
	Wage earning			
	Job/Services			
	Total			

9. CREDIT INFORMATION

Type of credit	Credit source	Intention	Amount (₹)	Issued year	Intrest rate (%)	Refunt amount (₹)	Refund year

10. INVESTMENT FOR RASAVANTI

Sr. No.	Particulars	No.	Year of purchased	Purchased value	Present value	Repairing charges during year	Expt. Remaining life.
1.	Shed/Building						
2.	Crusher						
3.	Bullock/Machine						
4.	Furniture						
a	Tables						
b	Chairs						
c	Axe						
d	Knife						
e	Utensils						
	Others						
5.	Decoration						

IV											
December											
I											
II											
III											
IV											

13. PROBLEM FACED BY RASAVANTI OWNERS

1. Why did you start *rasavanti*? What was your intention to start it?
 1. Business? 2. Employment generation? 3. Others?

2. Why did you start *rasavanti* at this place? What was intention to start it at this place?

3. Since when you are in this *rasavanti* business?

4. Is this your own place or taken on rent? If it on rent then what is the it's rent ?

5. Which sugarcane do you use for *rasavanti*? Your own or purchased?
 - a. From where do you purchase it?
 - b. How far is it?
 - c. How much the transportation expenditure is?
 - d. How the rates of sugarcane are determined? Per R / Per quintal

6. For how many days do you use that purchased sugarcane?

7. How do you store the sugarcane purchased for *rasavanti*?

8. How much production / sale of sugarcane juice per day? For that hoe much quantity of sugarcane is required qt/kg ?
9. What kind of crusher do you use? Bullock drawn/ Wooden crusher And why ?
10. For how many days/months your *rasavanti* is on working mode in a year?
11. Do you provide some facilities to attract people towards your *rasavanti*? And what are those activities?
12. Which variety of sugarcane is preferred by the customers?
13. How much quantity of sugarcane is required for producing 1 lit juice how much quantity of juice is required?
14. What is the rate of sugarcane juice per glass?
15. What do you do to hasten the sweetness of the sugarcane juice?
Lemon/Ginger/Sugar/Ice do you used?
16. What are the opening and closing of the *rasavanti*?
17. How do you dispose the baggase/sugarcane trashes?
18. Do you do any subsidiary business along with *rasavanti*? Which?
19. What are the maine problems in this business?
20. What are your views on employment and income generation from this business?

9. VITAE

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MASTER OF SCIENCE (AGRICULTURE)

In

AGRICULTURAL ECONOMICS

2018

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