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STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

SCOPE FOR FURTHER RESEARCH

ACKNOWLEDGMENTS

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- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

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LIGHT ENGINEERING UNITS IN NORTH MALABAR, KERALA, AND EMPLOYMENT GENERATION

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ABSTRACT

Micro and Small scale industry is widely recognized as a powerful instrument for socio economic growth and balanced sectorial development. Micro and Small Enterprises have a vital role to play in Kerala's economy as the industrial climate, state of economy and population density is not suitable for the development of large scale units. Factors such as scarcity of capital, abundance of labour, lack of necessary infrastructure, existence of regional and social disparities in development etc give the SMEs an edge over large scale enterprises in the state. The changing demographic profile of the Indian consumer, viz. increasing income levels and greater propensity to spend, lifestyle changes like nuclear families and working women, exposure to global trends etc are generating opportunities for growth of light engineering industries. Being labour intensive, the light engineering sector generates a lot of employment opportunities, especially where there is an abundant supply of skilled and semi-skilled labour. Micro and small enterprises can check the large scale migration of population to the urban areas which is already overcrowded and congested. In Kerala,engineering industries occupy a prominent status. But industries in the light engineering sector, especially spares and sub assemblies needed for the automobiles, machinery and construction sectors have not prospered in Kerala. Likewise, lots of building materials and utensils for the household are coming from Maharashtra, Gujarat, Punjab, Haryana and the neighboring states of kerala. There must be some bottlenecks for such industries not concentrated in Kerala. Hence an attempt is made to analyze the employment generation capacity of the units, economics of light engineering units in terms of cost, price and profit, the problems faced by this predominant sector in the economic arena.

JEL CODE

L6 - Industry Studies: Manufacturing: L60 - General

KEYWORDS

employment generation, labour intensive, light engineering, micro enterprises, sustained growth.

INTRODUCTION

Micro and Small scale industry is widely recognized as a powerful instrument for socio economic growth and balanced sectorial development. Similarly, micro and small industries occupy an important place in Indian economy. These industries are contributing half of the total industrial production in India and provide gainful economic activity to more than five times the number of people employed in the large and medium sized industries in the country.[1] It provides employment to nearly 60 million people and contributes over 45 percentage of the total manufactured output, 95 percentage of industrial units and 40 percentage of our export earnings.[2]

Agriculture, being a seasonal occupation, can't provide full time employment to the rising population of India throughout the year. Excessive pressure of population on agriculture has given rise to the problem of under employment and disguised unemployment. It is believed that micro and small enterprises can check the large scale migration of population to the urban areas which is already overcrowded and congested. Moreover, the export potential of small scale sector promises to improve the balance of payment position of the country. Planned industrial decentralization, if done, will result in balanced regional development of the country.

Although industrial development holds the key to the economic progress, Kerala has been quite slow considering the potentialities as well as requirements of the state. Micro and Small Enterprises have a vital role to play in Kerala's economy as the industrial climate, state of economy and population density is not suitable for the development of large scale units. Factors such as scarcity of capital, abundance of labour, lack of necessary infrastructure, existence of regional and social disparities in development etc give the SMEs an edge over large scale enterprises in the state. Industrialization helps to create a positive change in the society by giving employment to the young and educated people especially in the rural areas as most of the engineering units are located in such places. The MSME sector is reckoned as the backbone of the Indian economy as it contributes significantly to the GDP growth of the country. The current contribution of MSME sector to GDP is 8 %. In India small and medium enterprises constitute 95 percentage of the total industrial units, manufacturing over 6000 products ranging from handloom sarees, carpets and soaps to pickles, papads and machine parts for large industries. They employ 80 percentage of the total labour force contributing around 40 percentage of the total manufactured output[3]

IMPORTANCE OF LIGHT ENGINEERING INDUSTRY

The presence of well-developed and sound light engineering sector is the basis of almost all productive and business activities in the country. Being labour intensive, the light engineering sector generates a lot of employment opportunities in the economy, especially in the areas where there is an abundant supply of skilled and semi-skilled labour. Light engineering is an important sub-sector of the manufacturing sector. It provides critical support to industrial, agricultural and other sectors of the economy by manufacturing a wide range of spare parts, casting, molds and dies, oil & gas pipeline fittings, light machinery, etc and by providing repair services. Undoubtedly, light engineering industry supports the very basic requirements of industrialization and plays a key role in keeping other industries running.

To boost the smooth functioning of large scale units, MSMEs will have its own contribution by way of supplying key parts, sub assemblies, spares etc. MSMEs benefit by way of getting continuous orders from large units and large units get steady supply from MSMEs situated in its periphery. The changing demographic profile of the Indian consumer, viz. increasing income levels and greater propensity to spend, lifestyle changes like nuclear families and working women, exposure to global trends etc are generating opportunities for growth of light engineering industries. These changes have been driving consumption in end-user sectors such as consumer durables, building accessories like housing grills, gates, shutters, locks, household utensils and kitchenware. Keralites are health conscious and there is great demand for home exercise equipments as well. Construction industry is a supply constrained industry and will have sustained growth of over 20 percentage per annum for the next 20 years as per capita income is increasing and more than 400 million Indians shall go for own dwelling, office etc. Thus increase in construction activity will show sustained growth of light engineering industry. In Kerala alone, the annual demand for the structural products are 1.25 lakhs tones and Kannur district's annual demand for the finished goods is up to 0.4 lakh tones per annum.[4]

OBJECTIVES OF THE STUDY

1. To analyze the economics of light engineering units operating in North Malabar in terms of cost, price and profit.
2. To study the problems faced by the light engineering entrepreneurs in North Malabar
3. Employment generation of light engineering units in North Malabar area.
4. To make suggestions for further growth of light engineering units in North Malabar.

RESEARCH METHODOLOGY

This is an explorative research based on both primary and secondary data for a period of 10 years from 2000 to 2009 in 370 light engineering units of North Malabar. Primary data are collected from the entrepreneurs. A structured questionnaire is used for collecting data from the entrepreneurs. Secondary data are collected from journals and websites. Percentage analysis is the mathematical tool adopted to process the collected data.

POPULATION AND SAMPLE SIZE

The registered light engineering units in micro/small-scale sector in Kerala approximately numbers to 18,114 in 2007. Of this, around 3,310 are in the four districts of North Malabar Considering 75 percentage as the survival rate, 370 units are identified for the study on a multi-stage random sampling basis.

SCOPE OF THE STUDY

Of the different micro and small scale enterprises functioning throughout Kerala, engineering units occupy major position. In all the fourteen districts of the state, engineering industries occupy a prominent status. But industries in the light engineering sector, especially spares and sub assemblies needed for the automobiles, machinery and construction sectors have not prospered in Kerala. Likewise, lots of building materials and utensils for the household are coming from the neighboring states and other industrially developed stated like Maharashtra, Gujarat, Punjab, Haryana etc. There must be some bottlenecks for such industries not concentrated in Kerala. Hence an attempt is made to examine the working of light engineering units, the problems they face and to assess the prospects of this predominant sector in the economic arena.

OPERATIONAL DEFINITIONS

Micro enterprises mean enterprises where investment in Plant and Machinery doesn't exceed 25 lakh rupees. Small enterprises refers to enterprises where investment in Plant and Machinery is more than 25 lakhs but doesn't exceed 5 crore rupees.

LIGHT ENGINEERING

For the purpose of the study light engineering is defined as "micro and small units such as machine shops, fabricating shop, assembly shop, forging and casting shop and such other manufacturing units using metals and also include engineering work shops undertaking repairing and servicing of automobiles, pump sets, generator , machineries, tools and equipments"

ANALYSIS OF DATA

In order to understand the specific features and economic performance of light engineering units, data regarding costs and revenues of the sample units are analyzed. The economics of light engineering industry is analyzed by studying the material cost, labour cost, overheads, sales and profitability of the units. It is a fact that availability and cost structure of material and manpower affects production and the market for the product affects sales and thus the profitability of the concern. By studying the sources of raw material, availability of raw material is analyzed.

COST STRUCTURE AND PROFITABILITY

The prime objective of any economic activity is to earn profit to ensure its continuity. Growth of any type of economic activity is very much dependent on surplus/profit from the venture. Costing is an important tool in controlling the activities of an organization. In order to fix the price of a product or service of a firm, it is necessary to find out how much it costs for the manufacturer or service provider.

No scientific approach is seen followed by majority of the units surveyed. The general practice found in most of the micro units is to fix a price, very close to the market leaders' price.

MANPOWER IN LIGHT ENGINEERING UNITS

It is an established fact that the employment generating capacity of micro and small enterprises is higher when compared to medium and large enterprises. Both skilled and semi/unskilled labour are engaged in light engineering units. Availability of labour is the deciding factors in automobile repairing and servicing units and engine works, as the labour proportion is the highest in both cases. In Machines & Engineering products, Steel furniture and Structural fabrication, material is the major component but availability of material is not a serious problem. So here also, labour availability is the deciding factor.

MARKETING AND SALES

Products or services marketed as well as the mode of marketing varies according to the type of unit. Varieties of products and services are marketed. Availability of market is a crucial factor affecting sales and thus profit.

FINDINGS

1. Sample units include 85.67 percentage proprietorships and 14.32 percentage partnership firms.
2. Out of the sample, 210 (57%) units are manufacturing units and the remaining 160 (43%) service units.
3. Out of the sample, 57.30 percentage of the owners started their enterprise after gaining practical experience from light engineering units.
4. The average investment in machinery is highest for machines and engineering products (5.45 lakhs) followed by 3.59 lakhs for engine work, 3.56 lakhs for steel furniture, 0.86 lakh for Structural Fabrication and 0.83 lakh for automobile repairing and servicing.
5. The average amount of working capital required is highest for steel furniture (1.82 lakhs), followed by machines and engineering products (1.60 lakhs), 0.39 lakh for engine work, and 0.37 lakh for structural fabrication. Being a servicing unit, working capital required for automobile repairing and servicing is meager. It comes to 0.15 lakh only.
6. More than 97 percentage of the units get the raw materials supplied locally whether it is steel furniture/structural fabrication/engineering products.
7. For automobile servicing and repairing and engine work, material cost is comparatively less. It is between 18 and 22 percentage of total cost. But the labour charges are high in this case, which constitute 71.69 and 66.93 respectively. Proportion of material cost is the highest for steel furniture units followed by structural fabrication units. They are 77.23 and 74.52 respectively for these units. The labour cost to total cost for these units is around 15 percentage.
8. In automobile units 58.17 percentage of the workers are skilled whereas it is 63.35 percentage in engine works. Machines & engineering products, steel furniture, and structural fabrications employ skilled workers to the tune of 64.84 percentage, 53.49 percentage, and 51.60 percentage respectively. The proportion of unskilled workers is between 35 and 48 percentage.
9. The average rate of profit earned by the micro and small light engineering units in Kozhikode and Kannur districts increased approximately from 25 percentage in the year 2000 to 34 percentage 2009. It increased from 26 percentage to 32 percentage in Waynad district and from 24 to 32 percentage in Kasargod district. Rate of profit showed an upward trend for all the years in all the districts.
10. The average rate of profit earned by the structural fabrication and automobile repairing and servicing, increased approximately from 25 percentage in the year 2000 to 34 percentage in 2009. It increased from 25 percentage to 32 percentage in steel furniture, 27 to 33 percentage in machines and engineering products and from 24 to 32 percentage in engine work units.
11. On an average, 15.68 percentage of the workers are from other states. Local employment is more in automobile repairing and servicing units (89%) In units producing steel furniture, machines & engineering products 22 percentage of the workers are from other states like Karnataka, Tamil Nadu, Bihar, Odisha, Bengal etc.
12. Sample units taken for the study in total generates employment to 1876 persons with an average or 5 persons per unit. On an average, 5 persons are employed in an automobile and structural fabrication units, 4 persons in engine works as well as units producing machines and engineering products and 7 persons in furniture units
13. Large units which employed about 20 persons per unit in 1990s presently work with only 5 or 6 persons. To meet the demands of customers, Automobile workshops and structural fabrications hire workers at a higher rate of wages and the additional cost of labour is passed on to the consumers. The purchasing power of new generation consumers is comparatively high and they are ready to pay more for quality work and speedy delivery.

14. For automobile repairing and servicing, there is no competition at all from outside the state as it is concerned with the repair of vehicles; customers usually depend on the nearest or reliable workshop for getting the vehicles repaired. Competition for machines & engineering products is comparatively high among the units surveyed - 23 percentage of the units face competition from other states.
15. To employ one person in machine and engineering products, an investment of ₹1.7 lakhs is required. The investment required for employing one person in steel furniture unit is only ₹ 0 .77 lakh. Engine work requires an investment of ₹ 0.99 lakh, to give employment to one person. For structural fabrication and automobile repairing and servicing units, lower investment, both in machinery and working capital is required and so the investment per employee comes to ₹ 0.25 lakh and ₹ 0.20 lakh respectively for these units.
16. Presently, there is not much problem to find market for the products or services. Availability of raw material is not a problem for the enterprises. Frequent hike in the cost of raw material is a problem.
17. Labour availability, both skilled as well as unskilled is a crucial problem for almost all the enterprises. So the entrepreneurs cannot take advantage of the increasing demand for the product to harvest greater amount of profit.
18. Problem of power failure and work interruption, inability to take up work related to the new generation vehicles due to the new technology etc are the other problems.

SUGGESTIONS

The following suggestions are made which will help either in overcoming or easing the problems. While sharing the experience by entrepreneurs in the field, some opinions made by them are put in the form of suggestions.

1. Upto ₹ 5 lakhs, Project Report need not be insisted, but such details needed may be collected in the application form itself to evaluate the project.
2. Single window and Green channel committee is to be made more effective. Industries Department should, as a policy, approve proposals through "single window clearance" for starting new micro enterprises, to avoid delay in starting the units which will avoid overrun in cost and time which is a major problem for Micro and Small Enterprises.
3. Modern techniques should be adopted which will reduce the physical strain. This can be done through consortia by pooling the resources.
4. Kerala is a state of educated people. So, people crave for blue collar/white collar jobs. If workers are given such working premises and system, we can retain those who are leaving for abroad in search of job.
5. There must be sufficient motivation from the side of the Industries Department to attract entrepreneurs.
6. Instead of giving subsidy to the units it will be more effective if finance is made available at lower rates. The reason is that some entrepreneurs start the organization and avail the subsidy and after that they either sell or close down the unit. What is to be done is that the govt. should provide or improve necessary infrastructure, and motivation to boost the growth of industries.

CONCLUSION

Light engineering industry has an important place in the industrial scenario of Kerala. Most of the industries in light engineering sector are working on demand created out of the growth of civil construction sector and also due to the rising number of cars and other automobiles sold out in the state. In reality, the percentage of industrial units which are working as production units is very less. The future of the light engineering units mainly depends upon the purchasing power of the people of the state who spend in civil construction as well as in owning vehicles.

So long as the new generation concentrates on acquiring better higher education, they will continue to get good jobs and good earnings. Under this background, spending on housing and other civil construction along with investments in vehicles will continue and this will ensure good market for all the sections of light engineering units.

Again, large number of technically qualified youth who are passing out can think of developing new products including households and kitchen equipments. With the increase in the number of working women in Kerala, there is rising scope for developing equipments and products which will reduce the burden of the working women. Products which have either forward or backward linkage should be developed by keeping tie up with manufacturers of industrial machineries and automobiles. Entrepreneurs can think of production of components for automobiles and other equipments which do not involve high technology.

Light engineering units in North Malabar region of Kerala state play an important role in providing rural employment. As per the study, an investment of Rs. 75,000 (approximate) will give employment to one person. Light engineering entrepreneurs have been able to earn profits which raised their standard of living and they have moved up in the social hierarchy. Presently, there is not much problem of market for the products or services. For products like steel furniture and engineering products, there exists certain amount of competition from other states. Labour availability is a crucial problem for almost all the enterprises.

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TABLES

TABLE 1: PRODUCTION COST FOR THE YEAR 2010 (₹ In lakhs)

Nature of Operation	Material Cost	Labour Cost	Overheads	Total cost	Average Cost
Automobile Repairing and Servicing	95.34 18.13%	377.00 71.69%	53.54 10.18%	525.88 100%	4.61
Engine Work	49.83 21.36%	156.19 66.93%	27.33 11.71%	233.35 100%	5.07
Machines & Engineering products	207.97 53.84%	147.29 38.13%	31.02 8.03%	386.28 100%	17.56
Steel Furniture	2546.86 77.23%	459.12 15.10%	233.66 7.67%	3239.64 100%	47.49
Structural Fabrications	2711.08 74.52%	536.93 14.75%	390.40 10.73%	3638.41 100%	29.34

Source: Survey data

TABLE 2:

Nature of operation	Company Depot	Percentage	Local market	Percentage	Total
Automobile Repairing and Servicing	0	0.00	114	100.00	114
Engine Work	1	2.17	45	97.83	46
Machines and Engineering Products	2	9.09	20	90.91	22
Steel Furniture	3	4.69	61	95.31	64
Structural Fabrication	2	1.61	122	98.39	124
Total	8	2.16	362	97.84	370

Source: Survey data

TABLE 3: AVAILABILITY OF REQUIRED MANPOWER

Nature of Operation	Required Manpower Available Locally		Total
	Yes	No	
Automobile Repairing and Servicing	102 89.47%	12 10.53%	114 100%
Engine Work	38 82.61%	08 17.39%	46 100%
Machines & Engineering Products	14 63.64%	08 36.36%	22 100%
Steel Furniture	50 78.13%	14 21.87%	64 100%
Structural Fabrications	108 87.10%	16 12.90%	124 100%
Total	312 84.32%	58 15.68%	370 100%

Source: Survey data

Pearson Chi-Square: 12.094,df=4,p=.017

TABLE 4: THE AREA OF AVAILABILITY OF MANPOWER

Nature of Operation	Area of Availability of Manpower				Total
	Tamil Nadu	Karnataka	Other States	Locally available	
Automobile Repairing and Servicing	0 0%	8 7.02%	4 3.51%	102 89.47%	114 100%
Engine Work	2 4.35%	5 10.87%	1 2.17%	38 82.61%	46 100%
Machines & Engineering Products	4 18.18%	4 18.18%	0 0%	14 63.64%	22 100%
Steel Furniture	6 9.38%	4 6.25%	4 6.25%	50 78.12%	64 100%
Structural Fabrications	3 2.42%	9 7.26%	4 3.22%	108 87.10%	124 100%
Total	15 4.06%	30 8.11%	13 3.51%	312 84.32%	370 100%

Source: Survey data

TABLE 5: LEVEL OF COMPETITION FROM IMPORTED PRODUCTS AND PRODUCTS FROM OUTSIDE THE STATE

Nature of operation	Whether Competition Exists for the Product		Total
	Yes	No	
Automobile Repairing and Servicing	0 0%	114 100%	114 100%
Engine Work	04 8.70%	42 91.30%	46 100%
Machines & Engineering Products	05 22.73%	17 77.27%	22 100%
Steel Furniture	07 10.94%	57 89.06%	64 100%
Structural Fabrications	05 4.03%	119 95.97%	124 100%
Total	21 5.68%	349 94.32%	370 100%

Source: Survey data

TABLE 6: MARKETING PROBLEMS

Nature of operation	Whether Competition Exists for the Product		Total
	Yes	No	
Automobile Repairing and Servicing	07 6.14%	107 93.86%	114 100%
Engine Work	03 6.52%	43 93.48%	46 100%
Machines & Engineering Products	03 13.64%	19 86.36%	22 100%
Steel Furniture	09 14.06%	55 85.94%	64 100%
Structural Fabrications	09 7.26%	115 92.74%	124 100%
Total	31 8.38%	339 91.62%	370 100%

Source: Survey data

Pearson Chi-Square: 4.639,df=4,p=.326

TABLE 7: AVERAGE TURNOVER – BASED ON NATURE OF OPERATION (₹ in lakhs)

Year	Automobile Repairing and Servicing	Engine Work	Machines & Engineering Products	Steel Furniture	Structural Fabrications
2000	2.79	3.23	10.04	31.50	18.82
2001	2.84	3.87	10.85	31.56	18.08
2002	2.91	3.87	11.46	31.90	17.71
2003	3.63	4.60	16.63	46.24	31.79
2004	3.77	5.12	19.45	50.63	35.01
2005	4.81	5.73	20.23	52.60	35.43
2006	5.12	5.96	21.12	53.47	35.24
2007	5.58	6.64	22.65	57.22	38.11
2008	6.12	7.23	26.02	67.93	46.02
2009	6.67	8.04	29.75	75.76	51.11
CAGR	**9.11**	**9.56**	**11.47**	**9.17**	**10.51**

Source: Survey data

TABLE 8: RATE OF PROFIT OVER 10 YEARS (DISTRICT WISE)

Districts	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Kozhikode	25.00	26.68	27.97	28.76	29.24	30.58	32.39	33.23	32.39	33.64
Wayanad	26.21	28.24	29.13	28.99	29.17	29.79	31.77	32.74	31.37	32.23
Kannur	25.20	27.58	27.98	28.96	29.22	30.29	32.32	33.26	32.34	33.74
Kasaragod	24.26	26.08	27.42	28.42	28.67	29.26	31.13	32.56	31.13	31.92

Source: Survey data

TABLE 9: RATE OF PROFIT OVER 10 YEARS (ON NATURE OF OPERATION)

Nature of operation	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Structural Fabrication	25.08	26.82	28.07	28.84	29.28	30.74	32.53	33.37	32.43	33.70
Automobile repairing and servicing	25.18	27.57	28.10	29.00	29.18	30.34	32.32	33.32	32.08	33.50
Steel Furniture	25.29	27.17	28.23	28.55	28.97	29.56	31.57	32.61	31.55	32.48
Engine work	23.82	25.52	27.06	27.99	28.49	29.16	31.23	32.40	31.58	31.77
Machines and Engineering products	26.55	28.20	28.75	29.56	29.50	29.33	30.94	32.36	31.20	32.89

Source : Survey data

TABLE 10: PROBLEM RANKING

Problem	Rank
Labour shortage	I
Finance	II
Power Quality	III
Technology change	IV
Raw material availability	V
Waste disposal	VI
Marketing	VII
Health problems	VIII

DESCRIPTIVE STATISTICS

Problem Factor	N	Mean	Std. Deviation	Minimum	Maximum
Labour	370	1.3892	.99587	1.00	4.00
Finance	370	2.5135	1.48199	1.00	8.00
Power	370	3.3270	1.50287	1.00	8.00
Technology change	370	4.5486	1.96419	2.00	8.00
Waste disposal	370	5.7216	1.54633	2.00	8.00
Raw material	370	5.5595	1.43815	3.00	8.00
Health Problems	370	6.7703	.89786	4.00	8.00
Marketing	370	6.1730	1.37824	5.00	8.00

TABLE 11: EMPLOYMENT IN SAMPLE UNITS DURING 2010

Nature of Operation	Skilled (No.)	Semi/Un skilled (No.)	Total Employed (No.)	Employment per Unit (Approximate No.)
Automobile Repairing and Servicing	331	238	569	5
Engine Work	121	70	191	4
Machines & Engineering Products	59	32	91	4
Steel Furniture	230	200	430	7
Structural Fabrications	307	288	595	5
Total	1048	828	1876	5

Source: Survey data

TABLE 12: AVERAGE INVESTMENT IN SAMPLE UNITS

Nature of Operation	Average Investment in Machinery (₹)	Average Working Capital (₹)	Average Total investment per unit (₹)	Employment per Unit (Approximate No.)	Investment per Employee (Approximate amount)
Automobile Repairing and Servicing	83,350.88	15463.25	98,814.13	5	19,763
Engine Work	3,58,695.65	38,586.96	3,97,282.61	4	99,320
Machines & Engineering Products	5,44,772.70	1,59,545.50	7,04,318.20	4	1,76,080
Steel Furniture	3,55,703.10	1,81,718.80	5,37,421.90	7	76,775
Structural Fabrications	86,104.84	37,258.06	1,23,362.90	5	24,673
Total	**14,28,627.00**	**4,32,572.57**	**18,61,199.57**	**25**	**74,448**

Source: Survey data

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