

Socio-Economic and Profitability Analysis of Date Palm Molasses(GUR) Industry in India: A Field Survey Based Study

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Abstract

Date palm molasses in rural Bengal of Indian subcontinent is well-known during winter for its taste, fragrance and its role as basic ingredient of sweet making. Study on date palm molasses is found to have its traditional importance to the place or places where most of the date palm trees are concentrated. The objective of the present survey based study is to analyze the socio economic profile like lifestyle, educational background as well as family profile of the said molasses entrepreneurs and profitability pattern of traditional skill based date palm molasses venture at Shyampur area of Howrah district, West Bengal, India. The study has been conducted by survey method by taking primary or raw data collected from field survey. For the purpose of the study, we have surveyed five date palm molasses entrepreneurs at Shyampur area of Howrah District, West Bengal, India. From the study, it has been found that all the entrepreneurs have earned sufficient amount of profit from this traditional knowledge based industry. For enhancing efficiency and reducing risk to artisans in climbing trees, methods like aerial rope ways and bamboo ways have to be introduced in the field. As suggestive measure, it can be inferred that the artisans should be brought under the insurance coverage from protecting them from losses arising out of natural calamities and should be given amenities on training program, input availabilities, credit facilities and amenities for education so that they can be well responsive of their problems.

Keywords: Date palm, molasses, India, profitability.

1. Introduction

Date palm molasses in rural Bengal of Indian subcontinent is well-known during winter for its taste, fragrance and its role as basic ingredient of sweet making. Study on date palm molasses is found to have its traditional importance to the place or places where most of the date palm trees are concentrated. In our study, since it is rural area, we have found enormous concentration of such type of precious trees which can be used as sources of date palm juice extraction. The manufacture of date palm molasses (*gur*) with its trait- aroma and flavour -is one of the shinning traditional skills of Indian people. The indigenous artisans, for ages, are engaged in this activity and are tapping palmyra palm and date palm to get sweet *neera* which eventually gives *gur* or jaggery, sugar, candy and other refreshing drinks. Beside this *neera* and its diverse products and derivatives, these splendid palms offer so much to mankind in many ways, where its roots, trunk, leaves, fibres, saplings, fruits, each in its own intrinsic way fulfil man's economic, social, educational, cooking and aesthetic needs. Nothing in these modest palms is ever wasted, as each part serves some valuable purpose. The date palm molasses (*gur*) industry mainly belongs to traditional artisans who are acquainted with the art of climbing tall trees and have made this risky work as their main occupation for livelihood. Usually, no other community will accept tapping of date palms as an additional source of income due to its hazardous nature of work. Millions of artisans are engaged in the manufacturing activities of date palm molasses Industry in West Bengal, Orissa and to some extent in Gujarat, Maharashtra and Uttar Pradesh. This is a traditional as well as seasonal industry providing employment on an average for 150 days in a year. The manufacturing activities are carried out in small hamlets of inaccessible villages by the family members of the artisans. The manufacturing of date palm products can be started with scanty financial investment. In our study area, Shyampur area of Howrah district of West Bengal, India, we have seen many seasonal entrepreneurs coming with their family members from distant places for a couple of months during winter accompanying mud pot to collect juice and prepare molasses. Mostly, they are poor and belong to the weaker sections of the society, i.e. Scheduled Castes and Scheduled Tribes.

In India, Palmyrah palm (*Borassus flabellifer* Linn.) and Datepalm (*Phoenix dactylifera* Linn. and *P. sylvestris* Roxb.) are traditionally used for obtaining various edible and non-edible products. It is estimated that there are 18 crores of palm trees in India. About 12.59 crores trees are estimated to be available for tapping, of which approximately 3.08 crores are being tapped for *neera*. If all these twelve crores of available trees are used for productive purpose, it would give employment to about 6.3 million persons and the total production would be nearly 4.20 million tonnes of *gur* and other products [K D Kamble,2003].

Fig:1: Image showing procedure for extraction of Date palm juice



The objective of the present survey based study is to analyze the socio economic profile like lifestyle, educational background as well as family profile of the said molasses entrepreneurs and profitability pattern of traditional skill based date palm molasses venture at Shyampur area of Howrah district, West Bengal, India.

2. Methodology and database

The study has been conducted by survey method by taking primary or raw data collected from field survey. For the purpose of the study, we have surveyed five date palm molasses entrepreneurs at Shyampur area of Howrah District, West Bengal, India. We have collected data from the above locations near Shyampur P.S, the core area of Shyampur region. In case of choosing the sampling method, the first priority is random sampling method. Considering this method in mind, we have tried to focus on those samples which are easy to get access. Here, sample size of the study is five. The study is mainly dependent on primary data collected through a series of questionnaire thrown upon the different entrepreneurs of the date palm molasses at particular locality, but we have to rely also on secondary database for review of literature, technique used to compute results etc. Therefore, the study relies heavily for collection of data both from the primary and secondary sources. Primary data were collected by the researcher through personal interview by sending student representatives to the field with structured questionnaire. The secondary sources include different web site, books, journals, annual report and unpublished research work.

3. Analysis of the results:

A few socio-economic indicators are identified in the study i.e. Gender of molasses venturers, age, education, number of trees cultivated, family size ,housing pattern, fuel for cooking, health service, mode of bank loan etc. are included.

The following table-1 shows that the study has been conducted with young and middle-aged molasses venturers being aggressive and energetic people willing more to adopt new technology than older venturers. The survey of the study suggests that molasses venturers in the study are having very meager education level to adopt new technology in molasses preparation. In fact, literacy rate of molasses venturers can play a crucial role in proficient management and operation as well as in booming production of molasses. Education and operational efficiency are intimately related and education generally has a positive effect on farm productivity. The number of date palm trees and their concentration at a particular area are the important determinant of molasses productivity. In the present study, it was found that the average number of date palm trees under each molasses venturers' occupation is nearly 250 in the study area.

The analysis of the result has been conducted in two parts –first, we have individually analyzed the detailed socio economic exposure of individual entrepreneurs. Secondly, we have analyzed the profit aspect of them ensuring their sustainability.

All the entrepreneur under our study initiate the seasonal venture every year at the beginning of winter taking debt palm trees on rental basis with the contract of providing 2kg molasses or Rs. 150 per tree from the owner of the trees per month for a couple of months. Having learnt basic knowledge about how to prepare molasses from their ancestors like father, grand father etc with the motivation of running self operated venture, they usually initiate the venture in every winter at the above mentioned places. This particular short term seasonal business is having full of prospects to earn fabulous earning from each of the production centre. The molasses entrepreneur with low academic background used to come along with their other family members like wife, and other dependent members of the family to assist them from Purba Midnapore, the neighboring district

of the study area. Another reason for setting up the venture in this particular place is that most of the juice input producing trees are concentrated in one place. They generally extract juice from nearly 250 trees daily. Every day, on an average, they collect 6 liters of juice from each tree. It has been surveyed that to produce one kg of molasses, it needs 8 liters of juice which are processed through different processes. Every debt palm tree needs to be flat in shape having 15-25 feet high to produce congenial juice and it is a seasonal venture, specially in winter which runs during four months- December, January, February, March as because there is the chance of spoilage of juice if summer appears. They generally invest primary capital from their own source accumulated out of previous surpluses. The only reason for entering into the profession is that their ancestors are related with this particular profession and other reason behind entering into this profession is that they hardly get any job for their livelihood with low academic expertise in rural area. During the remaining parts of the year, they engage themselves in cultivation, or as daily agricultural workers.

Table: 1: Socio-economic profile of respondents

	Name of entrepreneurs				
	Swapan Dolui	Manik Hambir	Harekrishna Naskar	Nimai Karmakar	Ranjan Rang
Place of residence	Gobindapur village	Kharuberia village	Hoglasi village	Laxmibazar village	Matapara village
Gender	Male	Male	Male	Male	Male
Age	45	47	53	44	43
Educational level	primary education	primary education	primary education	primary education	illiterate
<i>FAMILY SIZE OF THE ARTISAN</i>	8	9	6	7	10
Caste status	Scheduled caste	Scheduled caste	Scheduled caste	Scheduled caste	Scheduled caste
Family Status of the Fish Farmer	Joint Family	Joint Family	Nuclear	Joint Family	Joint Family
Religious Status	Hindus	Hindus	Hindus	Hindus	Hindus
No of TREES TAKEN into venture	245	392	194	340	289
Ownership & mode of occupation of the venture	Hired on lease basis & terminable venture with 4-5 months	Hired on lease basis & terminable venture with 4-5 months	Hired on lease basis & terminable venture with 4-5 months	Hired on lease basis & terminable venture with 4-5 months	Hired on lease basis & terminable venture with 4-5 months
Source of juice extraction & GUR making experience	Fore father & NGOs	Fore father	Neighbours/ friend/Relatives	Fore father	Fore father
Housing Pattern of venturers	<i>Kacha</i> & tinned shed	Pucca wall & tiled shed	<i>Kacha</i> & tinned shed	Brick building houses	<i>Kacha</i> & tinned shed
Health Service Received	Rural Hospital	MBBS Doctor (Private) & Rural Hospital both	Village doctor (RMP)	MBBS Doctor (Private)	MBBS Doctor (Private)
Fuels for Cooking	Wood & cow dung	LPG cylinder Wood & cow dung	Wood & cow dung	LPG cylinder	Wood & cow dung
Electricity for lighting	No	yes	No	yes	No
Whether Bank Loan Received for farming	Yes, Short term bank loan with subsidy	Yes, Short term bank loan with subsidy	Yes, Short term bank loan with subsidy	Yes, Short term bank loan with subsidy	Yes, Short term bank loan with subsidy

Source: Field Survey

In the study area, it was found that no trees for juice extraction are under the ownership of venturers. For assessing the economic well-being of any society, housing pattern is one of the most noteworthy indicators. The study shows that venturers carrying on large scale molasses preparation are having *Kacha* & tinned shed house. All venturers under our study are not having electricity facilities for lighting except two. One cultivator with sizable income are having LPG as fuel for cooking and others use wood and coal or cow dung as fuel for

cooking. Some respondents stated that they mainly used LPG cylinder as fuel and some use wood as coal fuel. Religion plays a very important role in the social and cultural environment of people in a given area. In the study, *Hindus (major community in India)* act as the absolute majority of the molasses venturers in the study area. Molasses venturers are underprivileged in terms of health facilities of the locality and it was found that when health problem occurs, initially the molasses venturers takes the advice from village doctor and frequently takes medicine from Homeopathic Doctor of the area. The survey shows that almost all the molasses venturers are dependent on bank loan for molasses (*gur in Indian term*) preparation. One of the reasons behind taking bank loan is that they get a substantial portion of govt. subsidy while repaying loan. The result of the analysis shows the Socio-economic profile and profitability of selected molasses venturers at Shyampur area of Howrah district. The table 2 below shows the cost structure of five molasses venturers selected in our study in terms of different variable or operational cost and fixed cost.

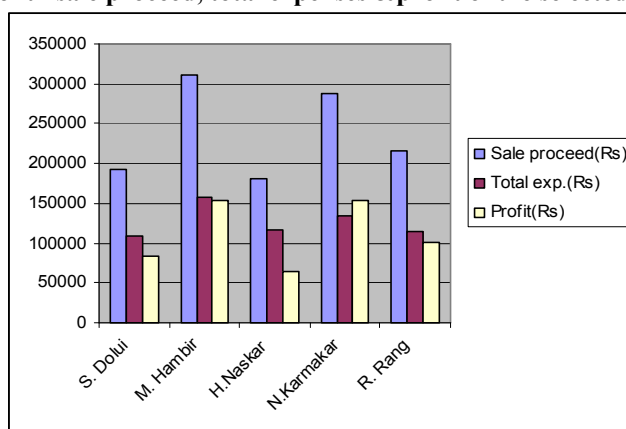
Table: 2: Detailed break up of different expenditure, sale proceed & earnings in date palm molasses venture (monthly accounts)

Particulars of expenses&income,profit	Swapan Dolui	Manik Hambir	Harekrishna Naskar	Nimai Karmakar	Ranjan Rang
Labour(Rs)	18,000	30,000	20,000	30,000	22,000
Clay Pot(Rs)	2,500	5,000	3,000	3,700	2,800
Fuel i.e wood, dry leaves(Rs)	20,000	35,000	25,000	32,000	26,000
Sauce pan(Mud built) (Rs)	600	1,000	800	1,100	800
Rent of trees(Rs)	12,500	20,000	10,000	18,000	14,000
Rent of Land where venture takes place(Rs)	1,500	2,500	1,500	1,800	2,400
Conveyance(Rs)	3,000	4,500	4,000	4,200	5,300
Livelihood exp(during business period)(Rs)	38,000	46,000	40,000	36,000	32,000
Misc. expenses(Rs).	12,000	13,500	12,000	7,000	9,500
Total exp.(Rs)	1,08,100	1,57,500	1,16,300	1,33,800	1,14,800
Qty. of production(k.g)	80 k.g per day*30 days=2400k.g	130 k.g per day*30 days=3900k.g	75 k.g per day*30 days=2,250 k.g	120 k.g per day*30 days=3600 k.g	90 k.g per day*30 days=2,700 k.g
Rate(Rs)	80 per k.g	80 per k.g	80 per k.g	80 per k.g	80 per k.g
Sale proceed(Rs)	1,92,000	3,12,000	1,80,000	2,88,000	2,16,000
Profit(Rs)	83,900	1,54,500	63,700	1,54,200	1,01,200
Gross profit ratio=Profit/sale*100	43.7%	49.52%	35.39%	53.54%	46.85%

Source:-Data collection field survey

The cost structure shows that the selected molasses entrepreneurs incurred expenditure from preparation of date palm trees for juice extraction to final marketing of molasses to market. The result shows that the cost patterns are more or less same but quantum of expenses depends upon scale of operation of venture. It has also found that all molasses entrepreneurs employed hired labour for different process of molasses manufacturing. The survey shows that the cultivators have to incur huge cost in fuel as well as hire charges of date palm trees.

Fig:2: Per month sale proceed, total expenses & profit of the selected entrepreneurs

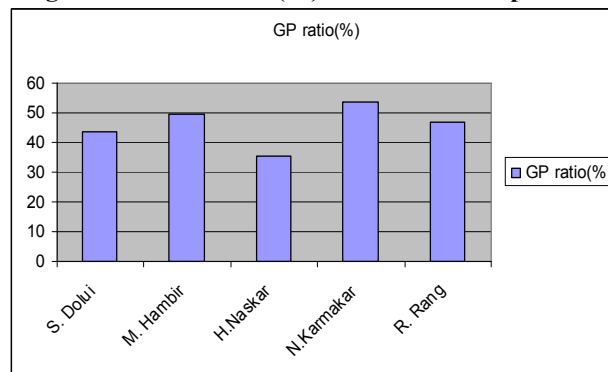


Source:-Data collection field survey

The profit figure of each molasses entrepreneur shows the sizeable amount of profit earned through marketing of date palm molasses (*Gur*). It can be enhanced if the molasses entrepreneurs can do it at large scale applying more scientific technique. According to the survey result, it was found after following monthly trend of

accounts that return on investment (earning) go after a definite trends. Higher income group venturers having more ingestible funds have definitely higher production, consequently higher profitability.

Fig. 3: Return on sale (%) of selected entrepreneurs



Source:-Data collection field survey

4. Conclusion:

From the study, it has been found that all the entrepreneurs have earned sufficient amount of profit from this traditional knowledge based industry. The study reveals that the different types of cost include recurring cost like pot cost, labour cost etc. One fact is very prominent from the study that most of them involved in this seasonal venture are traditional and hereditarily involved in this profession. They have enough expertise to manufacturing operation of molasses due to hereditary nature of the occupation. But the only problem is that the venture is seasonal by nature and it depends upon the durability of winter. Longer the winter persists; longer will be their business time span. Another disadvantage is that being seasonal in nature, the entrepreneurs have to engage in other profession due to short durability of this venture. Moreover, cost of fuel for boiling *juice* makes *gur* production uneconomical.

For enhancing efficiency and reducing risk to artisans in climbing trees, methods like aerial rope ways and bamboo ways have to be introduced in the field. As suggestive measure, it can be inferred that the artisans should be brought under the insurance coverage from protecting them from losses arising out of natural calamities and should be given amenities on training program, input availabilities, credit facilities and amenities for education so that they can be well responsive of their problems.

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