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Study of machal spices industry in Manipur

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ABSTRACT

Spices form the backbone of numerous recipes in all cultures, not only for their flavor and seasoning of foods but also for their numerous medicinal values. The North East region of India is called as a hub of major spices like large cardamom, ginger, turmeric, black pepper, chilli, bay leaf etc. In Manipur, area under spices cultivation is around 10,610 ha with a production of approximately 23,990 MT and chilli is the major spices grown in the region followed by ginger and turmeric (National Horticulture Board, 2018). There are few spices processing industries in Manipur and among the spices processing industries of the state, Kangleipak Spices Industry also known by the brand name Machal Spices Industry is the first company in Manipur to produce the processed traditional spices. Therefore, a case study was conducted on Machal Spices Industry located at Thangmeiband Sinam Leikai, Imphal- West, Manipur with the following objectives *viz.*, (1) To study the value addition of spices by Machal Spices Industry and (2) To identify the challenges faced by Machal Spices Industry in marketing of their products.

The study revealed the various processing steps and value addition of spices by the company in various products. The processing involves cleaning and filtering, washing, drying, grinding and packaging. The company is manufacturing a wide range of spices such as Machalapouba, Shaamachal, chilli powder, chilli flakes, besan, coriander powder, zeera powder etcA. The average production was approximately 6,100 kg per month and the cost of processing was approximately ₹68,500 per month, with an approximate average gross return of ₹1,313,400 per month and also the company was receiving gainful profits with an annual Gross return of approximately ₹1.6 Crore.

1. Introduction

India is known as “The Land of Spices” as no other country in the world produces as many varieties of spices as India. The aroma, taste, quality, texture and medicinal value make Indian spices amongst the most popular spices in the world. India has since years been known for its quality spices that it produces and exports to whole world. Presently, India is the largest producer as well as exporter of spices in the world. Most of the spices produced are from small land plots owned by farmers. The total area under spices was 4.08 million hectares with a production of 8.59 million metric tonnes (NHB, 2018).

Major spices exported by India are cardamom, pepper, chilli, coriander, cumin, ginger, turmeric, celery, fenugreek, fennel, dill seed, nutmeg, clove, tamarind, and garlic. Indian cuisine is popular for its rich taste and it derives from numerous spices (Bhatt and Valasan, 2016). At present India is exporting 13% of total seed spice production that can be increased through articulation and implementation of export promotion policies and by using clean and safe production technologies (Meena *et al.*, 2019).

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North Eastern scenario of spices

North Eastern region of India is known for its rich flora on account of its varied topography, climate and altitudes and also has great potential for the development of horticulture crops like spices. A huge quantity of good quality spices is produced in this region, but most of the growers sell their produce at throw away prices in the local market during peak season. Ginger is the main cash crop amongst the spices that supports the livelihood and increases the economic level of many ginger growers of North Eastern region. The other spices grown in this region are cardamom, chilli, coriander, turmeric, black pepper, etc.

In terms of area and production, Assam was the top producer of spices among the North Eastern states having an area of 103,240 ha with the production of 312,610 MT. In Manipur, area under spice cultivation was around 10,610 ha with a production of approximately 23,990 MT. The common spices grown in Manipur are chilli, garlic, ginger and turmeric. Chilli is the major spices grown in the region followed by ginger and turmeric. Out of the total species recorded, 13 species are cultivated while 8 species were directly collected from wild habitats only, and remaining 17 species are either cultivated or collected from natural habitats.

There are few spices processing industries in Manipur such as Royal Kanglei Spice industry, MalemEma, Marumarang, Kangleipak Spices Industry etc. And among these spices processing industries of the state, Kangleipak Spices Industry also known by the brand name Machal Spices Industry was the eminent and popular brand which was highly preferred by the people residing in the region. Keeping in view the above, Machal Spices Industry is taken up as a case study with the following objectives:

- To study the value addition of spices by Machal Spices Industry.
- To identify the challenges faced by Machal Spices Industry in marketing of their products.

2. Methodology

Study area and data collection

The study was conducted on Machal Spices Industry located at Thangmeiband Sinam Leikai, Imphal- West, Manipur. The present study uses both primary and secondary data collected as per the requirement of the objectives. The primary data were collected through personal interview with the workers and focus group discussion with the management teams, including the Account Manager, Human Resource Manager, Technical staffs along with few workers of the company. Secondary data were collected from the journals, articles, review of literature, records of the company and web sources.

About the company

M/S Kangleipak Spices Industry or “Machal Spices Industry” is located at Thangmeiband Sinam Leikai, Imphal-West, Manipur -795004. The company was established in 1999. Company has got the Certificate of Registration of Trademark, section 23 (2), Rule 56(1) of the Trade Marks Act, 1999 and also the company is ISO 9001: 2015 certified. Since 1999, Machal Spices Industry has been producing authentic spices and mixes which cater to rich cuisine of the North-East.

The company is under the control of a sole proprietor, Thangjam Rakesh Singh. Takhellambam Ranjan is the Manager of the company, Patee Luwang manages the Accounts, Thangjam Bikram is the H.R Manager, and Moirangthem Satish is the Office Assistant.

Some of the products of the company are turmeric powder, ginger powder, zeera whole and powder, besan, chilli flakes and powder, ginger-garlic paste, black pepper, baking soda, cardamom, etc. A traditional spice “Apouba Machal” was introduced in 2004 and in 2007, “Shaa Machal Apouba” a non-vegetarian traditional spice was introduced. In 2008 and 2009, packaging and pulverizer machines were installed.

Table 1: Area and production of spices of North Eastern region (2018 - 19)

Sl.No.	States	Area ('000 ha)	Production('000 MT)
1	Arunachal Pradesh	11.64	71.29
2	Assam	103.24	312.61
3	Manipur	9.95	23.99
4	Meghalaya	18.18	91.70
5	Mizoram	27.66	100.93
6	Nagaland	10.61	67.26
7	Sikkim	32.54	69.05
8	Tripura	6.15	30.22

Source: National Horticulture Board, 2018.

There are three units of the company viz., Filtering or cleaning unit, Grinding unit and Packaging unit. In the filtering unit, all the workers are female and in grinding unit, all the workers are male. And in packaging unit there are 7 male and 8 female workers. In these three units, a total of 41 workers are employed. There are 7 machine and technical supervisors in the industry, out of which 5 are male and the remaining 2 are female employees. So, in total there are 52 employees in the industry at the time of data collection. Of the total 52 employees, there are 27 male employees and 25 female employees.

3. Results

Value addition of spices by Machal Spices Industry

The term value addition refers to a process in which for the same volume of a primary product, a high price is realized by means of processing, packaging, upgrading the quality or other such methods.

The value addition of spices in Machal Spices Industries involved the following steps:

I. Procurement of raw materials

Raw materials of the company are procured from hilly areas of Manipur like, Ukhrul, Senapati, Tamenglong districts etc. Most of the raw materials are indigenous and locally available. Raw materials used by the company are Ginger, Turmeric, Cinnamon, Black pepper, Coriander seed, Ajwain, Chilli, Sodium bicarbonate, Cloves, Cardamom, Galangal (*Pulleimanbi*), Dried peas, Papeda (Citrus), Cumin etc. But, due to scarcity or less production of some spices in the state, Machal Spices Industry also collects or buy raw materials such as coriander seeds, dried peas, dried chillies, cloves, cardamom from other neighbouring states.

II. Processing of spices in Machal Spices Industry

The steps of processing in the industry are as follows:

Cleaning and filtering: All the female workers engaged in this unit perform the activity on daily basis. The materials cleaned for several times by the female employees in order to remove the unwanted materials such as stone pellets, sticks etc. before it is further carried for washing activity.

Washing: After cleaning the raw material, they are washed in water; all that is needed is two or three 15 litre buckets. Raw materials like ginger, turmeric required to wash thoroughly to remove the dirt present in it. Whereas, other raw materials like coriander seeds, ajwain, cumin, cardamom, cinnamon, dried peas etc. takes lesser time while washing as compared to fresh raw materials.

Drying: The next step is drying, which can be done either by sun drying or machine drying.

Sun Drying: There is no fixed interval for drying the raw materials. It may take around 2 to 3 days to dry the raw materials. The thoroughly washed raw materials are spread over mats under the sun until it gets dry for carrying out the grinding process.

Machine Drying: The washed materials are also kept in machine drying as per the climatic conditions and the material type for around 2 hours at 100°C. The drying machine used by the company is of 8,000 Watt. It can easily dry up to 10 kg of raw materials in 2 hours.

Grinding: The Company has 4 grinding machines supporting for large scale production. The grinding machines were of 2,250 Watt and can grind up to 25 kg/ hour.

Packaging: The last step is to package the final products. There are total of 2 packaging machines in the industry of 1,500 Watt each. The machines can pack around 12,000 packaged products every day. Packaging is done for different products separately in 2 packaging machines.

IV. Marketing of the finished Products

The finished products, packed in 5 gm, 10 gm, 13gm, 100 gm, 125gm, 250gm, 500 gm or 1kg packets are then packed in boxes of 22 packets (small box) or 48 packet boxes (big box). These products are collected by the independent hawkers during evening hour so that the products can be easily distributed to retailer shops or to the market place the next morning. Apart from the independent hawkers, the company has an agency known as the Kangleicha Marketing Unit (KMU) that collects the finished products from the company itself and later distributed to the sub- agencies at different districts of the state such as Senapati districts, Ukhrul, Churachandpur, etc. to be distributed in their market. The company also market the products outside Manipur, mainly to Guwahati, Kolkata, Delhi and Bangalore.

Table 3 showed that the total processing cost was ₹,68,500 per month. Here, the labour cost was the highest cost incurred (81.41 %), followed by electricity cost (8.14%), packaging material (5.69%), miscellaneous cost (2.71%) and least is water (2.03%).

Average gross return was ₹13,13,400; total processing cost ₹,68,500; cost of raw material was ₹6,00,000 per month

Gross return per month from the products

Table 2: Gross return per month

Products	Average production (kg)	Rate (₹/Unit)	Return (₹)
Machalapouba	330.0	3/10 gm	99,000
Machal powder	330.0	3/10 gm	99,000
Besan	3300.0	8/100 gm	2,64,000
Cinnamon	42.9	3/13 gm	9,900
Chilli powder	330.0	3/10 gm	99,000
Chilli flakes	330.0	3/10 gm	99,000
Coriander powder	264.0	25/100 gm	66,000
Ginger- Garlic paste	132.0	20/100 gm	26,400
Zeera powder	132.0	3/10 gm	39,600
Zeera whole	132.0	3/10 gm	39,600
Shira- khongchilli	330.0	130/125 gm	3,43,200
Baking soda	165.0	3/25 gm	19,800
Turmeric powder	148.5	3/15 gm	29,700
Ginger powder	132.0	60/100 gm	79,200
Total	6098.4		13,13,400

Table 2 showed the Return from the sale of average products was estimated to be ₹13,13,400 per month.

Table 3: Processing cost per month

Particulars	Amount (₹)	% to total cost
Electricity charge	30,000	8.14
Water	7,500	2.03
Packaging material	21,000	5.69
Labour cost	3,00,000	81.41
Miscellaneous (transportation, stationery etc.)	10,000	2.71
Total Cost	3,68,500	100

that gives a total cost of ₹9,68,500 and net return of ₹44,900 per month (Table 2). The Benefit Cost Ratio of the company was found to be 1.36 which means that the company was having a gainful profit from the sale of processed spices. The company was having an annual profit of approximately (₹44,900 x 12 =) ₹4,13,800.

All the products undergo through the same processing or value addition process. The only significant difference was on the cost of raw materials. So, the value addition of only one important product is shown as follows

$$\begin{aligned} \text{Thus, the Net return/kg} &= \text{Selling price} - \text{Total Cost} \\ &= ₹300 - 218.17 \\ &= ₹81.83 \end{aligned}$$

Table 5 showed that value addition of machal powder per kg, was ₹81.83. The cost of raw material contributed the highest percentage to the total cost, followed by labour cost (including the salaries of administrative staffs). The sale price of the machal powder was ₹300 per kg. Hence the net return was calculated to be ₹81.83.

Challenges faced by Machal Spices Industry

As per the information gathered from the company, they are not facing much problems in marketing of their produce. But, they do face some challenges such as brand imitation, competition, transportation and road condition and shortages of electricity to some extent, where major challenges faced by the company is the brand imitation.

Brand imitation: There are few products (eg. Machan, Leichal etc.) which is quite similar with the brand name Machal and this misleads, misguides the original Kangleipak spices and these products sometimes made confusion to the customer to buy.

Competition: Company was facing severe competition with other spices producing industries and national companies like the MDH, Everest, Victory, Sunrise, Bharat etc. that supply various spices across the country. It was a tough task to enter and dominate the local markets.

Table 4: Return from the sale of processed spices

Sl. No.	Particulars	Amount (₹ month)
1	Gross return	13,13,400
2	Total processing cost	3,68,500
3	Cost of raw materials	6,00,000
4	Total Cost (2+3)	9,68,500
5	Net Return (1- 4)	3,44,900
6	B: C ratio (1/4)	1.36

Table 5: Value addition of Machal powder/ kg

Sl.No.	Particulars	Amount (₹)	% to Total Cost
1	Cost of raw material	158.00	72.42
2	Labour (salary of the employees included)	49.00	22.45
3	Packaging material	3.44	1.57
4	Electricity	4.90	2.45
5	Water	1.23	0.56
6	Miscellaneous (transportation, stationery etc.)	1.60	0.73
7	Total Cost (1+2+3+4+5+6)	218.17	100.00
8	Value Added (7-1)	60.17	-

Transportation and road condition: Due to poor road condition, especially in rural areas the transport charges are very high, which leads to higher prices of the products. This inadequate road and transport facility causes glut in the producing area and scarcity in consuming centers at times affecting both the producer and consumers due to irregular supply of the product.

Electricity shortages: Due to this shortage of electricity, the company sometimes faced certain problems in the processing of spices as they operate the processing activities through machines. This power interruption reduces the company's production which makes a gap fluctuating the demand-supply graph of the products to some extent.

8. Conclusions

- Youths and women were given employment to some extent.
- The company tries to empowered women by providing employment.
- The company add value to the different raw material available in the state.
- The Company tries to utilize the indigenous resources available and producing local products with best quality.
- The company is earning a gainful profit.
- The company is trying to expand its marketing chain through the production of more products.
- They have started to engage agencies in different

districts and in other states so as to popularize the products of processed spices of this company

- The company have also delivered their products to outside states like Guwahati, Nagaland, Bangalore, Delhi, Kolkata etc. apart from the state itself.

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