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# Empowerment of rural women through value addition of eatable natural products

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**Abstract**

**The present study was conducted in Palampur town of District Kangra Himachal Pradesh where a small scale agro processing unit was established during January 1996 and registered on November 11, 2000 in the name of "Samridhi Mahila Co-operative Society" mainly to examine its current status and marketing system being followed for the agri-processed produce. The results of the study revealed that there exist 28 groups with 308 women members. The annual income of the member got increased to Rs 1812 in 2007-08 from a very meagre share of Rs 391 in 1995-96. Thural & Baijnath centres contributed maximum in the pickle production whereas in case of chutneys and candies, Ropri contributed maximum. SMCS → Distributor/ Wholesaler → Retailer → Consumer and SMCS → HPMC → Consumer were identified as main marketing channels through which 70% of produce was marketed. The gross margin was maximum in case of candies (Rs 126.93). The study also found that SMCS has improved socio-economic status, confidence and capacity building among the rural women.**

**Key words:** Empowerment, rural women, value addition, natural products.

## Introduction

Agro based industry refers to subset of manufacturing that processes raw materials obtained from agriculture. For a typical economy, some part of agricultural production does not directly go to final consumption. Before reaching to final consumption basket, it has to pass through value adding process, the form and content of which understandably varies from commodity to commodity. The value adding process ranges from simple preservation to production of low volume high value products. Agro industry depends partially, and directly, on agriculture and partially on agro based industries (Chadha and Sahu, 2003). Teeming population continues to give a boost to the demand for processed agricultural products. The increase in income, changing lifestyle and urbanisation has picked up the demand for high quality processed and packaged products (Asokan and Singh, 2003). The process of value adding to agricultural production generate jobs away from farms and processing unit in sectors like transportation, distribution, retailing etc. and income for farm families, besides making agriculture a more effective contributor to industrial growth. The agro industry also provides the crucial farm industry linkages which help to accelerate agricultural development by creating backward (Supply of credit, inputs and other production enhancement services) and forward (Processing and marketing) linkages. The agro processing industry in India accounts for 19% of total industrial output and provides employment to the extent of 19% of total industrial workers and accounts for 18% of Gross National Product (GNP) (Sekhon *et al.*, 2003).

India is the second largest producer of fruits and vegetables in the world but only 1.5% of fruits and 0.5% of vegetables are processed as against 70% in Brazil. India loses over 30% of its produce of fruits and vegetables annually that can be averted by creating proper processing infrastructure (Sharma *et al*, 2003). But the success of agro processing industries has been hindered by a variety of problems relating to operational efficiency, cost effectiveness and infrastructure, especially in backward and hilly areas (Jairath, 1996 and Sharma, 1996). So the small scale agro processing industries are of great significance for industrially backward hilly states like Himachal Pradesh which has earned the status of "fruit bowl of India" and captured a reasonable market share in the Northern India through off – season vegetables. However, the scope of establishing big industries in the state is quite limited. Keeping all this in view, the present study pertained to Palampur town of District

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Kangra Himachal Pradesh where a small scale agro processing unit was established during January 1996 and registered on November 11, 2000 in the name of "**Samridhi Mahila Co-operative Society**" mainly to examine its current status and marketing system being followed for the agri-processed produce. This processing unit is known to be one of the best examples of women Self-Help Group (SHG) having rural background and striving hard to build and strengthen their capacities.

## Materials and Methods

Both primary and secondary data were collected from the head office and mini processing unit of Samridhi Mahila Cooperative Society (SMCS) and its various Women Processing Groups (WPGs) located in different regions of Kangra, Chamba and Una districts. The data were tabulated and the averages and percentages were computed to examine the value addition and price spread in the products marketed by this small scale agro processing unit.

## Results and Discussion

### *Establishment of SMCS*

The establishment of SMCS in resource poor ***Changer*** (dry) areas of Kangra and Chamba districts in Himachal Pradesh was an initiation of foreign aided Indo-German Changer Eco-Development Project (IGCEDP), launched in 1995 initially for a period of ten years, to utilize the fruits from forest and common lands for value addition by processing. The Shivalik region of Himachal Pradesh is rich in fruit trees like amla, mango, citrus, bamboo, *dhiyoun* etc in forest and common lands in *Changer* region. Before the establishment of this unit, the people used limited quantities of these fruits for home consumption and rest of the fruits were wasted. But now these natural products have been used for creating additional employment and income generation by the rural women emanating from economically poor households.

Table 1 gives detail of such groups with their number of 28 with 308 women members from different agro ecological areas and with varying economic status. The Dhati group had maximum (100) members followed by Ropri (65) group. Collection of fresh fruits, chopping, primary processing, assembling, were the main processing functions being undertaken by WPGs whereas buying and selling of raw material, collection of primary products, processing, testing and quality control, packing and marketing are the main functions of SMCS.

**Table 1. Women processing groups (WPGs) of SMCS – 2008**

| Group* (Name) | District | WPGs (No.) | Members | Distance from main processing unit (Km) |
|---|---|---|---|---|
| Dhati | Kangra | 9 | 100 | 20 |
| Ropri | Kangra | 5 | 65 | 35 |
| Thural | Kangra | 3 | 37 | 34 |
| Baijnath | Kangra | 2 | 20 | 15 |
| Bhatyat | Chamba | 3 | 36 | 84 |
| Others | - | 6 | 50 | - |
| SMCS | | 28 | 308 | |

* The nomenclature of active/ working women groups has been derived from the areas of location.

### *Physical and economic achievements of the unit*

It is evident from Table 2 that the membership in the SHGs has increased at the compound rate of 25.55%, whereas, the growth in quantity of processed produce was much higher (45.55%) than this. Regarding sale proceeds, the final processed produce recorded the highest growth of 52.44% p.a. Similarly, a significant increase was noticed in terms of the annual income of individual woman member of the society. The annual income of the member was increased to Rs 1812 in 2007-08 from a very meagre share of Rs 391 in 1995-96. Thus on the whole it can be said that the society progressed in terms of membership and economic basis.

### *Production of major processed products*

Table 3 shows the detail of production of major processed products by different centres. The table shows that Thural & Baijnath centres contributed maximum (44.06%) in the pickle production followed by Ropri (30 14%) centre. In case of chutneys and candies, Ropri contributed maximum (73.88% & 44.53%) followed by Dhati centre. In all 34,200 kg of major products were produced by SMCS during 2007-08. In these centres Thural & Baijnath and Ropri contributed a major proportion followed by Bhatiyat and Dhati. The contribution of other centres was lowest.

**Table 2. Trend in physical and economic achievements**

| Year | Members (No.) | Qty of processed produce (kg) | Sales value of produce (Rs) | Earnings Rs/annum | |
|---|---|---|---|---|---|
| | | | | Group | Member |
| 1995-96 | 16 | 357 | NA | 6,250 | 391 |
| 1996-97 | 70 | 425 | 17,200 | 4,250 | 61 |
| 1997-98 | 85 | 14605 | 1,22,459 | 42,166 | 496 |
| 1998-99 | 105 | 12886 | 5,23,477 | 2,20,070 | 2096 |
| 99-2000 | 151 | 18775 | 15,31,248 | 2,25,856 | 1496 |
| 2000-01 | 180 | 23873 | 17,26,671 | 4,16,156 | 2312 |
| 2001-02 | 184 | 19986 | 16,32,421 | 2,13,092 | 1158 |
| 2002-03 | 248 | 35973 | 22,46,724 | 4,08,864 | 1649 |
| 2003-04 | 248 | 40816 | 28,37,717 | 5,39,844 | 2177 |
| 2004-05 | 244 | 33149 | 24,15,112 | 3,27,964 | 1344 |
| 2005-06 | 244 | 22517 | 26,91,634 | 2,63,402 | 1080 |
| 2006-07 | 261 | 33149 | 29,65,260 | 3,01,129 | 1154 |
| 2007-08 | 308 | 46988 | 27,09,352 | 5,58,147 | 1812 |
| CGR* % p.a | 25.55 | 45.55 | 52.44 | 41.28 | 12.52 |

- CGR have been worked out by employing the formulation of $r = [(P_t/P_0)^{1/n} - 1]x100$

**Table 3. Centre-wise production of major processed products, 2007-08 (kg)**

| Product/variety | Centre | | | | | Total |
|---|---|---|---|---|---|---|
| | Dhati | Ropri | Thural & Baijnath | Bhatiyat | Other | |
| **Pickles** | | | | | | |
| Mango (*Mangifera indica*) | - | 5470 | - | 750 | - | 6220 |
| Amla (*Amblica officinalis*) | - | 1300 | - | - | - | 1300 |
| Dhiyun (*Artocarpus lakoocha*) | 297 | - | 80 | 1780 | - | 2157 |
| Garlic (*Allium sativum* L.) | 1537 | - | 1642 | - | - | 3179 |
| Chillies (*Capsicum annum* L.) | - | - | 2708 | - | - | 2708 |
| Colocasia (*Colocassia esculenta* L.) | - | - | 75 | - | 500 | 575 |
| Kerala (*Momordica charantia*) | - | - | 1035 | - | - | 1035 |
| Lemon (*Citrus limon*) | 984 | - | 1781 | 15 | - | 2780 |
| Galgal (*Citrus* sp.) | - | - | - | 1000 | - | 1000 |
| Datepalm (*Phoenix sylvestris*) | - | - | 339 | - | - | 339 |
| Bamboo (*Arundinaria* sp.) | - | 2110 | 35 | - | - | 2145 |
| Lungru (*Dryoptresis* sp.) | - | - | 754 | 740 | - | 1494 |
| Zimikand (*Amorphophallus companulatus* L.) | - | - | 1812 | - | - | 1812 |
| Mixed | - | - | 2722 | - | - | 2722 |
| Sub-total | 2818 | 8880 | 12983 | 4285 | 500 | 29466 |
| | (9.56) | (30.14) | (44.06) | (14.54) | (1.70) | (100) |
| **Chutneys** | | | | | | |
| Mango (*Mangifera indica*) | - | 990 | - | - | - | 990 |
| Amla (*Amblica officinalis*) | 350 | - | - | - | - | 350 |
| Sub-total | 350 | 990 | - | - | - | 1340 |
| | (26.12) | (73.88) | | | | (100) |
| **Candies** | | | | | | |
| Amla(*Amblica officinalis*) | 1426 | 1514 | - | 375 | - | 3315 |
| Galgal (*Citrus* sp.) | - | - | - | 85 | - | 85 |
| Sub-total | 1426 | 1514 | - | 460 | - | 3400 |
| | (41.94) | (44.53) | | (13.53) | | (100.00) |
| Grand Total | 4594 | 11384 | 12983 | 4745 | 500 | 34206 |
| | (13.43) | (33.28) | (37.96) | (13.87) | (1.46) | (100) |

Figures in parentheses are percentages of total

*Marketing channels and price- spread*

Prompt marketing of produce is the main aim of SMCS so that efficient use of available natural products can be made on a continuous basis. The SMCS disposed off its produce mainly through four channels (Table 4). Channel III & IV were the main channels through which about 70% of produce was marketed (Table 4). The direct sale to consumers was done by the members of SMCS themselves at different places in Himachal Pradesh i.e. Palampur, Mandi, Kangra, Bilaspur and Shimla or through their main processing centre. Women also used mobile vans as retail outlets in the premises of various governmental institutions. Sale through exhibition stalls in the fairs and festivals was also a common feature of marketing. The society was exploring prospects of marketing outside Himachal Pradesh with the help of NGOs (Non-Government Organizations) and HPMC (Himachal Pradesh Marketing and Processing Corporation) in places like Chandigarh, Pathankot, and Delhi etc.

**Table 4. Pattern of disposal of produce**

| Marketing Channels | Produce Marketed (%) |
|---|---|
| I) SMCS → Consumer | 20 |
| II) SMCS → Retailer → Consumer | 10 |
| III)SMCS → Distributor/ Wholesaler → Retailer → Consumer | 40 |
| IV) SMCS → HPMC → Consumer | 30 |

To study the price spread through the most important channel, that is, channel III, all the major processed products were clubbed into five categories i.e Group I (Products having MRP between Rs 90-100), Group II (Products having MRP between Rs 110-120), Group III (Products having MRP >Rs 120), Chutneys and Candies. The results are depicted in Table 5. It was found that the price spread was maximum in case of candies (Rs 126.93) and minimum in case of group I (Rs 51.30). The summary of costs, margins and price-spread has been presented in Table 6.

**Table 5. Price spread in marketing of natural produce processed products in Rs/kg**

| Particulars | Group I | Group II | Group III | Chutneys | Candies |
|---|---|---|---|---|---|
| Net price received by the processor/ society | 48.70 | 41.20 | 42.78 | 27.45 | 33.08 |
| Raw material & processing charges | 15.00 | 42.50 | 60.93 | 31.25 | 80.63 |
| Packing material (Polythene/ Plastic jars) | 4.13 | 4.13 | 4.13 | 4.13 | 4.13 |
| State tax/ production tax, advertisement etc. | 12.18 | 12.18 | 12.18 | 12.18 | 12.18 |
| Total | 31.30 | 58.80 | 77.23 | 47.55 | 96.93 |
| Purchase price of wholesaler | 80 | 100 | 120 | 75 | 130 |
| Wholesaler's costs | | | | | |
| (i) Freight & handling charges | 3.13 | 3.13 | 3.13 | 3.13 | 3.13 |
| (ii)Market fee and other commission | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 |
| Sub-total | 6.88 | 6.88 | 6.88 | 6.88 | 6.88 |
| Wholesaler's net margin | 5.13 | 7.13 | 5.13 | 8.13 | 8.13 |
| Retailer's purchase price | 92 | 114 | 132 | 90 | 145 |
| Retailer's costs | | | | | |
| (i) Carriage & handling charges, shop rent etc. | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| (ii) Loss due to leakage, spoilage etc. | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| Sub-total | 2.19 | 2.19 | 2.19 | 2.19 | 2.19 |
| Retailer's margin | 5.81 | 3.81 | 5.81 | 7.81 | 12.81 |
| Consumer's price | 100 | 120 | 140 | 100 | 160 |

***Status of women***

The environment friendly, cheap method of preparation, high quality, homely taste and low cost are the main features of the products of SMCS as per the views of consumers. The society has reputation not within the town but also in the entire state and outside as well. The society has also raised the socio-economic status of rural women in the society.

Table 7 shows the status of women before and after joining the SMCS. The table reveals that after joining the SMCS, the women have earned good status in the society. They have become self dependent both socially as well as financially. They utilized their spare time in preparation of

different products. In this way SMCS not only offered employment to rural women but also helped in raising their economic status in the society.

**Table 6. Costs, margins and price spread**

| Sr. No. | Particulars | Group I | Group II | Group III | Chutneys | Candies |
|---|---|---|---|---|---|---|
| 1 | Net price received by the processor/ society | 48.70 | 41.20 | 42.78 | 27.45 | 33.08 |
| 2 | Total marketing costs of processor & middlemen | 40.36 | 67.86 | 86.29 | 56.61 | 105.99 |
| 3 | Gross margins | 51.30 | 78.80 | 97.23 | 72.55 | 126.93 |
| 4 | Net marketing margins | 10.94 | 10.94 | 10.94 | 15.94 | 20.94 |
| 5 | Consumer's price | 100 | 120 | 140 | 100 | 160 |

**Table 7. Status of women before and after joining SMCS**

| Particulars | Before | After |
|---|---|---|
| 1) Social status | Housewife | Working women with good name in society |
| 2) Income | Nil | Above Rs 500/ month |
| 3) Dependence | On spouse | Self dependent |
| 4) Time utilization | Gossiping (Unproductive) | Preparation of different products (Productive activity) |
| 5) Social Taboos | Restricted mobility | No Restriction |

## Conclusion

The foregoing analysis reveals that SMCS has made tremendous progress over a short span of thirteen years under study. It has not only accommodated the additional rural woman members but also improved their socio-economic status, confidence and capacity building. The society has trained the women to handle all the activities very beginning from primary level collection of natural products to their transportation, processing, packing and finally distribution among the consumers. The processed products have gained popularity among the local and regional consumers through various marketing channels followed by the stake holders.

## References


Asokan SR and Gurdev Singh 2003. Role and constraints of contract farming in agro-processing industry. Indian J. Agric. Econ. **58** (3): 566-76.

Chadha GK and Sahu PP 2003. Small scale agro-industry in India: low productivity in its Achilles' heel. . Indian J. Agric. Econ. **58** (3): 518-43.

Jairath MS 1996. Agro-processing and infrastructural development in Hilly area: A case study of fruits and vegetable processing industry in Himachal Pradesh. Indian J. Agric. Marketing **10** (2): 28-47.

Sekhon MK, Rangi PS and Manjeet Kaur 2003. Rice processing industry in Punjab: Problems and their remedies. Indian J. Agric. Econ.**58** (3): 544-53.

Sharma KD 1996. Importance of co-operation in hill farming: A case study of Lahaul hops co-operative Society in HP. Indian J. Agric. Econ. **51** (4): 785-86.

Sharma KD, Pathania MS and Vashist GD 2003. Role of rural women in small scale agro-processing sector – An economic analysis of Samridhi Mahila Processing Co-operative Society. Indian J. Agric. Econ. **58** (3): 577-88.