

## **TOWARDS OPERATIONALISING SMALL FARMERS' AGRI-BUSINESS CONSORTIUM: A CASE OF DHARWAD DISTRICT IN KARNATAKA**

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Development of rural areas has been one of the abiding concerns of the successive Five Year Plans. It began with the community development programme in the early 1950s which helped to establish a net work of basic extension and development schemes in the villages. These programmes were being implemented during the first three Five Year Plans. Later on, the Small Farmers' Development Agency [SFDA] and Marginal Farmers and Agricultural Labourers Agency [MFAL] were set up during the Fourth Five Year Plan. SFDA and MFAL were supposed to promote rural industries and evolve adequate institutional, financial and administrative arrangements for implementing various programs and to promote the creation of common facilities for production, processing, storage and marketing of the products. However, programmes like the SFDA, MFAL, made very little contribution towards the upliftment of the small and marginal farmers and agricultural labourers. But the garb of IRDP could not go too far in alleviating the problems of the rural poor. Later on, in 1979 these were merged with the larger IRDP.

The findings about the impact of the IRDP on the living conditions of rural poor are conflicting. The purpose here is not to join the debate regarding the impact of IRDP. However, IRDP has given rise to a culture of subsidy and changed the perceptions of the rural poor about these programmes. Consequently, the poor do not have an active involvement in IRDP.

Over the years, labour force is growing both in absolute and in relative terms and employment opportunities in organised sector are not growing proportionately. In other words, the growth experienced over the past few years is without creating sufficient employment. There is

increasing pressure on land as the increasing population and labour force in rural areas do not find other avenues for gainful employment outside the agricultural sector. Hence, the new paradigm of development should be based on a 'jobs for all' strategy which is economically viable, socially equitable and environmentally friendly. This approach will lead to a 'job lead growth' where the rate of growth in employment will be higher than the rate of growth in GDP.

Now, with the introduction of structural changes through macro-economic policies and increased emphasis on export led growth, it is imperative to improve the viability and efficiency of all the sectors in the economy. So far as agriculture is concerned, the laws of inheritance have led to sub-division and fragmentation of land and rendered the scattered holdings uneconomical and unviable. Moreover, the number of small holdings is swelling year after year.

These farms which are endowed with poor resource base mostly grow subsistence crops and hence do not generate sufficient income from investment on such farms. Thus there is an urgent need to help small and marginal farmers to shift their production strategy from subsistence orientation to commercialisation and also reap the benefits of scale economies.

High priority has been accorded to programs designed to promote rural employment and diversification of agriculture and agro-based industries in the Eighth Five Year Plan.

In order to make small and marginal farmers economically viable and productive entities, Government of India has decided to organize Small Farmers' Agri-business Consortium [SFAC]. The initiative which could bring drastic changes in the rural scenario was announced by Dr. Manmohan Singh, Union Finance Minister, in his budget speech in February 1992. To quote him "special attention needs to be paid to supporting innovative ideas for generating income and employment in rural areas through support to various types of agri-business. As an experimental measure, Government proposes to set up a Small Farmers' Agri- business Consortium [SFAC] as an autonomous corporate entity

funded by the Reserve Bank of India, NABARD and IDBI. The Consortium will include representation from development boards dealing with agriculture and agro-industries, private sector companies, banks, scientific organizations".

It was decided that SFAC will be implemented on pilot basis in 12 districts drawn from twelve states. Accordingly, Dharwad district in Karnataka was selected for developing detailed action plans for implementation of SFAC program. This programme is expected to promote a new paradigm of agricultural development based on economic efficiency, social equity and environmental soundness and carry the benefits of modern agri-business to the resource poor small and marginal farmers in the district.

The idea of SFAC is based on the principle of participatory approach unlike the beneficiaries concept in IRDP and other programs. The participants i.e. producers and agricultural labourers will be actively involved in the formulation and execution of the project and a sense of belonging will be induced through SFAC program. Under SFAC framework, the establishment of producers' organisations is envisaged. These producers' organisations will integrate production, processing and marketing functions and form close linkages among primary producers, private as well as public sector industry. Thus, it will help in the value addition of agricultural produce and create employment in rural areas.

The approach adopted in SFAC project is different from other government sponsored projects. The farm families and landless labourers involved in this program are treated as "participants and producers and not beneficiaries". The role of Government in SFAC is visualized mainly in the development of the necessary techno-infrastructure in rural areas, devising input and output pricing policies and arrangements of credit facilities and other services through the consortium.

The mind set of all the participants in project formulation and implementation should be free from the patronage approach, but should relate to the promotion of new social contracts and new skills and to adding economic value to the time spent in work by rural men and

women. The approach should be market driven and should be based on a very careful assessment of marketing opportunities both within the country and abroad.

Finally, majority of the farmers belong to small and marginal category and hence, it becomes more and more important to pay attention to all links of production, processing and marketing chain through appropriate farmers organization. This calls for a dedicated professional leadership who could develop the institutional and infrastructural base to ensure that benefits accrue to the participating farmers/producers.

### **Objectives**

The foregoing discussion outlined the approach to SFAC project. However, the following objectives served as the guidelines in the formulation of SFAC project for Dharwad district.

1. To identify appropriate projects within the existing resource base and development of these resources within the framework of agri-business consortium.
2. To formulate appropriate projects which are commercially and economically viable and technically feasible.
3. To suggest an organizational structure at village and district level to facilitate smooth implementation of the project within the doctrine/framework of SFAC.

Thus the study basically involved the identification of potentialities and building up mechanisms for the benefit of farm families in general and small and marginal farms in particular.

### **Methodology**

Before identifying the projects for SFAC, a steering committee meeting was held at Bangalore. The committee members included representatives from different government departments, NABARD,

Agricultural University, CFTRI, MSSRF, and local NGOs. The committee discussed about the potential projects that can be taken up under SFAC umbrella. There was a long list of projects suggested by the members. However, after considerable discussions and debate on several projects proposed by various agencies and resource persons, the project team decided to concentrate and formulate initially one project for chilly processing, one for cotton ginning and pressing and another one for cotton particle board manufacturing to be included in this report because of the predominance of the area in the production of these two crops in Dharwad district. The decision to select these three projects was also guided by the findings of a sample survey among farmers in the district.

### **Study Area**

As stated earlier Dharwad district was selected for formulation of action plan for implementation of SFAC project. Dharwad district was earlier under the administration of Bombay presidency and later on merged with Karnataka state during reorganisation of states in the year 1956. Dharwad is the third largest district in the state with an area of 13,588 sq.km. Dharwad district is surrounded by Belgaum and Bijapur district in the north, Raichur and Bellary in the east, Shimoga and Chitradurga in the South and North Kanara on the West. The district has an average rainfall of 712 mm varying from 489 mm in Mudargi in the East to over 900 mm in the western region. The major portion of the district has black soils covering about 70 per cent of the geographical area in the district. The other important soils found in the district are brown and red soils. The net area sown is 11 lakh hectares and accounts for 80 per cent of the total geographical area of the district. The net area irrigated from all sources accounts for 13 per cent of the net sown area. Canals are the major source of irrigation and cover about 39 per cent of the irrigated area.

According to 1990-91 agricultural census, there are 3.92 lakh agricultural holdings in the district with an average size of 2.9 hectares per holding (dominated by dry land). Small and marginal farms constituted roughly one half of the total holdings and sharing less than one fifth of the total area in the district.

The agricultural sector plays a dominant role in the economic development of Dharwad district. About 40 per cent of the district income is generated by agricultural sector and approximately two thirds of the population depends on agriculture for their livelihood. The cropping pattern is dominated by sorghum, cotton, groundnut and pulses.

Dharwad district has more than one lakh hectares of area under plantation and horticultural crops. Chillies is an important crop among the spices and Dharwad is the largest chilli growing district in the state.

The infrastructural facilities like transport, communication, education, health, water and power supply, irrigation and marketing determines the development of the region. Dharwad district has good network of roads with an average road length of 0.68 km per sq. km. of the geographical area. There are 52 regulated markets comprising of 15 main markets and 37 sub markets with a turnover of Rs. 356 crores. There are 201 commercial bank branches, 122 branches of Regional Rural Banks and 121 branches of cooperative banks.

Dharwad district has abundant scope for the establishment of small and medium scale industries based on the raw material supply from agriculture, forestry and animal husbandry. There are more than 10,000 units of small scale industries providing employment to more than one lakh people. Cotton based (textile) industries dominate the industrial sector in Dharwad district.

### **Field View**

The study team undertook extensive field visits and held discussions with the government officials, experts from the Agricultural University, Dharwad as well as with some of the local NGOs. In order to get first hand information about the capabilities, expectations and perceptions about Agri-business as well as attitude towards group cooperation, we interviewed about 250 small and marginal farmers spread over 320 villages in Dharwad district.

The data were collected on land holdings, irrigational facilities, cropping pattern, cultural practices, input use and output levels of important crops. We also attempted to elicit information about their perceptions about problems on various aspects like processing of farm produce, marketing facilities and credit availability.

It is generally said that small farms are subsistence oriented and grow foodgrains on sizeable area to safeguard their food requirements. However, the team observed that in Dharwad district the small and marginal farmers are very responsive to market signals and if opportunity is given they can do much better than what is expected of them. During the field visits, it was found that there were more than 15 national as well as multi-national seed companies operating in Rannebennur taluk. Small and marginal farmers of this taluk take up seed production activity for cereals as well as vegetable crops and earn handsome profits. This reflects the entrepreneurial abilities of small and marginal producers of the district.

### **The Projects**

As stated earlier the project team has suggested three projects for implementation under SFAC in Dharwad district. The importance of each of the project, economic feasibility and employment potential are given below.

### **Manufacturing of Particle Boards from Agro-waste**

#### **Background**

Proper utilisation of natural resources has been the need of the day. Extracting useful products from waste has been receiving attention of the scientists as well as industrialists. In our country millions of tonnes of agricultural crop by products are wasted every year. Due to lack of knowledge/technology, the same is not being fully used for productive purposes. Apart from this, it is used for feeding animals and as fuel and major portion of it is burnt into ashes. Among such items cotton stalks are worth mentioning.

## **Technology**

It has been found that the cotton stalk can be fully exploited to manufacture particle boards as a substitute for panel boards (press wood) which is manufactured out of costly wood by destroying the forest. Cotton stalks in Dharwad district are partly used as fuel and partly burnt without being put to any use. Since technology is available to put cotton stalks to productive use i.e., in the manufacture of particle boards, a project on manufacturing of particle boards under SFAC in Dharwad district has been suggested.

## **Benefits**

The setting up of such units will help cotton growers to augment their income through sale of cotton stalk which otherwise is burnt. The production of particle boards from cotton stalks at lower costs will save our valuable forest wealth from destruction. Moreover, it will create direct and indirect employment opportunities in rural areas.

## **Raw material**

Cotton is grown extensively both under irrigated and rainfed conditions in Dharwad district and covers around 2 lakh hectares of area. The average yield of cotton stalk (dried) will be around 4 mt per hectare (with the assumption of each cotton stalk weighing about 0.3 to 0.4 kg). Of this about 60 per cent is used for household purposes i.e. 2.4 Mt and 1.6 of cotton stalk (per hectare) is burnt to ashes. This valuable cotton stalk can be used as raw material in the preparation of particle boards. The unit suggested requires 15,000 MT of cotton stalk at 100 per cent capacity. Hence, cotton grown on 7000 to 9000 hectares will be more than enough to meet the requirements of cotton stalks. Another raw material used in the manufacture of particle boards is resin, which is a petro product and is easily available at Bombay and other industrial centres.

## Project costs

The total cost of the project including land, buildings and machinery will be Rs. 294 lakhs. The unit is assumed to work for 300 days in 3 shifts per day. The cost of cotton stalk is taken as Rs.200/- per MT, whereas the sales revenue per particle board is assumed to be Rs. 9 per sq.ft. The unit will earn profit of Rs.10.12 lakh in second year and it will increase steadily to Rs. 86.12 lakh during the seventh year of the operation. The profitability statement is provided in Table 1.

**Table 1 : Profitability statement**  
(3 shifts) (operation Years) (300 Days)

Particulars	1	2	3	4	5	6	7
1. Installed Capacity (MI)	6000	6000	6000	6000	6000	6000	6000
2. Capacity Utilisation	70%	72%	80%	80%	90%	90%	90%
3. Production (MI)	4200	4200	4800	4800	5400	5400	5400
A SALES	378.00	378.00	432.00	432.00	432.00	486.00	486.00
Less: Excise duty	37.80	37.80	43.20	43.20	48.20	48.60	48.60
10% advalorum	340.20	340.20	3.88.80	388.80	437.40	437.40	437.40
B. COST OF PRODUCTION							
a) Raw material:							
Cotton stack	21.00	21.00	24.00	24.00	27.00	27.00	27.00
Resin	105.00	105.00	120.00	120.00	135.00	135.00	135.00
	126.00	126.00	144.00	144.00	162.00	162.00	162.00
b) Power	17.78	17.78	20.32	20.32	22.86	22.86	22.86
c) Labour	15.00	15.00	16.50	16.50	18.15	18.15	19.96
d) Production	22.50	22.50	22.50	22.50	22.50	22.50	22.50
e) Cost of steam	14.70	14.70	16.50	16.50	18.15	18.15	19.96
f) Admn. Expenses	7.50	7.50	7.75	7.75	8.00	8.00	8.25
g) Selling and Dis. Exp	33.80	38.80	37.18	37.18	40.89	40.89	40.89
<b>TOTAL (B)</b>	<b>237.28</b>	<b>237.28</b>	<b>265.05</b>	<b>265.05</b>	<b>293.30</b>	<b>293.30</b>	<b>295.36</b>
C GROSS PROFIT (A-B)	102.92	102.92	123.75	123.75	144.10	144.10	142.04
D INTEREST							
Term Loan	37.0	36.00	31.75	26.49	20.25	13.10	5.50
Working Capital loan	7.20	7.20	7.20	7.20	7.20	7.20	7.20
E PROFIT BEFORE DEPRECIATION (C-D)	58.72	59.72	84.80	90.06	116.65	123.80	129.34
F DEPRECIATION	61.62	46.84	35.70	27.27	20.91	16.09	12.45
G PROFIT BEFORE (E-F)	-2.90	12.88	49.10	62.79	95.74	107.71	116.89
H NET PROFIT (G-H)	-2.90	12.88	49.10	62.79	95.74	107.71	116.89

The breakeven analysis shows that the unit would break even at 58 per cent of the capacity utilisation when it produces 3 x 90 MT of particle boards or the total turn over is about Rs.283 lakhs. The benefit cost ratio works out to 1.16, whereas internal rate of return for investment is more than 50 per cent. Thus based on the financial indicators profitability, break even analysis etc. it is found that the project is financially viable.

### **Anticipated benefits**

Since the project utilises the agro-waste (cotton stalk) as a major input in the production process, it will help the cotton producers/members of SFAC to augment their income. Moreover, the project would generate more than 30,000 mandays of direct employment per annum, in addition to the indirect employment which has not been worked out. This would help to improve the living standards of the rural poor as they would get additional income through sale of cotton stalk as well as employment in the project. Moreover, project would help to save valuable forest wealth i.e., forest wood which is used in the preparation of panel boards.

### **Spice Oleoresins**

Spices are aromatic products used for seasoning of foods. Apart from food preparations, the spices are used in culinary, cosmetics and pharmaceutical preparations, flavours and medicinal extracts etc. Spice in its raw form has certain disadvantages. Whole or ground spice does not impart its total flavour readily or moreover, on finely grounded, it loses its aroma partially, on account of its volatile nature. Other disadvantages include variability of flavour, strength and quality. It is unstable and bulky for storage. Often unhygienic due to contamination. Moreover, some of the spices, though abundantly available, transportation, storage and handling them are found to be very inconvenient and expensive due to bulkiness. In this context, the extraction and extract of spice oils and resin assumes importance. The quality of extracts and oils vary from 4 per cent to 20 per cent of the

bulk used and hence the transportation and storage costs are considerably saved. Also for the end use it is very convenient when extracts are taken.

### **Market potentialities (internal and external)**

The demand for spice oils and oleoresins have been increasing from USA and other European countries. The export of spice oils and oleoresins from India has recorded an increase of 29 per cent in terms of quantity and 75 per cent in terms of value in 1991-92, with export of 1,150 tonnes valued at Rs. 56 crores as compared to 890 tonnes valued at 32 crores in 1990-91. The growing export demand for spice extracts prompted many entrepreneurs in the country to get into this industry. There are about a dozen plants manufacturing spice oils and resins in the country and most of them are located in south India mainly in Kerala.

In food and beverage industries, chillies has acquired a great importance in the form of oleoresin which permits better distribution of colour and flavour in food as compared to chilli powder. Oleoresin is used in the preparation of processed products and also incorporated into a number of pharmaceutical formulations. The growing awareness of the consumers for quality, ready made and easy to use commodities are any indicators, the potential market for spice oils and resins can hardly be exaggerated. Setting up of a modern unit for extraction of spice oils and oleoresin under SFAC project will help in the economic development of the region. Moreover, once the unit is established, there is a good scope for the development of down-stream industries like chilli powder unit and/or poultry feed plant using the by product of chilli oleoresin.

The global trade in spices is about 4 lakh tonnes valued at US\$ 1.3 billion. The biggest market for the spices in the world is the US estimated at around 1.5 lakh tonnes. North America and Western Europe are the most important regions in terms of demand. The erstwhile socialist countries of East Europe are also significant outlets. The middle east countries are also major importers of spices especially from India.

India has a distinction of being a traditional exporter of spices for centuries. The Indian king of spices, "pepper" has held the reign in the

world export market for quite long. So also Indian ginger are sought after in the international markets. Indian chillies have carved into export market of USA, European and East Asian countries. The world demand for spice oils and oleoresins are estimated at 2,300 tonnes in 1990, 3,100 tonnes in 1995 and 3,900 tonnes in 2000 AD. The projected average annual growth is 10 per cent. India's present export of 1,150 tonnes of oleoresins and oils amounts 35 per cent of the world demand for 1995 and 28 per cent of the world demand for 2000.

Considering the world demand projections for oleoresins and India's potential for expanding its share the proposed capacity is very small. Besides export demand, there is also an indigenous market namely, hotels and food processing industries.

### **Project costs and benefits**

Chillies are extensively grown in Dharwad district and covers about 1 lakh hectares of area with an annual production of more than 70,000 tonnes of ripe-dry chillies. The variety and quality of chillies in this area are considered suitable for the project. The proposed spice oil and oleoresin plant of the SFAC is basically envisaged to manufacture capsicin/chilli oleoresin with the intention of helping chilli-growers in Dharwad district. However, spices are seasonal, crop yields are subjected to vagaries of weather, export market and prices fluctuate often in order to have flexibility of production and supply of range of products to the buyers, we suggest installation of multi product or multi purpose unit so that either chillies or ginger or pepper can be used as raw material in the plant.

The proposed plant is multipurpose unit with a change capacity of 2 tonnes chillies per day. The yield in terms of "oleoresin" is 7 per cent of weight which means a production of 140 kg of oleoresins per day approximately. The working of the plant is assumed at 3 shifts/day for 300 days in a year. The total cost of the project is estimated at Rs.210 lakh. The project will be financed through the equity share capital and partly through the loans from financial institutions.

The projected turn over for the first year of operation is Rs. 297 lakhs and will rise to Rs.436 lakh in the third year of the operation. The net profit during the first year will be Rs.56 lakh which would increase to Rs. 123 lakhs in the seventh year (Table 2). The break even analysis indicates that the unit would break even at 35 per cent (Rs. 153 lakh) of

Table 2 : Estimated Cost of Production and Profitability Years

(Rs. Lakhs)

Description	1	2	3	4	5	6	7
Installed Capacity							
Charge/tonnes utilisation & Production/Sales (tonnes)	666	666	666	666	666	666	666
Oleoresins	60	75	90	90	90	90	90
Oils	30	30	30	30	30	30	30
A EXPORT SALES	5	6	7	7	7	7	7
B COSTS	297	367	436	436	436	436	436
1. Raw Materials	116	147	181	181	181	181	181
2. Solvents	13	16	19	19	19	19	19
3. Power, fuel and stores	2	2	2	2	2	2	2
4. Salaries and wage	11	12	13	13	15	17	19
5. Consumable, spares and stores	2	2	3	3	3	3	3
6. Repairs and maintenance	2	2	3	3	3	3	3
7. Other mfg. expenses including carriage inward etc.	5	2	3	3	3	3	3
C Cost of production	151	188	231	232	233	235	237
D Gross Profit (A-C)	146	179	205	204	203	210	199
E Administration expenses	12	12	12	12	12	12	12
F Selling and distribution	15	19	23	23	23	23	23
G Profit before interest and depreciation (D+E+F)	119	148	170	169	168	166	164
H Interest	37	40	38	32	27	21	15
I Depreciation	26	26	26	26	26	26	26
J Profit before tax (G+H+I)	56	82	106	111	115	119	123
K Profit after tax	56	82	106	111	115	119	123
L Depreciation	56	82	106	111	115	119	123
M Cash Accruals (K+L)	82	108	132	137	141	145	159

Note : Being export earnings, Income is tax free