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CHAPTER –IV

AGRO-INDUSTRIES

4.1 ROLE OF AGRO INDUSTRIES IN RURAL DEVELOPMENT

In this chapter our attempt is made to examine the progress of agro-industries and other projects being undertaken by Krishna Co-operative Sugar Factory.

Agro-industry serve as vital means to bridge the gap between agriculture and industries. They also serve to promote integrated growth of agriculture and industries and there by help to promote all-round developments of rural economy through exploitation of local resources, human and material. Agro-industries can therefore be relied upon to stimulate industrialisation in rural areas. Promotion of agro-industries should constitute key stone of rural development. Advantages from the development of agro-based industries may be listed as follows :

- 1) Agro-industries can push productivity in the agricultural sector through forward and backward linkage effects. Agro-industries can spark of innovativeness among the farmer community by encouraging them to resort to new techniques of production. They also help to promote productivity in two ways.
 - i) It by enlarging the supply of inputs like fertilizers, pesticides and improved farm implements and equipments.

- ii) The development of agricultural output based industries automatically encourages farmers raises output by using better farming methods with change in cropping pattern and wherever possible adopting double cropping system. Because agro-based industries create assured market for agricultural products.
- 2) Industry and agriculture are closely inter-related. Improvement in the farm productivity is one of the important means of promoting industrialisation. Agriculture serves industry to various ways.
- i) It provides sustenance to the people engaged in industry.
 - ii) It supplies raw materials to industry.
 - iii) It increases the purchasing power of the farm community to purchase industrial goods.
 - iv) Accumulation of money by agriculture may become capital investment to industry.
- 3) Area development is conceivable only with the development of agro-industries. Agro-industries have a tonic effect on the developments of rural economy through their linkage and spread effects. It also can pave the way for the growth of multi-sectoral economy. The sugar factories cotton spinning mills, oil extraction plants, rice mills, fruit processing unit etc can be cited as illustrations in this contest.

The units have brought up around their periphery townships with basic amenities of modern living. Complexes are developed around agro-industrial units, which served as the nucleus of regional development.

- 4) The rural population is migrating on a large scale to urban areas in search of either seasonal or permanent jobs. Such a migration has created Socio-economic problems for between urban as well as rural people. But migration of people can be well checked, if a number of large sized agro-based manufacturing units come up. The development of agro-industries may be used as one of the effective tools in bringing prosperity in rural areas, particularly in backward areas. The agro-industries may give the desired 'push' to agriculture. These units will act as sources of demand as well as supply to agriculture in the sense that they may absorb the farm produce and supply inputs to agriculture. And thus the farmers get the work and there remain no need of migration.
- 5) Due to centralisation of industries in certain pockets of the country, problems of overcrowding of population, housing, transportation, water supply, drainage, slum, sewage etc. are increasingly becoming acute and have adversely affected the social, cultural and individual life in such populous areas. A relief from monotonous of the congested living in unhygienic conditions is offered by the agro-industries.

- 6) **Agricultural commodities are often perishable. Agro-industries can help to prevent the loss arising as a result of perishability of agri-products and thereby plug the leakage in the income stream. The food processing industries like preservation of fruits in cans and their conservation into jams are a case in point. The advantage of agro-industries lies in that the perishables can be processed and preserved so as to minimise wastage.**
- 7) **The agro-industries also create employment opportunities for the over-populated rural people in the countryside being market largely by disguised unemployment and unemployment due to economic land holdings and seasonal character of agriculture. Thus it provides self employment to people. Agro-industries operated by competent and well trained entrepreneurs help to fill the lacuna and thereby to level down inequalities of income and wealth.**
- 8) **Income generation through agro-industries may improve purchasing power of rural people, thereby creating potential for demand based industries. It thus helps in increasing the living standard of rural people.**
- 9) **Agro-based industries are suitable to the rural environment specially because they are raw material – oriented. If the farm produce could be absorbed by the nearby industries, the transportation cost may be minimized giving farmers a fair price. Moreover, most of the agricultural produce is bulky in weight and occupies more space.**

Consequently, transportation costs may be minimised at raw material source.

- 10) Agro-based industries can help the nation earn foreign exchange especially when the agro-based products are manufactured for export.

In sum the agro-industries, if developed consciously with backward linkage to agriculture production, would help in making a strong headway towards the solution of the most troublesome problems of the country, viz., poverty, unemployment and inequalities.

4.2 TYPES OF AGRO-INDUSTRIES

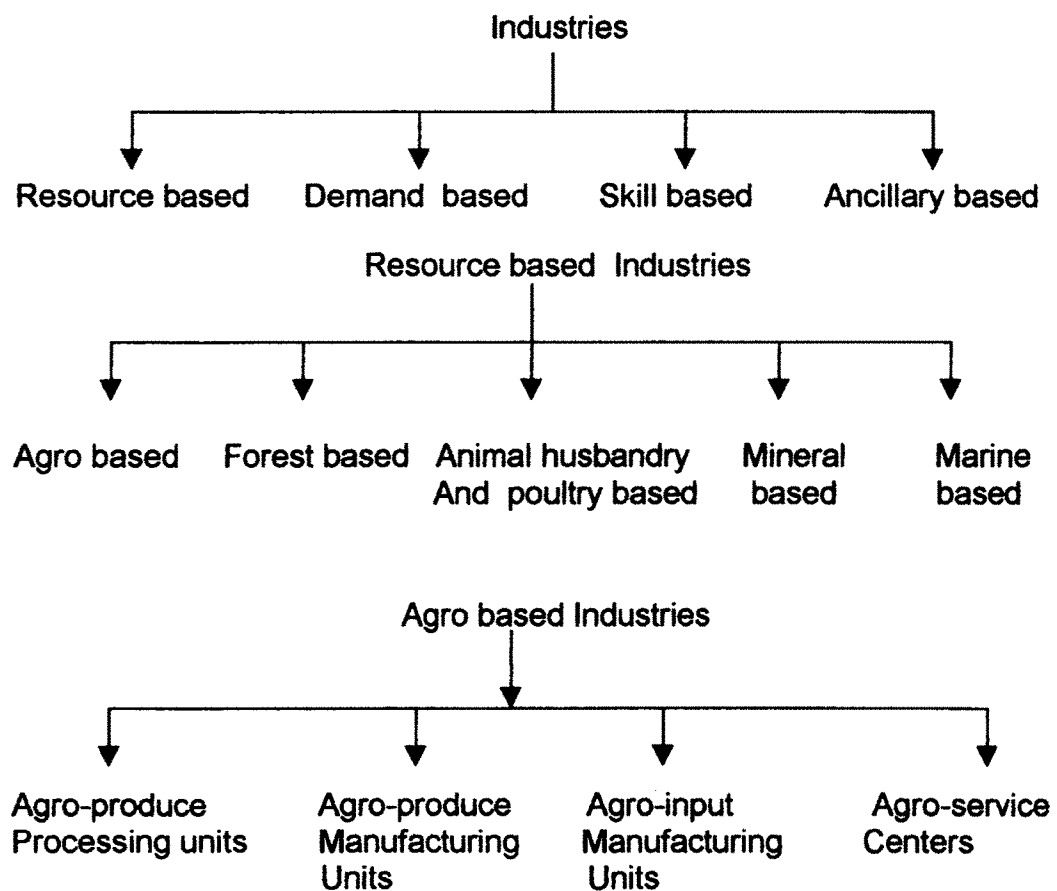
Agro-industries are the industries dependent, not only on the output of agriculture and allied activities but also on the inputs in agriculture like agricultural equipment, fertilizers and pesticides. The Planning Commission and later the National Development Council set forth criteria for distinguishing the agro-industries. Those industries are called agro-industries, which satisfy the criteria as below :

- i) Which supply inputs to agriculture
- ii) Which better processing and conversion of agricultural commodities.
- iii) Which ensure high returns on processed goods.
- iv) Which increase agricultural production.

It means, therefore, that the agro-industries are instrumental to increase agricultural production and improvement in processing. It may thus be observed that the agro-industries cover the production of seed, feed, machinery, fertilizers etc. In addition to above activities, the industries look to transforming raw materials into finished products and transporting to the needy markets.

CLASSIFICATION OF AGRO-INDUSTRIES

Broadly, the agro-industries can be divided into following groups -



1) AGRO-BASED INDUSTRY

Agro-based industries are those industries, which have either direct or indirect link with agriculture. In other words, industries, which are based on agriculture produce, and industries which support agriculture come under agro-based industries. They may be classified as shown above. Explanation of each category follows :

i) Agro-produce processing units

Those industrial units simply process the agricultural produce come under this category. They do not manufacture any new product, they merely process the agricultural produce as raw material. So that it can be preserved and transported at cheaper costs e.g. rice mills, dal mill, groundnut decorticating mills, fruit processing units etc.

ii) Agro-produce manufacturing units

These units manufacture the entirely new products based on agricultural produce as the main raw material. The finished goods will be entirely different when compared to its original raw material e.g. sugar factories, straw board units, textile mills, bakery etc.

iii) Agro-inputs manufacturing units

The industrial units, which produce goods either for mechanisation of agriculture or for increasing productivity, come under this type. Those units are directly linked with agriculture as they support agriculture

at various stages e.g. industries manufacturing fertilizers, pesticides and insecticides and all types of industries manufacturing agricultural implements, pump-sets etc.

iv) Agro-service centers

Agro-service centers are workshops and service centers which are engaged in repairing and servicing of pump-sets, diesel engines, tractors, and all types of farm equipments.

These industries are expanding very fast in India but still there is sufficient scope for development of agro-industries. It is said that agro-industries are pivot of Indian economy.

4.3 PROGRESS OF AGRO-INDUSTRIES SPONSORED BY THE KRISHNA CO-OPERATIVE SUGAR FACTORY RETHARE BK

The Krishna Co-operative Sugar Factory has started various types of agro-industries within its operational areas.

These industries are agro-based industries, Marine based industries, agro produce processing agro-manufacturing units, agro service centers.

Besides there, factory has setup source projects such as distillery, Acton project, DIEG projects (Drying Incineration and Electricity Generation) Co-generation co-operative project, diesel-petrol pump and cross-breed cow center. Now we shall examine the progress of each project as follow -

4.3.1 FEED MILL PROJECT

This project was started to produce feed to poultry and cattle in August 1979. Under this project qualitative cattle and poultry feed is being produced. Because method of production of feed is scientific. Moreover feed is being sold under the trade mark "Krishna Ahar" in the market. Most of the milk produces and poultry entrepreneurs purchased high quality feed from this unit. In fact they are largely benefited in the scale that they get good quality of feed which alternate increased the quality of products they produced, infra get reasonable price for the products such as eggs, poultry, and milk. Sale of the feed is not restricted only to members, but also being sold in the other cities like Sangli, Kolhapur and other places. Moreover, the distribution of the feed commonly known as Krishna Ahar is being done by Agencies located at Rethare Bk. Malkapur (Karad) Market Yard, Islampur, Jain Vasti Mangalwar Peth, Miraj and Hanuman co-operative Societies at Kolhapur, Gadhinglaj, Yelgud. Table 4.1 shows that the output of cattle feed was 481.92 tonnes in 1979-80 which raised to 2804.62 tonnes in 1980-81 and further increased to 3579.68 tonnes in 1981-82 and 3657.77 tonnes in 1982-83. While output of poultry feed also showed similar trend over a period of time. It was 3994.13 tonnes in 1979-80 which increased for 9004.69 tonnes in 1980-81, and reduced to 7243.86 tonnes and again increased to 8739.01 tonnes in 1982-83. Thus total output of cattle feed and poultry feed was 4476 tonnes in 1979-80 which raised to 11809 tonnes in 1980-81 and further increased 12396 tonnes in 1982-83.

Thus feed Mill project; showed continuous progress in respect of output of feed over a period of time.

While sale of cattle feed and poultry feed shows that sale has increased over a period of time. The total sale of cattle and poultry feed was 4401.5 tonnes in 1979-80 again increase to 11841.6 tons in 1980-81 and raised to 12384 tonnes in 1982-83. The break-up of total sale showed that sale of cattle feed was 469.72 tonnes and 3931.87 tonnes of poultry feed in 1979-80 which increased to 2813.81 tonnes and 9027.87 tonnes respectively in 1980-81 and 3655 tonnes and 8718 tonnes respectively in 1982-83. Moreover this to be noted that this project has been experiencing serious problems since 1991. Demand for cattle and poultry has reduced as compared to earlier decade due to low prices of eggs and milk. Crises in the poultry and dairy has led to the reduction in demand for the cattle feed latest position to showed that this unit has stopped the production of cattle and poultry feed.

Table No. 4.1

PROGRESS OF KRISHNA AHAR

Krishna Ahar	Production (Tonnes)			Sale (Tonnes)		
	Year	Cattle feed	Poultry feed	Total	Cattle feed	Poultry Feed
1979-80	481.920	3994.130	4476.050	469.720	3931.875	4401.505
1980-81	2804.620	9004.695	11809.315	2813.810	9027.870	11841.680
1981-82	3579.685	7243.865	10823.550	3537.430	7232.765	10770.195
1982-83	3657.775	8739.010	12396	3655	8718	12384

Source : Annual report of factory i.e. 1980-81, 82-83.

4.3.2 KRISHNA COMPOST FERTILISER UNIT

The production of composed fertilizers was started in 2000 compost fertilizer is produced by using molasses and some chemical components. This fertilizers is packed in bag of 50 kg. Price of bag is Rs.90. This price is very cheap as compare to chemical fertilizer i.e. more than 300 rupee. The production and use of Krishna compost fertilizer now is taking place on experimental basis. Keeping in view the increasing demand for the composed fertilizer this unit has prospect to make progress in future.

4.3.3 MAYUR CO-OPERATIVE POULTRY UNIT

The objectives of Mayur co-operative poultry unit are to popularies the poultry farming among the agriculturists and to get earning sources to economically backward people. It provides pullets, feeds, medicines and vaccines at subsidised rates to the farmer. It also provides marketing facilities and free technical guidance and veterinary aid to poultry farmers.

Daily collection of eggs from the regions was 45 to 50 thousand and own production was nearly 53 to 60 thousand. Mayur was dynamic co-operative poultry firm because production and collection of its eggs was very large. Mayur has maintained its top position in India also in Asian countries. Marketing of egg is done at Bombay, Kolhapur, Islampur and Shivanagar. Eggs are being exported to gulf countries.

Table 4.2 showed the progress of Mayur poultry unit during 1978-79 to 1982-83 for latest decade data could not be made available because it is now closed down. Table 4.2 showed that egg production increased from 99.18 lakh in 1978-79, to 199.70 lakh in 1982-83. The birds increased from 90200 to 144600 in the year 1982-83. The sales of eggs in the year 1978-79 respectively increase from Rs.4020.80 thousand, 154.10 thousand and 1001.10 thousand to respectively 11875.20 thousand, 318.60 thousand, 2732.15 thousand. The current assets, fixed asset reserve other fund and profit for the year 1982-83 was respectively 2355.70 thousand, 2717.00 thousand, 1305.40 thousand and 2334.90 thousand.

Moreover Mayur poultry unit has its own property is 3 lorry, 2 tempos, 2 tractors and 1 car as well as residential facilities to officers. Mayur is having also its own land i.e. 184 acre which is being cultivated for mangoes, coconut trees on commercial basis. These commercial crops given income to unit.

Table No. 4.2
GROWTH OF MAYUR POULTRY

Sr. No.	Items	1978-79	1979-80	1980-81	1981-82	1982-83
1	Eggs production (Rs.000)	9918.40	13375	18150.90	25794.40	19970.40
2	Sale of Eggs (Rs.000)	4020.80	6002.50	9212.60	9789.20	11875.20
3	Sale of fertilisers (Rs.000)	154.10	179.30	345.90	416.20	318.60
4	Number of birds	90200	134800	126550	129700	144600
5	Sale of birds (Rs.000)	1001.10	1423.50	1676.60	1801.80	2752.15
6	Current assets (Rs.000)	1440.90	1440.90	1709.20	1633.00	2355.70
7	Fixed assets (Rs.000)	1372.20	1488.60	1390.80	1393.00	2717.00
8	Reserve and other fund (Rs.000)	4758.00	4758.00	66.80	1190.00	1305.40
9	Profit	1204.10	1450.40	757.05	1796.70	2334.90

Source : Annual report of Factory i.e. 1982-83.

4.3.4 JAYASH FISHERIES PROJECT

This project was started in 1981 near the Feed Mill project. There was scientific growing of Katala, Roh, Mugal Fishes and other various of fishers. This is artificial lake which is being used for this project. Moreover, this project is beneficial to those farmers having a problem of water logging. On such land inland fisheris can be developed. It is estimated that the per hectare income is approximately 20 to 55 thousand.

4.3.5 OTHER PROJECTS

Krishna co-operative Sugar Factory also started other projects such as distillery, acetone projects, DIEG projects, co-generation projects, diesel-petrol pumps etc.

(1) DISTILLERY

The factory has introduced this unit since 1972. It produces spirit, alcohol, country liquor etc. Production capacity of the distillery is 45000 liters per day. Further expansion of this unit is undertaken by the factory which increased its capacity by 30,000 liters per day. Now capacity is 75000 liters per day. Since 1973 the unit started manufacturing of country liquor. It also manufactures foreign liquor and sales in the market.

Table No. 4.3
PROGRESS OF DISTILLERY

Sr. No.	Items	1994-95	1995-96	1996-97	1997-98	1998-99
1	Special denatured spirit (Liter)	1038775	2114300	1749500	2085000	2453500
2	Simple denatured Spirit (liter)	-	-	184723	28236	-
3	Extra neutral spirit (Liter)	627725	758849	349286	277460	463478
4	Country liquor (Liter)	2021720	1871043	2085107	2601228	2740663
5	Foreign liquor	138578	111714	86800	174679	110958
6	Selling of all production (lakh)	2021.64	1601.54	1088.23	1922.28	1164.46

Source : Annual Report 1998-99 of factory.

This project introduced by factory for the purpose of optimum use of raw materials which give financial support to factory and create employment opportunity. Further production of wines, spirits and other production is expected to take place in near future i.e. nearly 3 to 6 months in a year.

This project has great scope to develop due to increasing demand for the products.

(2) ACETONE PROJECT

Since March 1984 the factory has introduced this new chemical project to manufacture acetone from alcohol. The capacity of this plan is 15 tonnes of acetone per day. The supply of alcohol is made available by the factory's distillery. The total cost of this project is Rs.447 lakh.

Table No. 4.4
PROGRESS OF ACETONE

Sr. No.	Items	1995-96	1996-97
1	Production of Acetone (Tonnes)	939.360	216.897
2	Cost of production (Rs. in lakh)	312.13	79.99
3	Sale price (Rs. In Lakh)	2.81	205.86

Source : Annual report 1998-99 of factory.

Table 4.4 showed that the production of acetone was 939.36 tonnes in 1995-96 which reduced to 216.89 tonnes in 1996-97. This project did not show much satisfactory project. In fact this unit remained closed due to non-reliability. As compared to cost income from sale is not satisfactory caused by high cost of raw material, change in technology, government policy, political instabilities and lack of dynamic marketing.

3) D. I. E. G. PROJECT

(DRYING INCINERATION AND ELECTRICITY GENERATION)

D. I. E.G. project is started by factory in the year 1992. This project constructed by Krishna Sugar Factory under the supervision of Vasantdada Sugar Institute, Manjari - Pune. This type of project firstly started in India by Krishna Co-operative Sugar Factory.

The expected cost of this project was 525 lakh. Out of them 150 lakh was given by IDIBI, and 300 lakh by international institution i.e. Pesser. The construction of this project is over and cost of construction is goes up to 1000-1200 lakh.

This project may manufacture electricity, steam potash as like fertilizers from the spent wash water. But actual operation of this project was not started because of cost of production is high, change the ruling party and state and central government neutrality etc.

4) CO-GENERATION PROJECT

This project produce electricity 30 M. watt. The cost of construction is 150 crore.

The provision of the finance is as follow :

- i) 20 to 25 crore by factory in the form of share capital.
- ii) 21 to 22 crore by Asian Development Bank with 9% rate of interest.
- iii) 50 crore by Hudaco and REC with 12% rate of interest.
- iv) Remaining by other institutions loan.

The successfulness of this project depends upon co-operation of the state and central government. But state government may not have interest to take electricity from this project.

5) DIESEL – PETROL PUMP

Krishna Co-operative Sugar Factory is having its own diesel and petrol pump. It provides diesels and petrol to the vehicles of 2,3,4 wheeler to members and non members.

Table No. 4.5

PROGRESS OF PETROL PUMP

Sr. No.	Year	Sales of oils (liters 000)		Amount (Rs. In lakh)
		Diesel	Petrol	
1	1993-94	2478.208	322.744	253.44
2	1994-95	2588.80	396.011	297.74
3	1995-96	2773.615	476.412	331.63
4	1996-97	2941.034	460.507	386.59

Source : Annual report 1993-94 to 1996-97 of factory.

It can be observed that 2478.20 liters of diesel and 322.74 liters petrol were sold in 1993-94. Over a period of time sales of diesel and petrol increased continuously.

6) SUGARCANE DEVELOPMENT

The factory has independent Agricultural Development Department which provides the improved seeds, fertilizers and guidance about sugarcane cultivation. Unit is having its own land area 3.27 acres to be used for cultivation of sugarcane seed production and ultimately to be sold to members and non members.

7) CROSS-BREED COW CENTERS

Under Integrated Rural Development Programme this center is run with collaboration of Bhartiya Agro-Industrial Foundation, Urali Kanchan (Pune). The veterinary officers and their assistants nominated by the Foundation. The Foundation are assisting the farmers in proper cattle reign, upkeep, diet, prevention and care of cattle diseases and dis-order and artificial in semination.

This center is running by factory at three places such as at Karad, Khanapur and Walwa. During the year 1996-97 artificial in semination was done to 3696 cows and buffalow. Out of them 2303 became successful.

8) SUGAR SALE CENTERS

Krishna Co-operative Sugar Factory introduces sugar sale centers for its members at Bahe, Tambwe, Yedemachhmidragad, Wathar, Gharewadi, Rethare Harnaksha and Aatake.

The factory provides 5 kg sugar with Rs.2 per share holder.

9) ROADS - WEIR - CUM - BRIDGE

The factory has constructed roads for transportation of sugarcane. The Krishna co-operative sugar factory having 20 groups under this small road is 441.

It is observed that 125km small roads were reconstructed during 1996-97 and 12.750 k.m. roads constructed by Khadi. Since 1970-71 to June 1986 the factory spent Rs.1,65,38963 for road construction.

The weir-cum—bridge is constructed at Nandgaon. The length of this Bandhara is 75 meters and having water storage capacity of 15.34 M.C.F.T. The total expenditure on this bridge was Rs.7, 50,000.

Thus as far as Krishna Co-operative Sugar Factory Rethare Bk. (Shivanagar) is concerned it showed that factory has been playing significant role in the development of rural economy of its operation area.