

CHAPTER VII

AGRO-BASED INDUSTRIAL POTENTIALITIES OF MADURAI DISTRICT

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CHAPTER VII

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A study of the impact of the sugar industry leads us to the inference that an agro-based industry exerts a great influence on the related crop economy of the area. However, it is not possible to arrive at a general conclusion that all the agro-based industries are alike in their influence on the related crops. As stated in the Introductory Chapter, every agro-based industry is a category by itself because, every crop is a category by itself. As such, every agro-based industry has its own linkage effects with the agricultural sector in a different way.

The backward linkage effects of an agro-based industry on the related crop economy could be seen only in the case of a large-scale agro-based industry such as a modern sugar factory.

If they are organised on a small-scale such as ginning factories, their influence cannot be significantly seen on the agricultural sector. Instead, only the influence of the agricultural sector on the

industry could be seen, as in the case of influence of cane cultivation on jaggery and gur industry which is still a cottage industry.

A large-scale agro-based industry on the contrary gives rise to very effective backward linkage effects on the agricultural sector. Backward linkage effects of an agro-based industry could be seen in the short period, such as 3-5 years, depending on the nature of the industry. In the long period however, there will develop a mutual impact between the two sides.

Secondly, the influence of an agro-based industry on agricultural sector depends on the nature of its product. If it produces a final product that goes for direct consumption of the people, the industry will also be able to exert a great backward linkage effect on the agricultural sector. This is largely true, if the industry does not have another competing industry. The principle of marginal variation used in the study of the sugar industry has proved this. The impact of the sugar industry is heavily constrained by jaggery making which is carried on in an extremely unorganised manner at the cottage level. However, because of the fact that jaggery production is another agro-based industrial activity and also because it has

been in existence for centuries in the past, it cannot be competed away immediately.

7.1 Further Scope for Agro-based Industries in Madurai District:¹

Madurai District is producing numerous agricultural crops, besides the six important crops namely, paddy, cholam, cumbu, cotton, sugarcane and groundnut. There are crops such as ragi, varagu, samai, and other millet varieties, many fruit varieties and vegetables. Madurai District is famous for bananas and grapes. Banana claims an area of about 13,000 hectares, which is even more than total sugarcane area (about 9,500 hectares).

In spite of the fact that already some agro-based industries are well established, still the district has a very great agro-based industrial potential. (Please refer Appendix V). Many agricultural products are not fully and properly utilised at present. Moreover, the district has also a great scope for the utilisation of the by-products of many agro-based industries.

¹Most of the information given in this Chapter have been obtained from the records of the District Industries Centre at Madurai and also from the "Report of the Industrial Development Potentialities of Madurai District" released by the Small Industries Service Institute, Ministry of Industry, Govt. of India, Madras, 1982.

7.2 Industrial Infrastructure:

The district is not lacking in terms of industrial infrastructure, such as transport and communication, power supply, water facilities, educational facilities, banking facilities, marketing facilities, etc.

Madurai city, being the second biggest city in the State of Tamil Nadu, is also the largest marketing centre in the southern part of the State consisting of Madurai, Trichy, Thanjavur, Pudukkottai, Ramanathapuram, Tirunelveli and Kanyakumari Districts. As an important centre of trade and commerce, it even serves the neighbouring State of Kerala. Almost all the major consumer goods producers in the country have their sales depots at Madurai. For agricultural produce, Dindigul and Theni are the major marketing centres of the district. They are important trading centres at the State level also. People from the neighbouring districts and also from the neighbouring State of Kerala come to Theni, Madurai and Dindigul for making bulk purchases. Dindigul has now become a major centre for tannery and tobacco processing at State level and Theni has assumed the place of a leading cotton market. Other important marketing centres are Vathalakundu for tomato, Uthamapalayam for banana and Palani and Bodi for silk cotton.

Incentives and concessions are available for setting up new industries in the district and various kinds of assistance are provided by the government. There is also no dearth of skilled labour or technically qualified people. The district is mainly agrarian and produces a variety of food crops and commercial crops. The Small Industries Services Institute is of the view that Madurai District has a great potential for many agro-based industrial activities.² The crop-wise agro-based industrial potentialities of Madurai District are examined in the following section.

7.3 Paddy:

Paddy is the main crop of the district, cultivated in about 1.7 lakh hectares. The first industrial activity that is undertaken to process paddy is dehusking of paddy in order to convert the paddy into rice. This is being done by rice mills which are spready throughout the district. The position of the rice mills has been explained in Chapter III. As rice is an essential item of consumption, income and price elasticities are very low for it. Moreover, rice cannot be processed further except when it is cooked. However, the following agro-based industries

²Report on the Industrial Development Potentialities of Madurai District, op. cit., p. 38.

could be established for processing the by-products of paddy.

a) Rice Bran Oil:

The district produces annually about 4.3 lakh tonnes of rice. Entire paddy produced in the district is hulled in the local rice mills. Rice mills are concentrated in cities and towns and they are also scattered in the villages. Madurai city and Dindigul are the main places of concentration of rice mills. It is estimated that at the lowest rate of 6 per cent of hulled rice, about 20,000 tonnes of rice bran is available annually. But for a small quantity of rice bran which is sent to solvent extraction plant outside the district, bulk of the rice bran is not systematically collected and utilised industrially at present. A major portion of the rice bran is being used as cattle feed. There is a good demand for rice bran oil in soap manufacturing industry and there is also an export-demand for it. The utilisation of bran for oil extraction not only improves oil supply position, but also improves the quality of the de-oiled bran in its nutritional value as cattle feed and its storage stability. If refined it can also be used for cooking. In view of this, it is considered that there is a good scope for setting

up a solvent extraction unit for rice bran oil at Madurai and Dindigul.³

b) Activated Carbon from Paddy Husk:

Paddy husk available from rice mills in huge quantities can be utilised for the manufacture of activated carbon which is used as a catalyst base for removal of colour, taste and odour in the processing of edible oils and manufacture of food stuffs and pharmaceuticals. It can also be used for recovery and reclamation of various solvents. It is estimated that about 1.4 lakh tonnes of paddy husk is available in the district. In view of this, it is considered that there is a good scope for setting up a unit at Dindigul and Madurai.⁴

c) Household Detergents Based on Paddy Husk:

There is a steadily increasing demand for household detergents due to the steady growth of urbanisation and rise in the standard of living of the people. Detergent powder with paddy husk as the major ingredient, combined with soda ash, borax and alkylaryl, can be manufactured. There is a good scope for this, again at

³Ibid., p. 38.

⁴Ibid.

Dindigul, and also at Melur.

7.4 Oil Seeds:

Many oil seed crops are being cultivated in the district; such as groundnut, jasmine, sunflower, etc. Neem seeds and cotton seeds also can be utilised for oil extraction. The scope for various oil extraction units is examined below.

a) Groundnut:

This is the major oil seed crop of the district. The crop is extensively cultivated in Palani, Uailampatti, Tirumangalam, Uthamapalayan and Melur taluks. Total area under groundnut was about 74,260 hectares in 1980-81. A major part of the groundnut crop is crushed locally by a number of mills. A strange thing about the oil mills is that, most of the oil mills are combined with rice mills. Such combined units are mostly located at Theni, Dindigul and Tirumangalam.

Most of the oil mills do not have any facility for refining the oil. In view of the increasing demand for refined oil in urban areas, it is considered that a unit for refining of groundnut oil can be set up at Dindigul and Theni where there is a concentration of oil mills.

b) Jasmine Oil:

Jasmine is cultivated along with other flower crops in about 1,400 hectares in the district mainly at Tirumangalam and other blocks of Usilampatti division. The jasmine flowers of this area are being marketed in many places of the State. The essence of the flower can be extracted and used in the perfumery industry. The jasmine scent fetches a very high price. Eventhough jasmine flowers are cultivated in plenty in the district they are mostly used for garlands, but not for oil extraction. Tirumangalam town provides a good scope for setting up a processing unit for extracting jasmine oil.

c) Sunflower:

Sunflower is yet another crop, which like groundnut, is exclusively cultivated for oil extraction. It is grown in a small area of about 460 hectares only in Palani taluk and Tirumangalam taluk. Oil is extracted out of sunflower seeds in some of the existing oil mills at Theni and Dindigul. In view of the concentration of sunflower cultivation in Palani and Dindigul and also in Periakulam taluks, it is considered that there is a great scope for a processing unit to be set up at Uthasapalayam, Theni, and Dindigul.

d) Gingelly Oil:

Gingelly is cultivated in the district in about 8,500 hectares. It is concentrated mainly in Uthamapalayam, Palani, Tirumangalam etc. It is exclusively meant for extraction of gingelly oil in the oil mills of Theni, Dindigul and Tirumangalam. There is an increasing demand for gingelly oil, but because of increasing population. But, due to the existence of some substitute varieties like groundnut oil, saffalo oil, vanaspathi, etc., the market for gingelly is not steady. It is subject to fluctuations. This is also being produced by the combined units at Theni, Dindigul and Palani. At Tirumangalam also there are some units. At Madurai city there are a few units having village type ghanis. But, a significant portion of the seed production is being sent to Virudhunagar, which is an important trading centre of Ramanathapuram District. There are many oil mills at Virudhunagar. As already many small-scale units are functioning in Madurai District. Therefore, if the demand for gingelly oil is to be stabilised, a large-scale unit may be set up at Theni. Since this is bound to be a seasonal industry, the unit may also be utilised for crushing other seeds which are available in different seasons.

e) Other Essential Oils:

Kodaikanal in Madurai District is notable as a summer resort and also for the cultivation of aromatic plants such as lemon grass, geranium, eucalyptus, marikolundu, dhavanam etc. These are at present cultivated in very small areas. There is no sufficient encouragement for cultivation of these plants because of lack of processing plants. A few units, one each at Uthamapalayam, Bodinayakanur, and Cumbum which are adjacent to hilly areas and also are at Kodaikanal may be set up for redistillation of oils from these plants. There is a heavy demand for these oils from the perfumery industry. In view of the fact that these plants are cultivated in very small areas, they should be integrated with a programme of expansion. This will ensure on the one side, adequate demand for raw material and on the other, adequate supply of raw material for the proposed units.

f) Neem Seed Oil:

Neem oil is produced out of neem seeds, which are available in plenty throughout the district as well as the State. However, nearly 90 per cent of the neem seeds are going waste every year due to lack of processing facilities. There is a growing demand for neem oil in soap manufacturing. At present, a small-scale unit

functioning in the Gandhiniketan Ashram, Kallupatti is utilising the neem oil. Since neem trees are growing in all the places, location of the processing unit is not a serious problem. One or two units may be established, preferably at Tirumangalam.

7.5 Banana:

a) Dehydrated Banana Powder:

Banana is cultivated in about 13,000 hectares in the district. It is concentrated in Periakulam division, Uthamapalayam and Bodi areas. Banana fruits are mostly suitable for direct consumption only and therefore, processing of banana fruits has not yet been attempted on a large-scale even at the national level, except the one at Bombay. Dehydrated banana powder can be used for ice cream and a few other food products. But, this is still in the experimental stage.

b) Banana Fibre:

However, banana stems can be profitably utilised for extracting fibre. The Khadi and Village Industries Commission and Handicrafts Board have developed the necessary know-how on the extraction of fibre from the banana. One or two units for extraction of banana fibre can be set up at Periakulam and Usilampatti. The banana fibre is very much useful for the handicrafts industry for making fancy articles.

c) Packing Material:

The banana stem can also be processed and used as cushioning material for packing glass, and other fragile materials. The Central Food Technological Research Institute at Mysore has developed the necessary technique for this. At least two units can be set up in the banana growing regions of the district.

7.6 Coconut:

a) Coconut Fibre:

Coconut cultivation is concentrated in Uthamapalayam, Nilakkottai, Palani, Madurai South and Periakulam taluks. Total area under coconut was about 8,500 hectares in 1979-80. The production was around 97 million nuts. There are already a few units engaged in the extraction of coconut fibre. However, the units in existence now are not engaged in making coir mats and mattings. There is a good scope for utilising the fibre extracted from coconut kernels for making ropes, mattings etc. In view of this, it is considered that two units can be set up, one each at Uthamapalayam and Nilakkottai. The Coir Board has developed the necessary technique and know-how for extracting fibre from the coconut kernel.

b) Desiccated Coconut:

Another coconut based industry that can come up in the district is the manufacture of desiccated coconut which is very much utilised in the manufacture of sweets, confectionary, bakery, etc. So far no unit has come up at Madurai in this direction. One or two units can be set up preferably at Kottampatti, Natham, Nilakkottai and Sanarpatti.

7.7 Fruits and Vegetables:

Many varieties of fruits are cultivated in the district such as mango, banana, oranges, lime, tomato, etc. While banana cultivation is concentrated in the Periakulam division, mangoes and tomatoes are extensively cultivated in Dindigul division and also Periakulam division and oranges at Kodaikanal. A major portion of these fruits is being marketed afresh immediately after harvest, both within the district and outside the district. Therefore, their prices go down to the bottom of the season, and they rise to disproportionate heights during non-seasonal periods. For example, the price of tomatoes goes to the level of 10 pies per kg. in certain parts of the district during the season. Once the season is over, the price starts rising and goes upto the level of even Rs.7 or 8 per kg. The prices of other fruit varieties also highly fluctuate

like this. Therefore, there is ample scope for processing the surplus fruits of the season into juice, pulp, syrups, jams, pickles etc. In these forms, their marketable period increased and the consumers can also get their supplies throughout the year.

Already a few units have come into existence - one at Vathalakundu in the Nilakkottai taluk, one at Royappanpatti in Uthamapalayam taluk, and three units in Madurai city. Besides these, there are many cottage level units throughout the district, making pickles out of mangoes, lemon, ginger, chillies, etc. However, still there is ample scope for setting up two units, preferably in the small-scale sector, at Kodaikanal, Palani and/or Dindigul for undertaking processing of mangoes, tomatoes and grapes. There is a good demand for these products due to increasing urbanisation and tourism in Madurai District.

7.8 Palmyrah Products:

This district has a sizeable population of palmyrah trees. The Government of Tamil Nadu have formulated schemes for extending the cultivation of palmyrah to more areas and to tap the palmyrah resources for industrial purposes more intensively. There is good

scope for a few-units to come up in the district, utilising palmyrah juice, palm leaves and palm fibres. Brushes made out of palmyrah fibres have good market both within the country and abroad. Entrepreneurs interested in these lines of manufacturing may take advantage of the various schemes implemented by the State Khadi and Village Industries Board.

Besides these industries, the district has also a great potential for processing the dry crops such as Cumbu and Cholan. These are the principal dry crops of the district.