Journal of Agroecology and Natural Resource Management
p-ISSN: 2394-0786, e-ISSN: 2394-0794, Volume 5, Issue 2; April-June, 2018, pp. 96-100

http://www.krishisanskriti.org/Publication.html

Scope of Agro-Processing Industries in Tripura

Debabrata Paul[1], Bidhan Chandra Roy[2] and Arabinda Mitra[3]

[1]Department of ES, Visva Bharati, Sriniketan,
[2]Department of ES, Visva Bharati, Sriniketan,
[3]Department of Agril. Economics, BCKV, Mohanpur, Westbengal
E-mail: pauldebabrataeco@gmail.com

Abstract—*Tripura's favourable agro-climatic conditions offer immense scope for development of horticulture sector comprising of fruits, vegetables, spices, plantation crops etc beside agricultural crops, and has the immense potential for employment generation through agro based industries. But the surplus produce often get spoiled and is wasted due to lack of transportation, insufficient well equipped cold storage facilities, lack of market access, poor post harvest technology and processing of farm produce. The state and central governments have taken various schemes and policies for the development of the sector in the state. Keeping these things in mind, the present study has been conducted to find out the scope for agro-processing industry in the state.*

1. INTRODUCTION

Food security as well as providing the gainful employments to the people are the priorities of the Government planning and policy making. The state's favourable agro-climatic conditions, fertile soils, sub-tropical climate, large tilla lands and abundance of rainfall of about 2200 mm, well distributed across the season, really offer immense scope for development of horticulture sector comprising of fruits, vegetables, spices, plantation crops, floriculture, medicinal and aromatic plants etc beside agricultural crops. But the agro-based economy has failed to flourish as it should due to limited utilization of technological support and innovation. The state has observed high production of fruits, vegetables, spices; nuts etc in the recent past but could not fetch market prices that are on par with markets in other states. The surplus produce often get spoiled and is wasted due to lack of transportation, insufficient well equipped cold storage facilities and processing of farm produce. As a result, the food value chain has a weak capital base, there is lack of market access, both domestic and international, limited flow of labour and material, inadequate technological incentives, absence of agro-processing industries, poor-post harvest technology facility. To some extent social and cultural taboos are also responsible for not developing agro-industries that would provide better value addition to the horticultural crops in the state. Therefore, it is necessary to diagnose the problems in the state for providing an improved production and marketing environment and value added economic benefits to the farmers through appropriate technological policies for various post-harvest functions in food processing industries. This is needed to address the problems of income generation and poverty alleviation of the state. Keeping these things in mind, the present study has been conducted to find out the scope for agro-processing industry in the state. The paper also identifies the problems which is responsible for slow growth of the sector.

2. TRENDS IN AREA OF MAJOR CROPS GROUPS IN TRIPURA

The cropping pattern has shown a changing trend in Tripura in recent years [See Table.1]. The area under cereals has decreased from 74.88 per cent of gross cropped area of the state in 1985-1986 to 60.49 percent during 2015-16. There is a marginal increase in area in case of pulses and oilseeds. The area under cash crops has also decreased from the period 1985-1986 to 2015-2016.Where as for condiments & spices, vegetables, nuts and fruits have shown increased trends. Therefore, cropping pattern changes toward in high value crops (condiments & spices, vegetables, nuts and fruits) and these crops having surplus production in state specially fruits, vegetables and nuts. So there is a scope for agro-processing industry towards high value crops in Tripura.

The State Government formulated a ten year Perspective Plan with the ultimate objective of achieving self-sufficiency in food grain production. Implementation of the Perspective Plan was initiated in 2000-01 and extended for two years, up to 2012-2013. The perspective plan for self-sufficiency in food production has led to significant increase in production which has been consolidated by the efforts of 'Agricultural Development Roadmap'. Till 2014-15, the food grain production had increased to 7.62 lack tons from 5.13 lakh tons in 1999-2000 against the requirement of 8.79 lakh tons. The gap in production during 2014-2015 was 1.17 lakh tons.

From [See Table 3.] it is observed that 2.13 lakh tons of foodgrains production has been increased during the last 10 years with an average annual growth rate of 3.48%. In spite of increase in production trend there is still a shortage of food grain production in the state as per requirement and depend on other states for shortage of production. So there is a limited

scope for food grain based industries in the state after fulfilling its own requirements.

On the other hand, the state is already in surplus of fruits and vegetable production. Area and production under cultivation of vegetable and fruits has also gone up with the increased trend [See Table 2.]. The fruit crops like jackfruit, lemon and pineapple are grown throughout the year without being seasonal due to favourable climate. Pineapples during summer are grown in Kumarghat, Nalkata, Sonamura, Kanchanpur area of Tripura. Similarly, jackfruits, banana are harvested throughout the year without being location specific due to favourable climatic and soil condition.

3. SCOPE OF AGRO-PROCESSING INDUSTRY

Increase demand of processed food

Due to rapid urbanization the social, economical and cultural habits also changing for setting the food processing units. Now a day with the change in the cultural habit and standard of living of the people both in the urban and rural areas the consumption and buying of processed food from the market have increased a lot. In modern times, life is becoming fast not only in urban areas but also in the semi-urban areas and to some extent in the rural areas too. This also results in increased demand of processed food available in the market.

Geographical advantage

The state is surrounded by the neighbouring country Bangladesh on its south, west and north. The length of its international border with Bangladesh is about 856 km (i.e. about 84 percent of its local border), while it has 53 km border with Assam and 109 km border with Mizoram. Tripura is strategically located in-between Bangladesh and South-East Asian Region. It's having historical links with Bangladesh, providing bilateral trade. Tripura has one favourable agro-climatic zone-Mild tropical plain zone, favouring cultivation of a host of crops, vegetables and fruits round the year. North Tripura, Unokoti, Dhalai, West Tripura, Khowai, Sepahijala, Gomati and South Tripura all come under this zone.

Communication

At present Tripura is well connected with rest of the country through broad gauge railway and Air services. The Agartala airport is very soon to be upgraded into International Airport. The inter districts connectivity also has improved a lot through by road. Total road length of 20,930 km in 2015-16, there were 11,393 km of black topped road, 5742 km brick soled road and remaining 3,795 km roads were earthen [The Statistical Abstract of Tripura, 2014].

Potential crops

In Tripura due to its favourable agro-climatic condition various seasonal fruits are grown in plenty. Tripura is known for its special and unique variety of pineapples and oranges. The major grain in the state is paddy followed by Pulses, Wheat and Maize. Vegetables such as cauliflower, cabbage, potato, brinjal, bottle guard, tomato etc., are also produced along with Spices including Turmeric and Ginger. Jackfruit, pineapple and orange rank first, fourth and tenth respectively in terms of production in the country. The total production of fruits is 8,28,000 MT and rank 18th in the country in terms of total fruit production. The total production of vegetables is 8, 28,000 MT and rank 22nd in the country in terms of vegetable production [The Statistical Abstract of Tripura, 2014].

Agricultural Market and cold storage

There are about 554 nos. agricultural markets in the state recorded in the year 2016. Out of them, 84 nos. markets are whole sale assembling markets [medium markets] and of which 21 nos. markets are Agri. Regulated markets. The numbers of primary rural markets are 470. These 21 markets are controlled and maintained by the Agri. Produce Market Committee [APMC]. These APMCs perform their activities as per power vested upon them vide provisions under Tripura Agricultural Produce Market Act [1980] & Rule for regulating price, trading, storing, processing, transport, weighing & quality of notified agricultural produces. Except the markets within AMC area, all other markets in the state fall within the notified market area of the APMCs.

Cold stores play a great role in avoiding distress sale of perishables like potato, vegetable and fruits by the farmers. The department of agriculture has nine [9] numbers of cold stores having a total capacity of 15,000 MT out of which 12,250 MT for potato and 2750 MT for vegetables and fruits. There are more 6(six) nos cold stores under private sectors and 2 nos under MARKFED. Out of which 4(four) nos private sectors are in working condition during 2015-2016, making storages capacity was 31,000 MT in total.

4. STATE GOVERNMENT INITIATIVES,"

Presently, there is a multi-industry complex at Bodhjungnagar, on the outskirts of Agartala, which comprises of an Industrial Growth Centre, an EPIP, a Food Park, a Bamboo Park and a Rubber Park etc. Besides, there are five Industrial Estates and one Industrial Area in the state. The infrastructure facilities at Land Custom Stations are being upgraded, to facilitate the import/export trade with Bangladesh. The Industrial Infrastructure Projects are as follows in [Table 4.]

The state government has undertaken a number of reforms to create an investor-friendly business climate in the state. Clearances required for setting up of food processing units like Food Safety(FSSAI Act), Factory Inspector NOC, Pollution Control Board, Weights and Measures (Department of Consumer Affairs), Labour Department, NOC from Gram Panchayat (if rural) and Municipality (if urban),Fire Safety, Sale Tax, Tripura State Electricity Corporation(for power) have been made faster. The registration process to avail incentives has been simplified and the number of documents

required has been reduced. The interested investor should approach the concerned District Industries Center (DICE) or the Single Window Agency based on the proposed investment amount of the project, all assistance to the investor on the complete process of establishing and operationalizing an industry shall be provided. Tripura Investment Promotion Board (TIPB) has been constituted. The state has also established clear timelines (1 to 90 days) for any statutory permission [Source: Department of Industries and Commerce, Government of Tripura, 2017].Key incentives available for the food processing industry under major policies of the state are summarized in the table below in [See Table 5.]

The Government has formulated a number of policies to give impetus to the sector. Some of the key incentives are listed below in [See Table 6.]

5. CONSTRAINTS IN AGRO-PROCESSING INDUSTRY

Tripura is industrially backward and main reasons for its backwardness are geographical isolation as well as poor road and railway connectivity with the main land of India from last fifty years. Low availability of infrastructure has made the process of economic development and industrialization difficult in the state.Fragmentation of land holding is still continuing as a part of social phenomenon. Average size of holding has been declined from 1.25 hectares in 1976-1977 to 0.49 hectares in 2010-11 against all India 1.15 hectares. (The Economic Review of Tripura, 2014).Therefore taking big scale production approach for a particular area is sometimes problematic. For this supply of raw materials for a particular area round the year is also challenging. Moreover, the marginal and small farmers are resource poor and high cost and low availability of credit remain a problem for them to start their own processing business or enterprises.The maintenance of better quality standards of the product is another constraint in this industry. The poor infrastructure related to shorting of raw inputs such as food materials, proper storage facilities like warehouses and cold storages, lag of storage standards. Sometimes, power breakup result in sub-optimal function of the cold storages and the quality of the food materials in the cold storages becomes questionable. It is a common phenomenon in case of potato storing in the state. The packing quality is also poor and not so attractive in present competitive market due to its cost.

Lack of skill development training and exposure visit programme among small and marginal agro-processing enterprises, poor market linkup, popularization of product through mass media, insufficient modern small scale machineries, high inputs cost and lack awareness among consumers are also hindering the progress of agro-based industries.

Conclusion: At present state government main focus is employment generation among educated people through entrepreneurship development. There is a limited scope of employment in government sector but better scope in private sector through industrialization especially in agro based processing industry. It is possible only when different constraints related to agro processing industry are minimized and able to better use of resources. Therefore, the state government with the help of central government has been taken various development activities related to infrastructure development of the state specially improvement of communication with rest of the country. For continuous supply of raw materials emphasises has been given on cluster based production system in which incentives are being provided by state government especially for fruits, vegetables and cereals. In this approach, potential areas of different crops have been identified so that continuous supply of raw materials would be possible round the year. Proper training and exposure visits are also needed from trained persons for maintaining high quality standard of the processed food, raw materials, packaging, storage etc. It will also be helpful for marginal and small entrepreneur for improving their distribution network, marketing channels and competiveness. The increase in competition among enterprises for the products will enhance farmer's capacity to adopt improved production and post harvest techniques to meet the higher quality standard. There should be a separate Department or Ministry related to agro-processing industry in the state to look after producers to entrepreneurs, workers to sellers for quick need based solution of their problems.

6. ACKNOWLEDGEMENT

This paper based on the first author's PhD thesis title "Crop Diversification: A search for an alternative income of small and marginal farmers in the state of Tripura."

REFERENCES

[1] *The Economic Review of Tripura (20114).* Directorate of Economics & Statistics Planning (Statistics) Department, Government of Tripura, Agartala.

[2] *The Statistical Abstract of Tripura (2014).* Directorate of Economics & Statistics Planning (Statistics) Department, Government of Tripura, Agartala.

[3] *www.industries.tripura.gov.in*

[4] Government of India, Ministry of Food Processing Industries (2011-12), *Annual Report on Food processing industries in India, New Delhi*.

[5] *www.dcmsme.gov.in*

Table 1: Changes in cropping pattern in Tripura: 1985 to 2015.

Crop groups	Share in total cropped area (%)			
	1985-1986	1994-1995	2004-2005	2015-16
Cereals	74.88	69.73	72.61	60.49
Pulses	1.36	2.42	2.26	2.69
Oilseeds	1.85	3.55	1.10	2.11
Cash crops	4.77	2.45	1.20	0.69
Condiments & spices	0.92	1.11	1.21	1.86
Vegetables	5.51	6.88	8.82	11.12
Nuts	1.77	3.75	3.77	4.37
Fruits	8.94	10.10	9.04	16.67
Total	100	100	100	100

Source: Statistical Abstract of Tripura

Table 2: Trends in production of major crops groups in Tripura

Crop groups	Production in MT		
	1994-1995	2005-2006	2015-2016
Cereals	420550	608230	811459
Pulses	5700	5104	13925
Oilseeds	8805	2913	9651
Cash crops	94630.5	46113.76	52767
Condiments & spices	-	9594	44915
Vegetables	-	365028	683837
Nuts	4691.3	11435	43480
Fruits	362180	525128	827885

Source: The Statistical Abstracts of Tripura

Table 3: Gap in food grain production in Tripura:

Year	Requirement in lakh MT	Food grain production in lakh MT	Surplus(+)/ Deficit(-) in lakh MT
2004-2005	7.66	6.12	(-) 1.54
2007-2008	8.00	6.49	(-) 1.51
2011-2012	8.56	7.30	(-) 1.26
2014-2015	8.79	7.62	(-)1.17
2015-2016	8.92	8.25(P)*	(-) 0.67

*P= Provisional

Source: The Economic Review of Tripura, 2014

Table 4: Present infrastructure developments related to Agro-based industry

Sl. No	Industrial Park/Growth Centre / Food Park	Location	Type	Total Area (acres)	Area available (acres)
01	Arundhatinagar and Badharghat Industrial Estate	Agartala, West Tripura	Multipurpose	28.935	3.20
02	Kumarghat Industrial Estate	Kumarghat, Unakoti	Multipurpose	45.66	8.10
03	Dhajanagar Industrial Estate	Udaipur, Gomati	Multipurpose	18.79	4.20
04	Dharmanagar Industrial Estate	Dharmanagar, North Tripura	Multipurpose	7.95	2.10
05	Bodhjungnagar and R.K.nagar Industrial Complex	Agartala, West Tripura	Multipurpose	761.89	122.40
06	Integrated Infrastructure Development Centre	Dewanpassa, North Tripura	Multipurpose	46.285	18.50
07	Integrated Infrastructure Development Centre	Sarasima, South Tripura	Multipurpose	32.54	16.40
08	Bodhjungnagar food Park-Agartala, promoted by Tripura Industrial Development Corporation Ltd	West Tripura, Agartala	Multipurpose	30	25
09	Sikaria Mega Food Park	Tulakona,Khayer-pur,Tripura (west)	Multipurpose	50	-

Source: Department of Industries and Commerce, Government of Tripura, 2017

Table 5: Tripura Industrial Investment Promotion Incentives Scheme, 2017

Key Incentives	Area
Capital Investment Subsidy	For thrust sector including food processing industries @40% with ceiling of INR 70 lakhs per enterprise
Interest Subsidy5 years	Actually paid to banks/financial institutions to the extent of @ 4% subject to a ceiling of INR 3.00 lakhs per annum
Employment Cost Subsidy	Thrust sector only including food processing reimbursement of ESI/EPF expenditure of employers up to 100% for micro, small, and medium industries
Power Subsidy	Reimbursement of power charges for 5 years @25% of the power charges actually paid by the enterprise, subject to a ceiling of INR 12 lakhs per year
Export Promotion Subsidy	Under thrust sector including food processing on exporting goods through LCS in the state @10% on value of export with a maximum ceiling of INR 20 lakhs per annum

Subsidy for Participation in fares and Exhibitions	Thrust sector industries including food processing @ 50% with ceiling of INR 50,000 for each participation.

Source: Department of Industries and Commerce, Government of Tripura, 2017

Table6: Potential investable projects of Government of Tripura

Project name	Processable Products	Value Proposition
Bamboo :Shoot Processing	Dried bamboo shoots, bamboo shoot pickle in various form, canned bamboo shoot in brine, as curried vegetable, bamboo shoot candies, bamboo shoot chutney, fermented bamboo shoot, bamboo shoot beer	Bamboo market growing at an estimated USD 2 bn a year
Rice milling	Processed and packaged rice, malted food	India has a potential of 1.4 million tonnes of rice bran oil production but current production is 0.9 million tonne thereby offering significant opportunities.
Multi Fruit Processing	Dehydrated fruits, fruit juice, jam/jelly/marmalade, squash, papaya candy, osmodried fruits	India's fruit processing industry is however growing at a much faster rate of 13% compare to 7.6% of world fruit processing industry.
Pineapple Processing	Dried pineapple, canned and tined pineapple, jam, concentrate, squash, juice, frozen pineapple juice concentrate, pulp	Tripura is the 4th highest producer of pineapple.

Source: Department of Industries and Commerce, Government of Tripura, 2017.