

# Potential for Dehydrated Onion Unit in Surandai

(A Brief Case from Village Immersion Programme of BIM)

Small and marginal farmers cultivating onion in Surandai are incurring losses or earning very little income. As onion production during the season is more than the traded volume/market demand besides onion imports from other states/regions by local traders, the price at which onions are procured from local farmers is marginal and not adequate even to cover costs and repay loans. Over usage of pesticides and use of low quality seeds is reducing quality of onion produce limiting the scope for institutional sales and export. Fear of uncertainty and risk-aversion behaviour of farmers are acting as hindrances to explore new opportunities and overcome the loss-making situation. Will dehydrated onion offer new opportunity to the marginalised farmers in Surandai? This case is a brief summary of the study carried out by a team of management students from BIM Trichy as part of their village immersion programme (VIP).

## 1. Introduction

In Surandai, a town Panchayat in the Tirunelveli District of Tamil Nadu, agriculture is the major economic driver. Surandai is a fast developing rural region with agriculture-based trade growing every year. Traders, business entrepreneurs, skilled and unskilled people are able to leverage available opportunities while the overall economic activity has been growing in Surandai. But the farmers, who are primary sources of this economic cycle, are unable to enjoy benefits from these economic activities and growth. Lack of “inclusive growth” in Surandai is leading towards income gaps and disparities in its socio-economic profile. Though farmers, particularly the small and marginal ones have all resources such as fertile land, water for irrigation, access to labour, etc., they are either suffering losses or earning low income. Income they generate is less than the cost of cultivation and this makes it difficult for them to repay loans, meet household expenses and finance working capital for next crop cycle and forces them into further high cost debts.

With an intent to facilitate “inclusive growth” in rural parts of Tamil Nadu, Bharathidasan Institute of Management (BIM), Trichy, initiated social-economic development projects through the Village Immersion Programme (VIP) to study such social-economic problems and provide business solutions and enterprise plans for the farmers/rural communities which can generate additional income for them by exploring new economic opportunities based on their resources and capabilities. One such potential problem identified for the study is “*Loss making Excess Onion Production by Small and Marginal Farmers in Surandai*” A team of four students from BIM, under the guidance of Dr. S. Jaya Krishna, stayed in Surandai for 10 days (i.e., from 20th – 29th Aug 2018) and studied the onion production and markets.

## 2. Loss-making Onion Cultivation

Most of the small and marginal farmers in Surandai are recurring losses or earning little income from their onion crops every year. More than 2000 farmers are consistently earning very low income every year which doesn't even cover their production costs leading to several socio-economic issues. Observations and interactions during the preliminary investigations at the market places viz., Kamarajar market and Paavurchathiram market, confirmed the presence of this problem. An average onion farmer in Surandai earns around Rs. 39,600 for 5 months of cultivation efforts. Which means small farmers who hold less than or equal to an acre will earn income less than Rs. 18,000 per annum. One of the major reasons quite apparent is - too much onion supply more than the market demand in the same period (from August to September). In nutshell, the supply is more than demand causing fall in price and profit for the onion farmers.

Govt., is providing 40% input subsidy on items like fertilizers, seeds, etc., while giving 50% capital for constructing onion storage units and protected farming. Due to the cumbersome process for obtaining subsidy every time, farmers tend to purchase very low quality seeds which costs around Rs. 250 per kg., from local stores and cultivate onions suffering yield loss. Farmers also think that by using pesticides heavily, they will produce better quality yield and hence use heavier doses which backfires and reduces the quality of the produce. While onion farmers have all the agriculture resources- land, water, labour and know-how of cultivation, they lack financial ability to create storage facility and on the other hand the fear of risk, fear of uncertainty, etc., is stopping them to invest and venture into any other economic activity.

### 3. Dehydrated Onion - A Potential Opportunity

When enquired about opportunities for selling onions to food processing, personal care, ayurveda firms, we understood that such firms aren't interested to take the produce until supply is consistent throughout the year with acceptable quality standards. The team understood that there is very little or no scope for onion market expansion and therefore started exploring at value added onion based products as solution for the excess onion production in Surandai. After analysing the market and availability of resources, dehydrated onion powder and flakes were found as the potential value added products that can be produced in Surandai using the dehydration technology.

The secondary sources like online published report(s) and views expressed by the representatives of onion dehydration associations (through reputed media) were used selectively by the team for better understanding of the following and their implications on dehydrated onion to make informed analysis and decisions:

(i) Qualitative aspects: prevailing and emerging supply market situations, competitive scenario, domestic market characteristics, household consumption levels and potential, market acceptance, customer types and product expectations, consumer awareness, need-gaps, channel preferences, prices, parity & fluctuations, market growth rate, tendency to shift to dehydrated onions, competitiveness level required in domestic & global markets, onion raw material types & their comparative potentials, etc.

(ii) Quantitative aspects: technology capabilities, production process, input quality standards, number of shifts possible per day, the ratio of input to output in onion powder production, project costs for various output capacities, availability of Minimum Export Price (MEP) for dehydrated onions, export duty, transport assistance in exports, competitiveness in global markets, etc.

#### 3.1. Technology, Material and Production

Onion powder is prepared commercially using raw onions by dehydrating, freeze-drying, vacuum-shelf drying and flow drying. Onion flakes can be converted into powder by using pulverisers or grinder. To produce a kilo of dehydrated onion around 10 kgs fresh onions are required. This means, one kg of onion yields about 100 gram of dry onion. The dried onion flakes and powder can be stored for more than nine months in vacuum packaging. Dried onion flake or powder is mainly produced from the white variety of the bulb, while the traditionally consumed vegetable is the red one. Red onions are not suitable for dehydration due to low solid content, low pungency levels and high content in reduced sugars. Low solid content in onions significantly increases the processing costs and results in low recovery or yield of the dehydrated product.

#### 3.2. Market Segments and Potential

Based on packaging, the market has been segmented as *bulk packaging* and *pouches*. Currently, *bulk packaging* dominates the market, holding the largest share. On the basis of application, *food processing* represents the largest segment, followed by the *healthcare* segment. Based on end-use, the market is segregated as *commercial* and *residential*. Amongst these, commercial exhibits a clear dominance in the Indian onion powder market. Region-wise, the market has been segmented into Gujarat, Maharashtra, Madhya Pradesh, Rajasthan and Others. Amongst these, Gujarat is the leading market, accounting for the majority of the market share. Some of the manufacturing units directly export dehydrated products. However, some of them sell their products to merchant exporters, who further export these products to the potential buyers. While 10 per cent export duty is levied on dehydrated onions in India, in the United States, Egypt and China, it is duty-free export.

The domestic consumption of onion powder in India is largely driven by institutional buyers such as star hotels and restaurants. Onion powder is widely used in India for several culinary purposes owing to its advantages such as long-shelf life, easy transportation, wide availability and insignificant calorie count. The Indian onion powder market reached a volume of 11,670 Tons in 2017 (Source:

Indian Onion Powder Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2018-2023). Apart from this, food processing represents one of the largest sectors in India which is bolstering the demand for onion powder. Moreover, onion powder is used in ready-to-eat food products, like packaged soups, sauces, oats, noodles, pasta, frozen food and instant mixes. Further, onion powder is used in seasonings, dry rubs, marinades and condiments for preparing appetisers, seafood and meat. Looking forward, the market volume is anticipated to 16,540 Tons by 2023, registering a CAGR of 6% during 2018-2023, according to the report.

Even though the demand for dehydrated onion has increased in India, consumption in households is still negligible. According to the industry, people are not much aware about onion dehydration and its benefits at the time of rising prices of fresh onion. According to industry players, dehydrated onions are largely consumed by wholesale consumers such as hotels, ready-to-cook food or masala makers, while only a marginal portion of production is used by households. Domestically, consumption of dehydrated onion is about 10,000 tons, of which only 8%-10% (i.e., about 800 -1,000 tons) are consumed by households. While dry onion powder is anticipated to lead, dry onion granules will witness significantly growing demand in next decade. Food processing industry will reportedly remain the leading end-user of dry onion.

### **3.3 Export Market Challenges and Requirements**

India produces about 70,000 -75,000 tons of dehydrated onion every year. Out of it, nearly 15% is consumed within the country while the rest 85% is exported to Russia, Europe, Middle East and Africa, among others (According to Future Market Insights). Faced with fierce global competition, the onion dehydration units that convert the bulb into dry flakes and powder are now looking at the domestic market to sustain and expand their business. According to the trade sources revealed through Business Line on March 02, 2018, out of the 110 onion processing units located at Mahuva in Bhavnagar district, Gujarat over 70 have either closed or reduced their operations due to piling up of stocks and reduced international prices.

Dehydrated onion products are exported in different forms as slices, kibbled, flakes, minced, chopped, ground, granules or power to Europe, North America and Russia. Onion harvesting and arrival starts from December; thus, dehydration units work only for three months, to a maximum of five months. The demand is for pure white onions with high pungency. The food safety requirements of the importing countries have to be complied with. To qualify for exports, the processing units should stringently follow Good Manufacturing Practices (GMP), Quality Management Systems (QMS), Quality Assurance (QA), Statistical Process Control (SPC), Food Safety, Strict Sanitation & Hygiene, and similar modern practices. Besides, the dehydration plant should also be preferably certified for ISO 9001-2000 ISO 22000-FSMS and BRC and HACCP while meeting ADOGA (American Dehydrated Onion and Garlic Association) and other international standards.

### **4. Onion Dehydration Unit in Surandai**

Cultivation of red onion in Surandai is one of the major barriers to tap export potential added to the quality problem, pesticide residue and huge competition from several organised contract farming firms and well established onion dehydration units which are losing heavily due to highly uncertain and volatile environment. However, farmers in Surandai can tap the domestic potential for dehydrated onion from August to December period, during which the competition from other units across the country is relatively low and can leverage on the advantage of producing onion powder from fresh onions harvested in this period. A dehydration unit by local marginalised farmer(s) with the financial assistance from the Govt., in Surandai can serve a meagre portion of the household and restaurant markets for 3 - 6 months (i.e, during July – December) every year, if operated efficiently and marketed professionally while ensuring quality standards.