

BANANA BASED VALUE ADDED PRODUCTS

Six students from the 35th Batch of MBA students from BIM (AANCHAL GUPTHA, ARCHANAA RAVEENDRAN, M.PURVIKA, PARITALA SIVAJI, D.SANKARA SUBRAMANIAN and K.VANATHI) set out on a journey to explore rural life. Their objective is simple – to understand the culture and life of villagers in Thiruvallarsolai, Uthamarseeli and Kilikkoodu and to provide an economic solution to improve their well being. The exploration was for 10 days during August 2018.

Thiruvallarsolai is a part of Tiruchirappalli Corporation and it comes under Srirangam Taluk, Ward no. 6. It is situated at 9 km from Kallanai to Thiruvanaikoil route. It is situated on the banks of the river Kaveri. The major occupation of the villagers is agriculture. The major crops that are grown are Banana and Sugarcane. There is a government elementary school, a government high school, and a primary health center in the village. There is also a cooperative bank in the village, which lends loan for Self Help Groups, in and around the village. The soil is fertile and is suited for agriculture. There are around 300 families in the village. Most of them live in self-owned independent houses and the water source for everyone seems to be corporation water and water from bore. Most of the people are satisfied with what they do and don't have any inclination to change the status quo. Hinduism and Christianity are predominant religion followed in this region.

Uthamar Seeli is a village Panchayat located near Kallanai. This village is also situated on the banks of the river Kaveri. The major occupation of the villagers is agriculture. They also do other daily jobs works to earn a living. There is a Panchayat Union Middle school in the village. The villagers send their wards to schools in Thiruvanaikoil for higher studies. They are inclined towards the education of their wards. The total population of the village in the year 2011 is 2134 and the current population is estimated to be 2368. Hinduism is the predominant religion followed in this village. Even though the village is situated in the banks of Kaveri, water from bore well is used for irrigating the fields.

Most of them in the village have a cell phone and every family has a two wheeler. Many women are a part of self-help group and they are interested in doing handicraft works in their free time to earn more. The people here are satisfied with what they have. Here, we have a high possibility of indulging the women doing in handicrafts using banana Fibre. All they required is proper training, if they are willing.

Kilikoodu is a village in Andanallur Block of Tiruchirappalli District. It is situated near Kallanai. The major occupation of the villagers is farming and they are also going for daily wage jobs. The village is situated in the river banks of Kaveri. Most of the farmers own 3 to 5 acres and they cultivate banana, paddy and sugarcane. The population of the year in 2011 is 1066 and the current population is estimated to be 1183. The villagers were keen on joining hands together for starting a banana dehydration unit in the village. Most of them were aware of organic farming and they also motivated other farmers to follow the same. Women in the village were interested in doing handicrafts using banana fibre. Hinduism is the predominant religion followed in this region. People were more interested on learning new things. Here, people are willing to come together for both banana dehydration and Fibre extraction.

India is the largest producer of banana in the world with a production of approximately 20.86 million tons from an area of 6.00 lakh hectares. Out of this amount only 3-4% of banana is processed. The most popular processed product is Nendran chips, which is still in cottage scale while some bigger manufactures are processing banana puree for export. However, there is scope for converting banana into several other processed/value added products like figs, jam, jelly, powder, flour, baby food, health drink, RTS beverages, wine, alcohol, sauce, pickles, chutneys, animal feed, Fibre etc.

Products like fig and pickles have a good export potential. For instance, Banana fig, in particular, can be an excellent nutritional supplement that can even be included in the noon meal scheme or used by defence forces, in case of situations, when they cannot carry more food. Every part of the banana plant can be derived into a product, including the flower, central stem, pseudo stem and banana itself, be it raw or ripe. Several processing technologies for value added banana products have been developed at National Research Centre for Banana, Trichy.

Although, more than 50 cultivars are commercially cultivating in India, only a few play a significant role in trade. Banana is a highly perishable good, owing to its moisture content and climacteric condition. Also, the banana plant is succinct to natural calamities like storm and flood and thus poses a real threat to farmers, as they can't do anything with the immature or spoiled banana plant. Therefore, applying appropriate additions can reduce the immature and post-harvest losses in banana through converting them into semi perishable product. The processing of banana adds value to the produce where the farmer or trader can get a better price for the same. Most of these value added products of banana are shelf stable for 3-6 months. But, post-harvest losses are estimated at 25 to 30 per cent, where the main factor cited as the reason behind, is an inefficient value chain framework; it primarily includes presence of a large number of intermediaries, poorly organized small-scale producers and lack of comprehensive market knowledge along the value chain. Further, lack of regulatory systems for bananas, no agreed grades/standards for domestic market and low technical capacity for ripening, lead to high post-harvest losses. Defects in auction system have led trader's cartels to fix the ruling prices which leads to price instability.

Through starting a banana value added business, farmers have an opportunity to utilize their harvested banana during their peak season when their prices might go too low. Thus, after process of adding value to the raw material (banana), they can get more monetary value.

Low prices of banana after harvest is a serious concern for farmers as they generate minimal profit. Here, the middleman or the dealers involved in distributing the harvested bananas from the farmers to the end consumers, take more than needed cut/profit, compared to the farmers. This can be minimized if farmers are involved in handling their own produce and add value to the banana to get the appropriate and well deserved profit.

Dehydrated bananas can be stored for a long period and can be marketed in those areas where these bananas are not grown. Farmers can also make banana pickles that can be purchased during their peak season and pack them for sale. Pickles are considered as table essentials all over the South-India and thus always having demand in the market. Also, there is a viable scope for exports, with farmer interventions in making and packaging, with pre and post-harvest technologies.

Vagaries of monsoon and three successive years of drought condition have weakened the financial status of the banana growers in these areas. It has raised a serious doubt and made farmers cautious in mobilizing investment into the solar drier project and to seek the support of funding agencies. In a nutshell, this project has opened up more avenues for value addition of farm produce like fruits, vegetables, preparation of solar-dried banana figs at Thottiyam, herbs and coconut, by using a state of the art greenhouse solar dehydration unit, without any loss in nutrient values and are free from contamination.

Among the major production constraints, Crop damage due to adverse weather conditions like high wind velocity ranked top, which may require interventions of timely information dissemination on weather forecast, potential damage to the crop and suggested remedial measures, may help to reduce losses. Higher wages for labour and low pricing of the final produce in the face of higher input cost were reported as the second major constraint. Pests/disease attack and the resulting low quality are some of the other constraints, which may be controlled with better management

practices. In business, delayed payment of dues after procurement and arbitrary deductions by the procuring parties are the major concerns for farmers. Insufficient working capital for post-harvest management and higher costs associated with transportation are some more constraints. Besides, inadequate and uneconomical service provision for cold storage, grading and product handling, coupled with collusion of middlemen and buyers, the unfair price fixation are causes of concern.

Production constraints like wind damages, animal attacks on the banana fields cause severe damages to the crop that leads to inconsistency in supply to intermediaries. Intermediaries also reported that transportation with the central stem as whole bunches added up to the costs of handling (loading/unloading) costs. Besides, lack of cold storage facility, pack houses are mainly due to the lack of institutional credit facilities for their establishment. The abundant supply of fresh bananas in the domestic market led to less consumption of the processed products. Lack of proper promotional efforts and proper display of the products were ranked second by processors. Processing is in a nascent stage in India; thereby smaller units with lower capacity utilized posed a challenge to the economies of scale. Non-availability of quality bananas in sufficient quantity followed by presence of blemishes in fruits is a major problem faced by exporters. Higher freight charges took a higher toll in revenue. Besides, lack of institutional credit, higher domestic prices of banana hinder exports. Also competition from other exporting companies and lack of information on alternate markets posed a challenge to the exporters.

Dehydrated banana products and banana pickle business caters to the growing consumer market of healthy food. Farmers can succeed in developing a profitable business through the use of banana value added products. Highlighting to farmers that they could increase their income by tenfold by shifting to value-added products, keeping in mind that none of these products require heavy investments and could instead be manufactured by setting up small-scale units. Also, switching to value-added products would also increase usage of the produce since wastage would be reduced drastically.

Also, handcrafts materials as well as Fibre bags made from banana Fibre can become an alternative for plastic products.

The project deals about the different value added products we can prepare once we collect the banana harvest. The main objective of the project is to extract the full utility out of the banana plant, without depending on only fruit for profitable business. The value added products includes Banana Chips, Banana Flour, Banana Cookies, Banana Fibre, Banana Fig and Banana Pickles. We are mainly focusing on the Cauvery river belt around Trichy, which is producing banana in huge volumes but not having the right strategy when it comes to reaping the full benefits out of the final harvest.

The project details about the geographical locations of the villages covered, Demographics, Societal behavior of people when it comes to taking up the entrepreneurial decisions. It talks about the Primary value system, which is driving the villages and their shifting of priorities in present times. It includes the surveys carried out in 3 villages namely Thiruvalarsolai, Uthamarseeli, Kilikoodu. Besides above details, the Surveys focused on the income levels of the villagers, land in possession, other fixed assets and the challenges they are facing in their localities.

The project also involved visits to different places where the technologies being developed (ICAR-Sirugamani), Research being conducted about bananas (NRCB – Thayanur), The manufacturing units of Banana value added products (Tamilnadu Banana Producers Company Limited-Thottiyam, Pettavaithalai, KP Enterprises- Ponnagar, Trichy) and their way of operations, few on ground suggestions made in operational efficiency and marketing.

The project also talks about various varieties of Banana, the techniques involved in extracting the Fibre from the banana sheath, different value added products that can be produced and the ways to do it. The specifications of machinery required for setting up the business, different aspects of production like labour, land, raw materials and other operations.

It involves in detail financials associated with the project take off including the Business plan, Marketing Plan, Finance estimations and projections. Some of the schemes available for the benefit of farmers in getting the subsidies are also covered in brief for every product.

The project team gave lectures on various burning topics to the villagers ranging from Inclusive development, scientific significance of traditions and rituals. The team identified the potential entrepreneurs who are really interested in taking up the project, collected all the details of them.

Throughout the project period, the team visited Several Government organizations located in Trichy district and met many farmers and residents across the three villages. This project enabled us to learn the traditions and culture with which the villagers are holding themselves together from centuries. The team came to know the business from entrepreneurs themselves, visiting the operations place and seeing the living example with our own eyes. Live field experience made a thorough impact on ourselves to strive towards the development of farmers further and a glimpse of understanding, what it means to start and sustain a business. It made us put ourselves in their shoes and look at the world from their perspective. The team came up with some of our observations and noted down many problems the farmers are facing in their day to day lives of farming.

In rural-areas, people's candour, warmth, and kindness were prominent. Even though majority of the interview respondents belonged to poor socio-economic backgrounds, they welcomed our survey team into their homes and were generous with their time and resources. People left their work to sit and respond to our questions. Although The team did most of the questioning, a common question put to us was, "Did you eat?". They invited us to spend time with their family, eat and their kids entertained us.

They inculcate trust in their kids' right from their young age. This was observed when they didn't see us as strangers and didn't ignore which is unlike urban areas. Children do share their eateries or things to their fellow friends.

The culture of a society is the accepted way of doing things in that particular society. It is the way in which people live, their customs, traditions, methods of cultivation and so on. The culture of a society is learned by each individual member of that society. Children are not born with this knowledge; they learn by seeing how older children and adults behave. As they grow up, older members of their family or kinship group teach them about the customs and traditions of the group and the society. Later still, they may be initiated more fully into the society at ceremonies where they are taught traditional habits and customs, and their expected role. Experience also gives the individual a better understanding of the behaviour pattern of the community and may teach the individual how to change some of the traditional forms of behaviour for newer, more modern forms.

Culture is not an accidental collection of customs and habits but has been evolved by the people to help them in their conduct of life. Each aspect of the culture of a society has a definite purpose and function and is, therefore, related to all the other aspects of its culture. This is important to remember when planning extension programmes. Changes in one aspect of culture may have an effect on other aspects of that culture. If changes in one aspect of culture are introduced, and these are likely to have an unacceptable effect on other aspects, then a programme may have little chance of success. This is one reason why local leaders and farm people should help in planning an extension programme. They will know whether or not the changes proposed will be acceptable to the society.