

## **Piggery farm enterprise - A success story of a rural entrepreneur**

### **a. Background**

The challenges faced by our district in securing the food as well as nutritional security to fast growing population need an integrated approach for livestock farming. The pig farming constitutes the livelihood of rural poor belonging to the lowest socio-economic status peoples in dry tract. In virudhunagar district under various piggery entrepreneurship training programme was conducted by KVK, Virudhunagar during 2014, 2015 and 2016 to develop the training entrepreneur.

### **b. Interventions**

Among the various livestock species, piggery is most potential source of meat production and more efficient feed converters after the broiler. The pig has got highest feed conversion efficiency i.e. they produce more live weight gain from a given weight of feed than any other class of meat producing animals except broilers. The pig can utilize wide variety of feed stuffs viz. grains, forages, damaged feeds and garbage and convert them into valuable nutritious meat. However, feeding of damaged grains, garbage and other unbalanced rations may result in lower feed efficiency. They are prolific with shorter generation interval. A sow can be bred as early as 8-9 months of age and can farrow twice in a year. They produce 6-12 piglets in each farrowing. Pig farming requires small investment on buildings and equipments. Pigs are known for their meat yield, which in terms of dressing percentage ranges from 65 - 80 in comparison to other livestock species whose dressing yields may not exceed 65%.

#### **(i) Process**

Entrepreneurship training programme was conducted in KVK, Virudhunagar to motivate the farmers to be an entrepreneur of piggery unit.

Various technology aspects of training was given to the farmer.

1. Importance and construction of piggery houses including floor space requirement and ventilation.
2. Care and management of breeding, feeding and maintenance of hygiene and sanitation.
3. Prevention and control measures of diseases, control of external and internal parasites and vaccination schedule for the piggery farm

**(ii) Technology**

Seasonal variations and lack of rainfall playing a major role in shifting from agriculture sector to allied enterprises such as Piggery farming.

**c. Impact**

**(i) Horizontal spread**

Improved piggery rearing technology was explain in KVK, Virudhunagar by conducting entrepreneurship training programmes to create awareness as well as make the entrepreneur. Now the technology spread kariyapatti block and Aruppukottai block.

**(ii) Economic gains**

One of our entrepreneurs Th.P.Muniasamy, Mudukkankulam village, Kariyapatti block, Aruppukottai Taluk was very much interested to start piggery farm but he did not know the technology and also lack of awareness about pig rearing. Afterwards he approaches the KVK in 2014 and continuously attended entrepreneurship training programme on Piggery management. Th.P.Muniasamy has developed intensive system of piggery unit under the guidance of Scientist (Veterinary and Animal Science) from Krishi Vigyan Kendra, Virudhunagar District of Tamilnadu. He started with 30 female and 20 male of three months age piglets and 190 pigs sold at an body weight of 80Kg per pig after one and half years. He sold one pig is around 80 Kg @ Rs 85 per Kg body weight his gross return of Rs 6800 and net return Rs 2300 with a cost of production of one pig is Rs 4500 and he gained annual income of Rs 4,37,000 from his farm.

**(iii) Employment generation**

The employment opportunities under this piggery farm business are multifaceted. The employment generation through this business is enormous which starts from the rearing of piglets followed by whole saler,retailer and so on. The promotion of such kind animal component related business is more suitable for the dry district like virudhunagar. This integrated farming system definitely fetch guaranteed income for the farmers of the of dry land agricultural depended farmers belongs to virudhunagar District.

## **Successful entrepreneur through millets value addition training**

### **Background**

Virudhunagar is one of the economically backward districts in Tamil Nadu. Most of the blocks in this district are cultivating with rain fed agriculture and they are cultivating mostly only one season in a year. Millets cultivation is done because of availability of soil and climatic conditions. Farmers in Virudhunagar district were not much aware of the post harvest technology and value addition of minor millets. They used to sell their products as grains immediately after harvest. Under such circumstances, to replace this unethical practice, an EDP vocational training programme was conducted to develop entrepreneurs from virudhunagar district by Krishi Vigyan Kendra, Virudhunagar.

### **Interventions**

#### **(i) Process**

One month training programme was planned accordingly to cover up all aspects of preparation of various varieties of value added products from minor millets and its nutritional and health benefits. Interested personnel across the virudhunagar district were selected for the training through media advertisement. Twenty five trainees were selected for the training programme by considering various qualifications.

#### **(ii) Technology**

The selected trainees were continuously given training with hands on experience in all aspects of value addition of minor millets for one month. The training programme was conducted by the invited expert scientists under deputation from various institutions and through successful entrepreneurs. Under this training programme, the trainees were given training on value added products such as preparation of traditional foods, convenience foods, ready mixes, bakery products, post harvest technology of minor millets etc.,. They were also taken for exposure visit to various food processing centres for providing confidence over the entrepreneurship based on the seeing is believing concept.

## **c.Impact**

### **(i) Horizontal spread**

Millets growing farmers and unemployed rural youths also gathering information on the value addition of millets training programme after seeing some the trainees started their own enterprise. Awareness also generated among the millets growing farmers and rural youths regarding millets value addition and their scope and marketability through the successful trainees. Now many of the farmers and rural youths are attempting to initiate this enterprise for further development.

### **(ii)Economic gain**

After attending the one month training programme, two of the trainees Mrs.Girija hailing from village has started her own business. She is producing millets value added products such as minor millets incorporated wet idli batter and **sathumavu** with full cooperation of her family members.Now she is producing notable quantity of millets incorporated products and lot of demand is also available in certain areas of Virudhunagar district.Now she is planning to extend the business to some other areas not only in Virudhunagar district and also nearby districts based on the demand.

### **(iii)Employment generation**

Some of the unemployed rural youths who are living nearby villages are also planned to take up this business enterprise for their source of revenue. This will generate more number of employment more than ever from the community of millets growing farmers of Virudhunagar district.This will fetch up good returns to the millets growers and lot of chance are existing for the generation of more number of entrepreneurs especially from rural vicinity.

## **Nutritional terrace garden - Awareness generation among urban residents**

### **Background**

Nutritional terrace gardens have an established tradition and offer great potential for improving household food security and alleviating micronutrient deficiencies. Gardening can enhance food security in several ways, most importantly through direct access to a diversity of nutritionally rich foods, increased purchasing power from savings on food bills and income from sales of garden products and fall-back food provision during seasonal lean periods. One of the easiest ways of ensuring access to a healthy diet that contains adequate macro- and micronutrients is to produce many different kinds of foods in the home terrace garden. This is especially important in urban areas where people have space. Terrace gardens are also becoming an increasingly important source of food and income saving in peri-urban and urban areas. Most blocks in virudhunagar district are cultivating with rain fed agriculture and they are cultivating mostly only one season in a year. Under such circumstances, nutritional terrace garden is an important technology highly required to meet daily nutritional requirement of the family in urban area.

### **Interventions**

#### **(i) Process**

Awareness on nutritional terrace garden was generated among the urban residents of virudhunagar district through FLD during the year 2015 - 2016. Separate training programmes were organized to the urban residents of virudhunagar district who were selected for the training programme through public media advertisement based on first come and first serve basis. They were trained well for the establishment of nutritional terrace garden and its maintenance with help of the expert.

#### **(ii) Technology**

Establishment of nutritional terrace garden and its maintenance training was given to the trainees under FLD programme. After thorough training, the trainees were also given poly bags, bio mix and ten varieties of vegetable seeds such as Tomato – PKM 1, Chillies – K2, Bhendi – Arka anamika, Bitter guard – Green long, Snake guard – Kuttai pudalai, Greens – Amaranthus, Brinjal – CVK, Lab lab – Local, Hybrid ridge guard – (F1) NHRG – 1001 and Cluster bean – Local at free of cost to establish in their own terrace.

## **c.Impact**

### **(i) Horizontal spread**

After knowing about the training programme given under FLD , lots of demand received from the other urban residents for such kind of trainings through out the district. Based on the request made by the urban residents of nearby blocks, two separate training programmes on Establishment of nutritional terrace garden and its maintenance were organized. The details regarding the availability of poly bags , seeds , biomix and other raw materials required for establishing nutritional terrace garden was also given to the trainees towards purchase of their needs.

### **(ii)Economic gain**

Establishment of nutritional terrace garden in the urban residents helps not only to gain economic benefits and also to meet out their daily needs of the vegetables without any pesticide hazards in lesser price of cost. Nutritional balance could be maintained since variety of vegetables and fruits are being cultivated at a time in a single terrace. It also very much useful in maintaining the health status of the residents both physical and mental well beings. Nutritional terrace garden also helps to reduce the temperature of the entire house to at least 2<sup>0</sup> C lesser than the out side temperature.

## **Popularization of Newly developed high yielding Cluster bean variety MDU 1**

### **Background**

Farmers were traditionally using local varieties of cluster bean with wider spacing. Hence, the recently TNAU released Cluster bean variety MDU 1 was demonstrated in selected farmers' fields in Virudhunagar district under FLD programme by KVK, Virudhunagar during 2015-16. This programme envisages demonstrating production potential of newly developed technologies and ICM at farmer's field through KVKs so as to bring in enhanced application of modern technologies to address the issues related to increased production of cluster bean.

### **Interventions**

Cluster bean yield has to be enhanced by improved package of practices and by overcoming the various production constraints such as non adoption of High Yielding Varieties, inadequate plant population, imbalanced fertilizer application, not adopting micronutrient application and plant protection measures etc. The ICM technology which not only augments Cluster bean production by training and issue of inputs, but also, in making the farmer adopt the full package without omission for sustained production and productivity. On demonstrating the full package the farmers not only get convinced of the technologies but also, act as source of propaganda for the neighboring farmers to follow the protocol. Ten farmers were selected in the pannaimoonradipu, kattangudi, Kovilangulam and kathalampatti villages and frontline demonstrations were conducted in their fields during Rabi 2015-16. Cluster bean variety MDU 1 was used for demonstration in comparison with traditionally used local varieties.

#### **(i) Process**

FLD on Cluster bean was conducted in Thiru D. Arjunan field at Pannaimoonradippu village of Aruppukottai block. Cluster bean variety MDU 1 was used for demonstration in comparison with check of local variety. Sowing was taken up at right time with a spacing of 45 cm ridges and furrows and 15 cm of plant to plant was taken to ensure optimum plant population by gap filling on 7<sup>th</sup> DAS. Weeding was done using hand hoe. An INM practice was done in proper dose with in time. Need based plant protection measures were taken up to keep the pest population under check. Harvesting was done at correct maturity to avoid field losses by dehiscence.

## **(ii)Technology**

MDU 1 Cluster bean high yielding, cluster bearing nature with attractive green colored fruits and it is matured 90 -100 days.

The farmers of Pannaimoonradippu village are major seed distributors to the nearby villages during sowing period and they have got higher price value for their produce during that period. ICM was fully demonstrated.

### **a. Impact**

#### **i. Horizontal spread**

Latest variety of MDU 1 cluster bean cultivation were explained in the Pannaimoonradippu village of Aruppukottai taluk by conducting demonstrations in selected farmers' field and by couple of trainings. Awareness was created among the farmers.

Now the variety is grown in Narikudi block, Kariapatti block and Virudhunagar block which have more than 40% of the Cluster bean area under MDU 1 in the above blocks. The State Department of Agriculture also, has taken this variety for popularization and nearly 40% of the area under cluster bean in the district is covered by MDU 1.

#### **ii. Economic gains**

This intervention was conducted in Thiru D. Arjunan field at Pannaimoonradippu village of Aruppukottai block. Thiru D. Arjunan obtained an yield of 50 q/ha of Cluster bean MDU 1 compared to 40 q/ha in check of local variety with an increase of 25% over the check. The farmer recorded a gross return of Rs.112500/ha and net return of Rs.87700/ha with a B:C ratio of 4.98 under irrigated ecosystem. The check of local variety recorded a net return of Rs75300/ha and B:C ratio of 4.05 only.

#### **iii. Employment generation**

The marginal increase in labour is 5 man days/ha. The reason is due to increased yield and production factors. The indirect employment generation will also increase by 15-20% as cluster bean marketing, transport *etc* involves extra labour proportionate to productivity and production.

## **Popularization of Newly developed high yielding Blackgram variety MDU (Bg) 1**

### **Background**

Farmers were using varieties like T9 and VBN 2 to VBN 6. Hence, the recently released blackgram variety MDU 1 was demonstrated in selected farmers' fields in Virudhunagar district under FLD programme by KVK, Virudhunagar during 2015-16. This programme envisages demonstrating production potential of newly developed technologies and varieties of pulses at farmer's field through KVKs so as to bring in enhanced application of modern technologies to address the issues related to increased production of pulses in the country.

### **Interventions**

Pulse productivity has to be enhanced by improved package of practices and by overcoming the various production constraints such as allocation of marginal lands, non adoption of High Yielding Varieties, inadequate plant population, imbalanced fertilizer application, not adopting micronutrient application and plant protection measures etc. The ICM technology which not only augments pulse production by training and issue of inputs, but also, in making the farmer adopt the full package without omission for sustained production and productivity. On demonstrating the full package the farmers not only get convinced of the technologies but also, act as source of propaganda for the neighboring farmers to follow the protocol. Twenty farmers were selected in the Paralachi, Pisindi, Kovilangulam and T.Veppangulam villages and frontline demonstrations were conducted in their fields during Rabi 2015-16. Blackgram variety MDU 1 was used for demonstration in comparison with VBN 3.

#### **(i) Process**

FLD on pulses – Blackgram was conducted in Thiru P.Vengudusamy field at Muthuramalingapuram village of Thiruchuli block. Blackgram variety MDU 1 was used for demonstration in comparison with local check VBN 3. Sowing was taken up at right time with a spacing of 30 cm x 10 cm and care was taken to ensure optimum plant population by gap filling on 7<sup>th</sup> DAS. Weeding was done using hand hoe.

To enhance flower retention and better pod set, Pulse wonder @ 2 kg/ha was sprayed at the time of flowering and pod formation. Need based plant protection measures were taken up to keep the pest population under check. Harvesting was done at correct maturity to avoid field losses by dehiscence.

## **(ii)Technology**

MDU 1 Blackgram high yield and good batter quality, long pods with bold seeds with 70 – 75 days duration and moderately resistance to YMV was introduced. The farmers of Muthuramalingam village are major seed distributors to the nearby villages during sowing period and they have got higher price value for their produce during that period. ICM was fully demonstrated.

### **b. Impact**

#### **i. Horizontal spread**

Improved pulse production technologies were explained in the Muthuramalingam village of Thiruchuli taluk by conducting demonstrations in selected farmers' field and by couple of trainings. Awareness was created among the farmers.

Now the variety is grown in Aruppukottai block, Kariapatti block and Narikudi block which have more than 70% of the blackgram area under MDU 1 in the above blocks.

The State Department of Agriculture also, has taken this variety for popularization and nearly 50% of the area under pulses in the district is covered by MDU 1.

#### **ii. Economic gains**

This intervention was conducted in Thiru P.Vengudusamy field at Muthuramalingam village of Thiruchuli block. Thiru P.Vengudusamy obtained an yield of 10.95 q/ha of blackgram MDU 1 grains compared to 8.36 q/ha in check variety VBN 3 with an increase of 25.71% over the check. The farmer recorded a gross return of Rs.63060/ha and net return of Rs.39457/ha with a B:C ratio of 2.67 under rainfed ecosystem. The check variety VBN 3 recorded a net return of Rs. 26999/ha and B:C ratio of 2.16 only.

#### **iii. Employment generation**

The marginal increase in labour is 4 man days/ha. The reason is due to increased yield and production factors. The indirect employment generation will also increase by 18-20% as blackgram processing marketing; transport *etc* involves extra labour proportionate to productivity and production.