

Attracting and Retaining Youth In Agriculture

Micro Enterprises for Sustainable Income in Rural Areas



भाकृअनुप-कृषि प्रौद्योगिकी अनुप्रयोग अनुसंधान संस्थान
जोन-VIII, पुणे-411005, महाराष्ट्र

ICAR-Agricultural Technology Application Research Institute
Zone-VIII, Pune-411005, Maharashtra

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Contents

Message	i
Preface	ii
Executive Summary	iii-iv
1. Introduction	01-02
2. Methodology	03-04
3. Salient Achievements	05-06
4. Successful Cases	07-28
5. Annual Action Plan 2020-21	29-32
6. Review Workshops for Entrepreneurial Orientation	33-35



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MESSAGE

Sustainable development of agriculture is possible only by making agriculture as a profitable venture to attract the rural youth in agriculture and popularize as a commercially viable enterprise. Various potential enterprises such as dairy, poultry, goat husbandry, fisheries, and value addition followed by value chain development are the major profitable ventures in agriculture and allied sector practicing by farmers and rural youth.

Considering these potential areas and scope for rural youth to be a role model in their location, the Attracting and Retaining Youth in Agriculture (ARYA) project was launched during 2015-16 initially in 25 states. Presently it has expanded to 100 ARYA centers across the country. These centers will provide gainful employment to rural youth and give opportunity to retain them in their villages.

Presently world is passing through the tough time of COVID-19 pandemic and as per deliberation of Hon'ble Prime Minister of India, Shri Narendra Modi, there is need to create the social institutions and enterprises for creating the supply chain and employment at village level. In this context, the basic purpose of ARYA project will help in developing as model Atma Nirbhar Gaon and the rural youth.

This publication on ARYA has included the fruitful information and successful enterprises in Maharashtra and Gujarat. It will inspire the other rural youth to take up such micro enterprises and develop the entrepreneurial skill for regular income.

7th July 2020
New Delhi

(A.K. Singh)
DDG (Agril Extension)



**ICAR-Agricultural Technology
Application Research Institute, Zone-VIII**
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Dr. Lakhman Singh
Director

PREFACE

Youth has immense innovative ideas for developing different enterprises for income generation particularly in agriculture and allied sectors. They need to be motivated for retaining and attracting in agriculture. It can only be possible by creating ample opportunities for developing micro enterprises to have regular earning. Govt. of India and state governments have launched several schemes for the rural youths to start their agri-businesses and create value chain management. On similar line, the ICAR started a project Attracting and Retaining Youth in Agriculture (ARYA) in the year 2015-16 through 25 KVKs in 25 states. Later on it was expanded to 100 KVKs. In total, 12 KVKs (6 from Maharashtra and 6 from Gujarat) are implementing the project.

These centers have enrolled the willing rural youths, oriented them, suitable enterprises identified based their needs and resources available in the area. Many rural youths have started their enterprises and trying to make network of groups for further sustenance and higher income. In this publication, an effort has been made to document the successful cases along with details of capacity building, areas of enterprises, entrepreneurial models, convergence being developed with other agencies. It will be very early to show a great impact in the area but documenting initial process of each entrepreneur will make a difference in future for making a more profitable venture.

I express my sincere gratitude to Dr. Trilochan Mohapatra, Secretary, DARE and DG, ICAR; Dr. A.K. Singh, DDG (Agril Extension); both ADGs Dr. V.P. Chahal and Dr. Randhir Singh; Dr. P. Adhiguru, Principal Scientist at the ICAR Headquarters for their kind guidance and support for execution of this programme. I appreciate the efforts of all the participating KVKs for effective implementation and monitoring of the project. The associated scientist Dr Amol Bhalerao and senior research fellow Shri Deepak Naikwade of ATARI, Pune are acknowledged for their help in implementing the project. Special appreciation is extended to Shri J. Mathew, AAO (ATARI, Pune and ATARI, Bengaluru); Shri Munish Ganti (AF&AO of ATARI, Pune and NRCG, Pune) for extending their wholehearted support on regular basis. A valuable support received from Shri Sunil Kumar, SMS (Agril Extension) of KVK, Kolhapur-II is highly recognized. Other SRFs (Ms Pallavi Palve, Mrs Priyanka Shinde, Ms Komal Shinde), DeOs (Shri Tushar Bhagat and Shri Avinash Sudrik) and Mrs Manjusha Jagtap, YP-II helped a lot whenever required, are acknowledged.

I hope this publication will be helpful for the rural youths, agr-preneurs, scientists, policy makers and extension functionaries.

(Lakhman Singh)

7th July 2020, Pune

Executive Summary

In Zone–VIII, ATARI, Pune initially two ARYA centres (KVK, Nagpur-I and KVK, Rajkot-I) were identified for implementing the Attracting and Retaining Youth in Agriculture (ARYA) project. These two centres were conducted 73 training programmes and trained 1894 rural youth during 2015-16 to 2018-19. A total of 87 youth have established their entrepreneurial units. In 2019-20, ten more centres were identified and started working (In Maharashtra: Nashik-I, Osmanabad, Pune-II, Washim and Solapur-I whereas in Gujarat: Bhavnagar, Kheda, Navsari, Anand and Amreli), so in total 12 KVKs are implementing the ARYA project. In 2019-20, total of 83 training courses were organized and 2526 youth were trained by the ARYA-KVKs. These centres have identified 13 potent enterprises such as nursery management, fruit and vegetable processing, organic manure production, small scale enterprises, dairy, poultry, goat rearing, fisheries, etc.

The interested rural youths were enrolled for developing their micro enterprises towards regular income generation in the villages. KVKs have produced excellent examples of engaging youth in agriculture and allied sector enterprises. An excellent example of value addition and processing in sorghum by KVK Solapur-I is to be mentioned that 11 youth have established their enterprises on sorghum-based value products. It was due to able technological support of the KVK and the products are being marketed with a brand name of Nutri developed by Umed, Kanchan foods, Santoshimata, Jijau Food in the local and metropolitan markets.

KVK Pune-II and KVK Washim made good progress in different enterprises such as nursery raising of vegetables and fruits; fruit and vegetable processing; organic manure production; goat farming and backyard poultry. These enterprises have been very popular among rural youth and villagers for starting their commercial enterprises.

KVK-Rajkot-I has produced good number of enterprises for rural youth. The different enterprises have majorly focused on value addition and processing. Mini oil mill unit enterprise model in different villages have been spread. The other enterprises such as milk-mava making unit, spices processing unit and namkeen (Farsan) making unit have produced more entrepreneurial options for income generation on sustained basis.

KVK-Nagpur-I has contributed significantly for rural entrepreneurship models in nursery raising of disease free citrus seedlings and value addition of various vegetables and fruits. KVK, Bhavnagar has developed the different fruits and vegetable nursery and organic manure production units.

KVK-Navsari has motivated the rural youth for developing rural entrepreneurship models in nursery raising for seedling and value addition of mango processing. KVK, Anand has started fish seed rearing unit for Indian major carps majorly Rohu fish,

The annual action plan of KVKs were presented and reviewed critically. For effective monitoring of progress of ARYA project, different workshops for action plan and review were conducted at zonal and national level. In nutshell, it can be realized that effort for creating a momentum to begin micro enterprises and joining hands together for becoming self depend will make difference in near future.

Introduction

Youth are the most vital segment of the population of a country. They have been realised the ray of hopes for tomorrow's agriculture and will be the backbone of rural community. Youth considered as a storehouse of energies, innovative ideas and more oriented to adopt the technologies due to high level of enthusiasm provides strength to the workforce. According to UNDESA (2011), the global population is projected to reach 9 billion by 2050 and the number of young people (aged 15 to 24 years) is also expected to increase to 1.3 billion by 2050, accounting for almost 14% of the projected global population. Most of the population is from developing countries of Africa and Asia, where more than half of the population still live in rural areas. India being the youngest nation in the world has massive youth resource to offer to agriculture sector but unfortunately, youth participation in agriculture is declining.

The migration of rural youth to the cities is around 45%, which is quite alarming. The major reasons for youth moving to urban center include: lack of basic amenities, unemployment and lack of interest in farming since agriculture suffers from several factors such as natural disasters (drought, storms, etc.), smaller land holdings (that are unable to compete against more commercialized agriculture of larger holdings) and not getting suitable market price for agriculture produce. Lack of employment opportunity for youth is one of the major global economic crises. The ripple effect of this crisis is inflation which triggers the rising of food prices, commodities and fuels. Self-employment and casual wage employment comprise a large majority of youth employment.

Youth involvement is strongly realized for agricultural reform so that it can keep pace with changing global economy. The present scenario of changing agriculture in India demands the energy and vitality of youth. Provided there is enough opportunity, the innovative mind, energy and vigour of youth which is current demographic strength of the country can boost up the present status of agriculture. Higher growth in agriculture is needed for sustainable food security of the country and the demand for food grains will increase further. To keep pace with these diverse demands agriculture needs to be modernized and diversified. Young people bring energy, vitality and innovation into the workforce. Many young farmers engage in high-tech, high-risk and high-returns agriventures like protected agriculture, precision farming, organic agriculture, floriculture, medicinal and aromatic plants cultivation, etc., which are mostly avoided by the aging farmers. In the most adverse and risky situations, young people have an extraordinary resilience and ability to cope. Realizing the importance of rural youth in agricultural development of the country, ICAR has initiated a programme on ***“Attracting and Retaining Youth in Agriculture”***.

Under this scheme, special efforts are being taken up to attract the rural youth under the age of 35 years in agriculture so that the increase in the migration of rural youth towards cities is controlled.

The objectives of ARYA project are

- To attract and empower the youth in rural areas to take up various agriculture, allied and service sector enterprises for sustainable income and gainful employment in selected districts.
- To enable the farm youth to establish network groups to take up resource and capital-intensive activities like processing, value addition and marketing.
- To demonstrate functional linkage with different institutions and stakeholders for convergence of opportunities available under various schemes/programs for sustainable development of youth.

ARYA project was started in 25 states through KVKs during 2015-16, one district from each state. In one district, 200-300 rural youths will be identified for their skill development in entrepreneurial activities and establishment of related micro-enterprise units. Presently, there are 100 ARYA centres being implemented including 25 existing centres. KVKs involve the Agricultural Universities and ICAR Institutes as Technology Partners. At KVKs also one or two enterprise units will be established so that they serve as entrepreneurial training units for farmers. The purpose is to establish economic models for youth in the villages so that youths get attracted in agriculture and overall rural situation is improved.

Skill development of rural youths will help in improving their confidence levels and encourage them to pursue farming as profession, generate additional employment opportunities to absorb under employed and unemployed rural youth in secondary agriculture and service-related activities in rural areas. The concurrent monitoring, evaluation and mid-term correction will be an integral part of project implementation.

Methodology

ARYA project was launched by the Division of Agricultural Extension, ICAR, New Delhi in 2015-16 initially in 25 states through KVKs. Presently it has been implemented in 100 ARYA centres across the country. In Zone –VIII, Pune initially it was in two KVKs (Nagpur in Maharashtra and Rajkot in Gujarat). In 2019-20, ten more ARYA centres have been given to KVKs (05 in Maharashtra and 05 in Gujarat state). Presently 12 ARYA centres are working through KVKs in Zone-VIII, Pune as depicted in Figure 1.

Steps of entrepreneurship development under ARYA Project

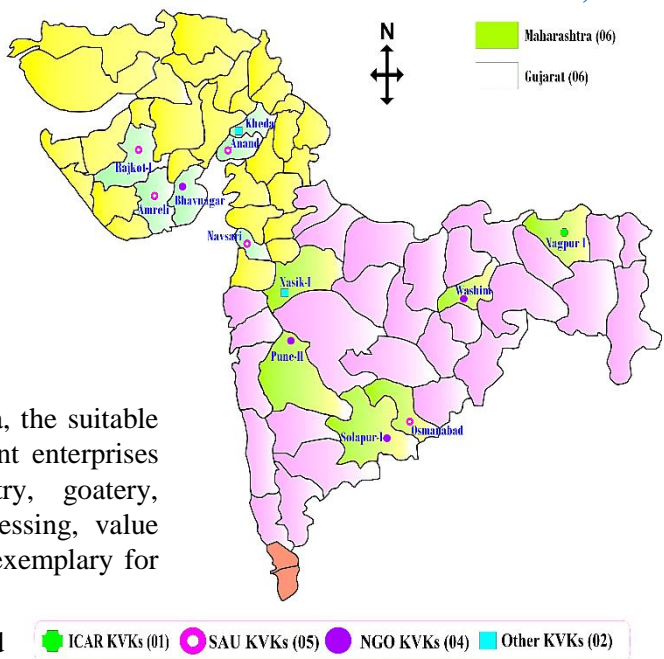
1. As per guidelines, 200 youth in the age group of 18-35 years were selected by each ARYA centre based on needs and available resources. Rural youth were identified based on bench mark survey followed by gender and socio-economic status. A district level committee constituted under this project provided overall guidance in selection process of potential rural youth.

2. Based on SWOT analysis of area, the suitable enterprises were selected. The potent enterprises are animal rearing (dairy, poultry, goater, fisheries), value addition and processing, value chain management, etc. have been exemplary for starting enterprises for rural youth..

3. After selection of rural youth, need based training was organized by the KVKs and developed the skill among identified entrepreneurs for developing commercial ventures.

4. After skill training, KVKs support the youth to develop and setting up of enterprise and develop as economic model for others and will turn as role model. Enterprises have been established at their location within the selected district depending upon market potential of the enterprise and availability of fund.

Figure 1:
ARYA Centers of KVKs in ICAR-ATARI, Pune



5. The technological backstopping is being provided by KVKs, ICAR institutes and State Agricultural Universities. KVKs also help in developing forward and backward linkages to sustain the enterprises.
6. The concurrent monitoring, evaluation and mid-term correction are integral part of project implementation. The newly created ventures will be evaluated by various committees as Apex committee, Steering committee, Zonal committees and District committee for its necessary improvement as well as for replication in other areas.
7. The systematic evaluation of the project has provided the weakness and strength of the project. Based on these points, the project is reconsidered and the necessary modifications and changes are made to make it more sustainable and profitable.
8. Focus will be given to enable the rural youth/entrepreneur to make a network of small groups to start capital intensive enterprises including value chain management.
9. Entrepreneurial motivation trainings during enterprises launching and implementing with help of high level trainers will be organized to retain and cope the inbuilt risk in the agri-business.

Salient Achievement

In Zone–VIII, ATARI-Pune during 2015-16 two centres were identified (Nagpur-I KVK in Maharashtra and Rajkot-I KVK in Gujarat). These two centres have conducted 73 training programmes and trained 1894 rural youth during 2015-16 to 2018-19 . A total of 87 youth has established entrepreneurial units. In 2019-20, ten more centres have been identified and started working (In Maharashtra Nashik-I, Osmanabad, Pune-II, Washim and Solapur-I whereas in Gujarat, Bhavnagar, Kheda, Navsari, Anand and Amreli), so presently 12 ARYA centres are working in KVKs. In 2019-20, a of total 83 trainings have been conducted and 2526 youth have been trained by 11 ARYA centres. The other descriptions are following:

Table.1: List of KVKs in Zone VIII, Pune

Maharashtra	Gujarat
Old ARYA-KVKs	
Nagpur-I	Rajkot-I
New ARYA-KVKs	
Nashik-I	Bhavnagar
Osmanabad	Kheda
Pune-II	Navsari
Washim	Anand
Solapur-I	Amreli

Graph.1: Various Activities under ARYA Year 2015-16 to 2019-20

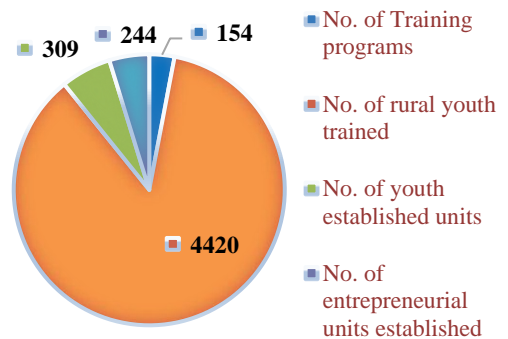


Table. 2: Identified Enterprises and Implementing KVKs

Name of Enterprises	Implementing KVK
Nursery Raising of Vegetables and Fruits	Washim, Pune-II, Osmanabad, Nagpur, Bhavnagar, Navsari
Fruit and Vegetable Processing	Washim, Pune-II, Osmanabad, Nagpur, Bhavnagar, Kheda, Navsari
Organic Manure Production	Solapur-I, Pune-II, Osmanabad, Bhavnagar
Goat Farming	Solapur-I, Pune-II, Osmanabad
Establishment of Home Scale Pulse/Cereal Processing Unit	Kheda
Fish seed rearing	Washim, Anand
Seed Production in Chick Pea	Solapur-I
Backyard Poultry Farming	Washim
Value addition in Sorghum	Solapur-I
Mini Oil Mill Unit	Rajkot-I
Milk-Mava making unit	Rajkot-I
Spices processing Unit	Rajkot-I
Namkeen (Farsan) making unit	Rajkot-I

Table. 3: Various Activities conducted by old ARYA centres (Nagpur and Rajkot)

State	Name of KVK	Activities			
		No. of Training programs	No. of rural youth trained	No. of youth established units	No. of entrepreneurial units established
Maharashtra	Nagpur				
	2015-16	0	0	0	0
	2016-17	12	269	5	4
	2017-18	15	185	4	5
	2018-19	11	123	6	4
Total		37	577	15	13
Gujarat	Rajkot				
	2015-16	0	0	0	0
	2016-17	9	313	7	3
	2017-18	18	760	50	5
	2018-19	9	244	15	7
Total		36	1317	72	15
Grand Total		73	1894	87	28

Table. 4: Various Activities conducted by 12 ARYA centres for the year 2019-20

State	Name of KVK	2019-20			
		No. of Training programs	No. of rural youth trained	No. of youth established units	No. of entrepreneurial units established
Maharashtra	Nagpur	15	347	6	5
	Nashik-1	4	400	0	0
	Osmanabad	1	30	22	7
	Pune-II	13	369	75	75
	Washim	8	195	17	17
	Solapur-I	4	119	69	69
Total		45	1460	189	173
Gujarat	Rajkot	5	137	22	4
	Bhavnagar	7	73	2	30
	Kheda	8	267	0	1
	Navsari	12	445	7	6
	Anand	4	144	2	2
	Amreli	0	0	0	0
Total		36	1066	33	43
Grand Total		81	2526	222	216

Successful Cases- I

Name of Enterprise: Value Addition in Sorghum
Implementing KVK: KVK, Solapur-I, Maharashtra

Background

Maharashtra occupied the highest position in production of sorghum with 3.90 million tonnes of production (51.11 %) and ranked first with 4.74 million hectare (54.67 %) area. Solapur is leading sorghum producing district in Maharashtra having area of 3.21 lakh hectare with 20,4416 MT production. Nutritional importance of sorghum is 349 Kcal energy, 9.6 % protein, 3.8 % fat, 73.2 % carbohydrates, 2.4 % ash and 11 % moisture content. Processed food products of sorghum for human consumption are emerging such as Rawa, flake, pasta, vermicelli, cake, semolina, etc.

Activities

For developing entrepreneurship, 25 youth were trained with appropriate knowledge and skills related to value addition in sorghum processing. 11 youth established the enterprise in the year 2019-20. Every youth female processed sorghum 2 q/month on an average. From each enterprise 150-200 kg sorghum products prepared per month.



The products are marketed with a brand name of Nutri developed by Umed, Kanchan foods, Santoshi mata, Jijau Food in the local and metropolitan markets. Mostly selling products in different national level (Mahalaxmi Saras) state level exhibition organized by state government. The youth group has its own processing and packaging facility.

Economics

Thus, a youth female earned Rs. 10000-12000 from sorghum processing unit. The average capacity of each unit is 15 quintal per year with Rs 120000 per unit cost of production per year. The sale value of the produce in the market is Rs 270 /kg and an economic gain of Rs 240000 /unit/year was obtained.

Impact

Employment was generated for 04 rural youth per unit. The average employment generation of 180 days/person/ year was observed.



Successful Cases- II

Name of Enterprise: Commercial Goat farming

Implementing KVK: KVK, Solapur-I, Maharashtra

Background

Goat farming is one of the major agri allied enterprises in drought prone district. Osmanabadi breed was commercially fit for Solapur region. It is well-known and native breed of goat realized God gift in drought prone area for poor, marginal and landless farmers. Goat population in district is 7.06 lakh with 8.37% share. The average meat production per animal is 11.61 kg. Meat production in Maharashtra is 59.366 thousand MT. Demand and rate of goat meat is increasing day by day. Scope for self employment generation among rural youths is increasing.

Activities

For developing entrepreneurship, 22 youths were trained with appropriate knowledge and skills related to commercial goat husbandry by adopting Osnamabadi goat breed. The 7 participants have established the enterprises rearing more than 20 goats while other 9 participants having below 4 to 6 goats in their units during the year 2019-20.



Economics

From single goat, an average 1.5 kids produced in last 15 months i.e. per goat worth of Rs. 7500. A youth having more than 20 goats is earned an average Rs 1.40 lakh per annum. Besides, earning from sale of live goats the youth could earn from selling of manure Rs. 8 to 12 thousands annually. They use manure in their own fields that increases crop productivity up to 25%. The market for goat and manure is available at door step.

Impact

Employment was generated for 19 rural youth per unit. The average employment generation of 365 days/person/ year was realized in the area.



Successful Cases- III

Name of Enterprise: Entrepreneurship Development through Seed Production in Chickpea Variety Phule Vikram

Implementing KVK: KVK, Solapur-I, Maharashtra

Background

Pulses are the crops endowed with the virtues of efficient utilization of available limited soil moisture and nutrients as well as producing beneficial impact on physical and chemical properties of soil. The availability of genuine seed material at local level in time are the major constraints.

Activities

For developing entrepreneurship, 47 youths were technologically empowered in terms of knowledge and skills related to seed production technique in chickpea. 30 youths started seed production in chickpea by using improved variety Phule Vikram during rabi 2019-20. Every youth cultivated chickpea on 0.40 ha area and average 7.5 q seeds of Phule Vikram cultivar was produced. More than 205 q seed was produced, now it is ready to sale during Rabi 2020-21.



Economics

The total proposed sale value of the produce is > Rs 15 lakh. Thus, a youth will be able to earn Rs. 60000 annually. Besides, earning from seed production, KVK had formed Shivtej Farmers Club for seed production in group and its marketing at village Dahitne of Barshi tehsil in Solapur.

Impact

The seed produced will also sold through Solapur Agro Producer Company and farmers group. The Solapur Agro Producer Company (FPO) has already engaged in grading and marketing of pulses and will emerge as seed Producer Company in chick pea through technical support of ARYA programme of KVK Solapur. Employment was generated for 07 rural youth per unit. The average employment generation of 65 days/person/year was attained.

Successful Cases- IV

Name of Enterprise: Vermicompost Production

Implementing KVK: KVK, Solapur-I, Maharashtra

Background

Vermicompost is a nutrient-rich, natural fertilizer and soil conditioner. Vermicompost is very finely structured, uniform, stable and aggregated particles of humified organic material, with excellent porosity, aeration and water holding capacity. Vermicomposting is already being used worldwide for treatment of on farm organic waste, sewage sludge, manure, kitchen waste, etc.

Activities

For developing entrepreneurship, capacity building of 25 rural youths was done with special focus on vermi compost production. In all, 21 youths have established their enterprises in the year 2019-20. Four youth possessed large scale production units having 50 to 80 ton capacity per year. Remaining youths possessed small scale production units having 4 to 5 ton capacity per year.

Economics

From large scale production units, average 70 ton vermicompost worth of Rs. 5.60 lakh was produced annually. From small scale production units, 5 ton vermi compost worth of Rs. 0.40 lakh was taken up. Thus, a youth earned Rs. 5 to 5.5 lakh from large scale vermi compost unit and Rs 0.40 lakh from small scale unit annually.



Besides, earning from vermicompost production, the only three youths could earn from other products like earthworms and vermiwash. Thus, the sale of other products was Rs 0.80 to Rs 1.20 lakh of 3 youth/annum.

Impact

The products are marketed to the local farmers of Solapur and Osmanabad district. The majority of the youths use the vermicompost in their own fields and saving the cost of chemical fertilizers and improve the quality of the product. Few youths have started own packaging facility. Employment was generated for 39 rural youth per unit. The average employment generation of 75 days/person/ year was realized.



Successful Cases- V

Name of Enterprise: Production of Disease Free Citrus Seedlings
Implementing KVK: KVK, Nagpur-I, Maharashtra

Background

Citrus is infected by more than 15 virus or virus-like diseases, including citrus greening, citrus tristeza, citrus tatter leaf and citrus exocortis that severely affect its production as well as quality. Quality citrus seedlings production is needed for higher production and income. Hence, Krishi Vigyan Kendra, Nagpur was provided training for the production of disease free citrus seedlings in nursery.

Activities

For developing entrepreneurship, 116 youths were trained on quality and disease free citrus seedlings. In total, 24 youths have established the enterprise in the year 2019-20. Every youth produced 40000 to 45000 seedlings on an average. The products are marketed with a brand name of Mahipal Citrus Nursery in the Katol taluka, Nagpur, Maharashtra.

Economics

Imparted skill oriented training about budding and grafting and integrated diseases and pest management of nursery seedlings. From each nursery, 40000 to 45000 citrus seedlings worth of Rs. 11 to 12 lakh is produced annually. Thus, a youth earned Rs. 4.5 to 5 lakh annually. Besides, earning from seedling production, the youth earn from direct selling of orange & mosambi from their farms. Thus,



the sale of orange and mosambi worth Rs.3.50 lakh per annum was done. Economic gain from the entrepreneurial units was obtained in tune of Rs 5,25,000/-/unit/year.

Impact

The products are marketed with a brand name of Mahipal Citrus Nursery in the Katol taluka, Nagpur, Maharashtra. Employment generated due to establishing entrepreneurial units and average employment generation (No. of days) per person/ year was 5 youths/90 days. Two farmers started this enterprise in the villages and spread to 04 farmers in one village benefitted 05 people.



Successful Cases- VI

Name of Enterprise: Fruit & Vegetable Processing Unit
Implementing KVK: KVK, Nagpur-I, Maharashtra

Background

Major area of Nagpur district is under mono-crop and perennial horticultural fruit crop i.e. orange and sweet orange. The processing of fruits and vegetables among women is inheritable and most preferable activity among the women folk of India. It adds value to the products and provides the better economic returns. Hence, Krishi Vigyan Kendra, Nagpur organized three days training for the preparation of squash, pickles, murraba and pulp extraction to the group members of marginal farm women.

Activities

These group members are growing lemon, orange, sweet lime, chilli, karvanda, ambadi/ rosella aonla at their fields and having loss by 20-25 % due to natural calamity, unawareness of post harvest technology, storage and processing. So, 231 youths were trained for developing fruit and vegetable processing units.



Out of trainee-participants, six youths established their enterprises in the year 2019 20. Every youth possessed 3-5 products processed from fruits and vegetables on an average. From this unit, 200 kg pickle and citrus based fruit juice viz. orange, sweet lime, lemon and pineapple was produced.

Economics

Pickle and citrus based fruit juice viz. orange, sweet lime, lemon and pineapple worth of Rs. 4.70 lakh was produced annually. Thus, a youth earned Rs. 24000 per year. The waste material of fruits and vegetables were used for making compost.

Impact

The products are marketed with a brand name of Swyam Siddha - Swyam Sahayata Mahila Bachat Gat, Chichbhuvan, Nagpur. The citrus juice extraction machine is also being utilized in extracting fresh juice in the exhibitions from which they are fetching good



remunerative price for SHG. Employment generated due to establishing entrepreneurial units and average employment generation (No. of days) per person/year was 06 youths /50 days. Five farmers started this enterprise in the villages and expanded to two farmers in one village and benefitted 10 youths.

Successful Cases- VII

Name of Enterprise: Vegetable Nursery Enterprise
Implementing KVK: KVK, Washim, Maharashtra

Background

Washim district comes under aspirational district in Vidarbha region. One of the major challenges that faces agriculture today is that the children of farmers, by and large, are not interested in their family occupation. Washim district is primarily a drought prone area falling in scarcity zone under agro ecological situation of Maharashtra with significant migratory population. The unemployment rate is steadily increasing by 27.8% in the Washim district. The seasonal migration of rural youth to urban centres is also becoming a serious problem.

Activities

Quality planting materials production is one of the greater demands in the areas. In this context, 50 youths were trained with appropriate knowledge and skills related to nursery management. One youth established his enterprise in the year 2019-20. Youth possessed 2000 sq.m poly house for raising nursery of vegetable crops. From same poly house, 170000 seedlings were produced.



Economics

Seedling worth of Rs. 2.21 lakh was produced annually. Youth earned Rs.1.02 in a year. Besides, earning from seedling production, the youth could earn from other production like capsicum cultivation on unutilized area of poly house also. Thus, the sale of byproducts i.e. capsicum was Rs 51000 per youth/annum.

Impact

The products were marketed with a brand name of Pankaj Hiteck Nursery in the local markets i.e. Washim and Buldhana district. The youth group has its own production and marketing facility.

Employment generated due to establishing entrepreneurial units and average employment generation (No. of days) per person/year was 02 youths /180 days. Five farmers started this enterprise in the villages and spread in one adjoining village.



Successful Cases- VIII

Name of Enterprise: Backyard Poultry Enterprise
Implementing KVK: KVK, Washim, Maharashtra

Background

Backyard poultry production is widespread among rural households in Washim district and provides an opportunity for small scale enterprise development to contribute in income enhancement. For land less and marginal farmers, backyard poultry farming is suitable to get their regular earning. Therefore, KVK Washim has taken up this enterprise for rural youth and provided training.

Activities

In this regard, for developing entrepreneurship 50 youths were trained with appropriate knowledge and skills related to backyard poultry farming. Five youths established their enterprises in the year 2019-20. Youth possessed 50 egg laying birds of Giriraja breed along with cage required for rearing of same breed. The average size of each entrepreneurial unit (number of poultry bird per enterprise unit) was 150 birds/unit.



The per unit cost of production was Rs. 110 per bird and sale value of the birds was Rs. 160/kg/bird.

Economics

From same unit, 5400 eggs worth of Rs. 54000 was produced annually. Thus, a youth earned Rs. 27000 annually. Besides, earning from egg production, the youth could earn of Rs. 33600 from selling of birds.

Impact

The products are marketed with a brand name of Gawran eggs and birds in the local markets i.e. Washim district (Risod, Malegaon & Washim block). The youth group has its own production and marketing facility. Employment generated due to establishing entrepreneurial units and average employment generation (No. of days) per person/ year was 05 youths/360 days. Seven farmers started this enterprise in the villages and spread in 07 villages.



Successful Cases-VIII

Name of Enterprise: Vegetable Processing : Potato Chips/Wafers Making
Implementing KVK: KVK, Washim, Maharashtra

Background

Locally available vegetables in sufficient quantity, may be considered for processing and value addition by the rural youths. A variety of processed products can be achieved that enhances the market value, marketability and desirability of the product. Hence, Krishi Vigyan Kendra, Washim, Maharashtra was organized trainings on value addition and processing of potato and other leafy vegetables production of disease free citrus seedlings in nursery.

Activities

For developing entrepreneurship, total 45 youths were trained with appropriate knowledge and skills related to vegetable processing. As a part of it, one SHG group of 06 youths established the enterprises in the year 2019. They purchased the processing unit in the month of January 2020. The Self Help Group is producing 60 kg/month on an average.



The average size of each entrepreneurial unit (No. of poultry bird per enterprise unit) was 500 kg/season/unit. The per unit cost of production was Rs. 60 per kg and sale value of the produce was Rs. 200/kg.

Economics

From potato chips of Rs. 1.44 lakh was earned annually. Thus, a youth earned Rs.12000 monthly. The products are marketed with a brand name of Sakhi in the local markets (Risod block). The youth group has its own processing and packaging facility so they are providing services @ Rs. 10/kg through this group has got Rs. 200/day about Rs. 6000 per month during season.

Impact

Employment generated due to establishing entrepreneurial units were 02 youths who got employment for 150 days in a year and average employment generation (No. of days) per person/year was 120 days and enterprise spread in one village.



Successful Cases- IX

Name of Enterprise: Freshwater Fish Culture Enterprise

Implementing KVK: KVK, Washim, Maharashtra

Background

Washim district comes under aspirational district in Vidarbha region. One of the major challenges that faces agriculture today is that the children of farmers, by and large, are not interested in their family occupation. Washim district is primarily a drought prone area comes in scarcity zone under agro ecological situation of Maharashtra with significant migratory population. The unemployment rate is steadily increasing by 27.8% in the district. The seasonal migration of rural youth to urban centres is also becoming a serious problem. Considering the fact, the enterprise of Freshwater Fish Culture was started among rural youth by KVK Washim.

Activities

For developing entrepreneurship, 50 youths were trained with proper knowledge and skills related to freshwater fish production. Total eight youths established the enterprises in the year 2019-20. Every youth possessed one farm pond having the size of 34 x 34 metre size on an average. From each farm pond about 750 kg of fish worth of Rs. 67500 was produced annually.



The average size of each entrepreneurial unit (No. of poultry bird per enterprise unit) was 2000 number of fishes/unit. The per unit cost of production was Rs. 35 per fish and sale value of the produce was Rs. 80/kg.

Economics

On average , a youth earned Rs.60000 per unit in a year. An economic gain of Rs. 67500 from the entrepreneurial units Rs/unit/year was obtained.

Impact

Besides earning from fish production, the youth has earned from other agriculture crops. The products are marketed with a brand name of Farm Fresh Fish in the local markets (Risod & Malegaon block of Washim district). The youth have their own farm ponds for fish production.



Employment generated due to establishing entrepreneurial units were 08 youths who got employment for 210 days in a year and 05 rural youth got employment (No. of days) per person/ year was 210 days and enterprise spread in 06 village.

Successful Cases- X

Name of Enterprise: Vermicompost Enterprise

Implementing KVK: KVK, Osmanabad, Maharashtra

Background

Osmanabad is one of the eight districts of Marathwada having population nearly 0.16 crore, out of which 80 percent population resides in rural area. The economy of district is mostly dependent on development of agriculture. Main crops are Soybean, Red gram, Sugarcane, Grape, Gram, Rabi Sorghum, Wheat, etc. Looking to the situation, KVK, Osmanabad has taken up Vermicompost Enterprise concept. An enterprise of Vermicompost Enterprise has been established with the objectives of generating employment & income for rural youth.

Activities

For developing entrepreneurship, 30 youths were trained with appropriate knowledge and skills related to vermicompost production. The 10 days training was organized in March 2020. Seven youths were established their enterprises in the year 2019-20. Every youth possessed minimum one bed for preparation of vermicompost on an average.



From each bed, at least 250-300 q vermicompost was produced from each batch (3 months). Per unit cost of production was Rs. 6200.

Economics

Sale value of the produce in the market, was Rs 10/kg for vermicompost, Rs 400 /kg for vermiculture and Rs 20/litre for vermiwash. From each bed, at least 250-300 q vermicompost worth of Rs. 2.5 to Rs 3.0 lakh (Rs 1000/q) per year was produced. Besides, earning from vermicompost production, the youth could earn from other products like vermiculture (verms), vermiwash. Thus, the sale of byproducts was Rs 35000-40000 per youth/annum. The youth group has its own processing and packaging facility. A net income of Rs 3.20 lakh was realized yearly from 10 beds.

Impact

Vermicompost technology was started in 05 villages and spread to 27 neighboring villages.



Successful Cases- XI

Name of Enterprise: Fruit and Vegetable Processing
Implementing KVK: KVK, Pune-II, Maharashtra

Background

Pune has potential to create enterprises at individual or group level in fruit and vegetables processing and value addition. In Pune district major horticulture crops like fruits, flowers and vegetables are grown. Crops like Tomato, Brinjal, Chilli, Cabbage, Cauliflower are grown round the year. There are several opportunities for establishment of agricultural produce value addition training centres which may provide higher returns and promising future prospects for the rural youth. Employment oriented skill up gradation, vocational trainings on value addition of agriculture produce; managerial and technical capacity building to enable them to run a business were organized. They were encouraged for their self employment by acting support agency for providing necessary help.

Activities

For developing entrepreneurship through fruit and vegetable processing, KVK organized 3 trainings through which 50 youths were trained with appropriate knowledge and skills related to fruits and vegetable processing in respect to tomato, onion and mango crops. Till date, 02 youths established their enterprises in the year 2019-20. Average size of each entrepreneurial unit was 07.



Economics

Tomato processing unit has produced 52 q tomato Ketchup of Rs. 320000 was produced annually. Thus, a youth earned Rs. 210000 net profit annually. Besides, earning from tomato ketchup production, the youth could earn from other sauces products like Soya sauce, Chilli Sauce, etc. Thus, the sale of byproducts was Rs. 1.60 lakh per annum. Economic gain from the entrepreneurial units Rs 524000 /unit/year was attained.

Impact

Employment generated due to establishing entrepreneurial units were 04 youths who got employment for 120 days in a year.



Successful Cases- XII

Name of Enterprise: Nursery Management

Implementing KVK: KVK, Pune-II, Maharashtra

Background

Pune has potential to create enterprises at individual or group level in fruit and vegetables crops like fruits, flower and vegetables are grown. Crops like Tomato, Brinjal, Chilli, Cabbage, Cauliflower are grown round the year. There is constant demand of farmers for vegetable seedlings round the year. Agro based industry like vegetable seedlings nursery is emerging enterprise in the area. Thus, there is large scope for promoting hi-tech cultivation of crops under protected conditions and develop planting material suppliers and expert pruners in the selected clusters.

Activities

For developing entrepreneurship through nursery management, 70 youth were trained with appropriate knowledge and skills related to seedlings production in nursery. Till date total 5 entrepreneurs have established their own nurseries in the year 2019-20. Every entrepreneur has erected shadenet and polyhouse for nursery.



On an average 18 lakh seedlings are being produced annually and obtained Rs. 4 lakh as net profit per unit.

Economics

Tomato processing unit has produced 52 q tomato Ketchup of Rs. 320000 was produced annually. Thus, a youth earned Rs. 210000 net profit annually. Besides, earning from tomato ketchup production, the youth could earn from other sauces products like Soya sauce, Chilli Sauce, etc. Thus, the sale of byproducts was Rs. 1.60 lakh per annum.

Impact

The products were marketed with a brand name of Swami Hi-tech, Shivner Hi-tech, Pandurang Hi-tech Nursery and Durgamata Hi-tech in the local markets (Narayangaon, Manchar). The youths have their own vehicles to give delivery of seedlings up to farmers' fields. The youth has its own processing and packaging facility. 10 rural youth got the employment



for 180 days which yields 410000 average income. It has been started in 05 villages and spread to 05 villages.

Successful Cases- XIII

Name of Enterprise: Vermicompost Production
Implementing KVK: KVK, Pune-II, Maharashtra

Background

In order to create interest and confidence among rural youth in agriculture, there is need to make agriculture more profitable. Retaining youth in agriculture and making agriculture more profitable is thus a big challenge. The KVK intends to implement the ARYA (Attracting and Retaining Youth in Agriculture) initiative for addressing the rural unemployment by retaining youth in agriculture and allied vocations that will ensure continuous source of livelihood and reduce migration from villages. Production of Vermicompost is important component for enhancing crop productivity. It is the one of the step towards organic farming by preparing different products like Vermicompost, Vermiculture. Vermiwash, etc.

Activities

For developing entrepreneurship 180 youth were trained through 4 trainings with appropriate knowledge and skills related to Vermicompost and Vermiwash production. Out of 180 participants 52 rural youths established the vermicompost units including two SHG's in the year 2019-20. Every youth possessed 04 vermicompost bed on an average. From each bed, 4000 kg vermicompost, 10 kg vermiculture and 30 litre vermiwash was produced.



Economics

From each bed, 4000 kg Vermicompost, 10 kg Vermiculture and 30 litre Vermiwash was produced in one year cycle worth of Rs. 41500 was produced annually. Thus, a youth earned Rs. 56000 annually.

Impact

The products are marketed with a brand name of Krushimitra, Vatsalya, Laxmi in the local/metropolitan markets (Pune, Nasik and Mumbai). The women SHGs have developed their own packaging and marketing facility.

The majorly entrepreneurs were self employed and average employment generated for 90 days. 42 farmers were started this enterprise spread in 08 villages.



Successful Cases- XIV

Name of Enterprise: Fish seed rearing unit for Indian major carps

Implementing KVK: KVK, Anand, Gujarat

Background

The district's unemployment rate is steadily increasing with the passing year. Agriculture and Animal Husbandry are the main sources of livelihood for the rural people of the district. On one side it has become energy-intensive using more resources/natural resources while on the other hand, it has little scope to go on potential output stagnating the yield thereby production and lowering the landholding per capita. So diversification through various enterprises like horticulture and fisheries has become the essential alternative to the future time to come which will improve entrepreneurial activities among rural youths for self-employment.

Activities

In total, 144 youths were trained with appropriate knowledge and skills related to fish seed rearing. Two groups have established their units for seed rearing in the year 2019-20 in which comprising 5 youths with one pond in each group. The fry to fingerling rearing was carried out by each group for three months. Every group has provided seeds of Rohu (*Labeo rohita*) @ 1 lakh fry/ha and feed ingredients as per pond area.



Economics

After the rearing period, about 60000 fingerlings/ha were produced with worth of Rs.1.50 lakh. The sale of fingerlings was Rs 30000 in the culture period or Rs. 10000 per month. Other fish farmers of near villages have brought fingerlings. Besides, youths kept some fingerlings in the pond to produce marketable size fish for gaining extra money in the year. The youth group has its own nets for harvesting and transport facilities. So they can easily sell fishes in the near markets.

Impact

A total of 10 youths who got employment for 90 days/90 days due to establishing entrepreneurial units in a year. A total of 09 farmers/youth visited the enterprise unit.



Successful Cases- XV

Name of Enterprise: Mango Processing Centre
Implementing KVK: KVK, Navsari Gujarat

Background

Gujarat state is internationally known for its mango. Moreover, South Gujarat is bowl of horticulture production. Navsari district comes second in area and production for mango. Generally, people make mango products at their home but these products were utilized for household only. ARYA project has provided them a fillip for to-do better for society at very remunerative price because every family do not makes value addition.

Activities

Considering above facts in view, 283 youths were trained with appropriate knowledge and skills related to mango processing. Three youths have established their enterprises in the year 2019-20. Total six training courses were conducted for better understanding and implementation of value addition methods in mango.



Different value addition products training like, pickle, mango murabba, mango jam, mango bottled pulp, mango papad and mango mouth freshener were organized by KVK. Most of the women entrepreneurs have taken keen interest for mango pulp bottling. Total 3394 bottles were prepared by all trainers. Out of these six groups, three groups have sold it commercially. Mrs Jagrutiben, a woman entrepreneur took keen interest for mango pulp bottling. Total 500 number of bottles were prepared. Hence, by selling of pulp bottles, she has turnover of Rs 50000 annually. After reducing cost, she earned Rs 30000 profit per year.

Economics

From these three groups, each group has prepared 1000 bottles. Hence, by selling of pulp each group has turnover Rs 80000 annually. After removal of cost and labor, each group has earned Rs 50000 as net profit per year.

Impact

From these three groups, one women group has developed brand name of Jagruti. They have applied for registration in Food and Drug Department in Navsari. A total of 06 youths who got employment for 30 days due to establishing entrepreneurial units in a year.



Successful Cases- XVI

Name of Enterprise: Organic Manure Production enterprise
Implementing KVK: KVK, Bhavnagar, Gujarat

Background

In the district is cotton, pearl millet, sesame and groundnut are the main crops. Animal husbandry is also an important livelihood in the district. Migration of rural youth is a regular phenomenon of the district, as the district is prone to frequent draughts or scares rainfall.

Activities

For developing entrepreneurship, 15 youth were trained with appropriate knowledge and skills related to Organic manure production. Out of total 15 trainees, 10 youth established the enterprise in the year 2019-20. The group decided to install 7 beds of vermicompost having 500 kg production capacity of each. The shed was prepared by the group and KVK-Bhavnagar provided vermibeds and Earthworms. The group has started the entrepreneurship in March, 2020.



Economics

It is estimated that the group will produce around 10.5 to 11 ton of vermicompost per year worth Rs. 42000/year. The group has been linked with a local FPO “GOPNATH Agro farmer Producing Company Limited” which will help in Marketing of the manure produced by the group.

Impact

A total of 10 youths who got employment for 350 days due to establishing entrepreneurial units in a year. A total of 62 farmers/youth visited the enterprise unit .



Successful Cases- XVII

Name of Enterprise: Mini Oil Mill Unit enterprise
Implementing KVK: KVK, Rajkot-1, Gujarat



Background

In Rajkot district, most of the people are engaged in farming and animal husbandry. The major crops grown in the district are groundnut, cotton, wheat, chickpea, garlic, onion and cumin. The youth of this village and surrounding area are migrated to Rajkot city for employment. Looking to the situation, KVK, Rajkot-I has taken up processing enterprises concept for Rajkot district. An enterprise of mini oil mill unit has established with the objectives of processing and value addition of groundnut, selling of pure & nutritional edible oil to the society and to generate employment & income.

Activities

There are 15 rural youths of Targhadi village of Paddhari talukas (Rajkot district) was trained with appropriate knowledge and demonstrated for the processing of groundnut and value addition of agricultural produce. The mini oil mill unit having cost of Rs. 3,61,200 were provided among the group of 15 rural youths of Targhadi village for this enterprise under ARYA project.



The group of the several youths established the mini oil mill unit enterprise in the year 2017 at Targhadi village. The monthly average 500 quintal groundnut is being processed for production of oil and about 15,700 kg oil is obtained and approximately 24,500 kg groundnut cake is produced.

Economics

The group generated net profit of Rs. 1,57,500/- per month through this enterprise by selling groundnut oil & oil cake. This enterprise is run more than 8 month during the year and earning net profit of Rs. 12,60,000 per year. Therefore, income of every member of group is increased up to Rs. 84,000 per youth per year as in addition to early income from agriculture and other sources. The youth of this group marketing and selling groundnut oil with “ARYA” brand in their village and nearby area of Rajkot city.

Impact

A total of 10 youths who got employment for 230 days due to establishing entrepreneurial units in a year. A total of 317 farmers/youth visited the enterprise unit. It has spread to 03 village.



Successful Cases- XVIII

Name of Enterprise: Milk-Mava Making enterprise
Implementing KVK: KVK, Rajkot-1, Gujarat

Background

An enterprise of milk-mava making unit has established with the objectives of income generation by milk processing through milk-mava machine and to produce high quality of Milk-Mava and milk based edible products like Penda (sweet) for consumers which enables extra income from agriculture with animal husbandry.

Activities

The groups of 08 rural youth of Ambardi village of Jasdan talukas (Rajkot district) get benefited of technical training programmes and exposure visits at developed enterprises for milk processing, value addition and marketing of milk based products under ARYA project. The milk-mava making machine unit having cost of Rs. 63,000 were provided among 8 rural youths of Ambardi village for this enterprise under ARYA project.



The group of these rural youths established the milk-mava making machine unit enterprise in the year 2017 at Ambardi village. The monthly average 1800 liter milk is processed for production of milk-mava and penda (sweet). So approximately 360 kg milk-mava is produced monthly from which 110 kg milk-mava is used to prepare Penda (sweet) and remaining 250 kg milk-mava is directly sold to consumers.

Economics

The group generated net profit of Rs. 40,500/- per month from this enterprise by selling milk-mava & penda (sweet). The enterprise is run throughout the year and 5 youth got employment of 300 days in a year. This enterprise earning net profit of Rs. 4,05,000 per year. Therefore, income of every member of group is increased up to Rs. 50,625 per youth per year as in addition to early income from agriculture and other sources. The group members doing effort for the marketing of superior quality milk-mava and product named 'Penda' (sweet) with "ARYA" brand in near villages and Jasdan city. Also, youth of this group selling 'Penda' (sweet) which is known as Prasad in "Ghela Somantath" temple nearby village. Thus milk processing increased her income nearly double as compared to earlier.

Impact

A total of 05 youths who got employment for 300 days due to establishing entrepreneurial units in a year. A total of 92 farmers/youth visited the enterprise unit. It has spread to 02 village.



Successful Cases- XIX

Name of Enterprise: Spices processing enterprise
Implementing KVK: KVK, Rajkot-1, Gujarat

Background

An enterprise of Pulverizer machine (Masala mill) unit has established with the objectives of processing and value addition of spices crop, selling of pure spices to the society and to generate employment & income.

Activities

An enterprise of Pulverizer machine (Masala mill) unit has established with the objectives of processing and value addition of spices crop, selling of pure spices to the society and to generate employment & income. The group of 7 rural youths of Gadhaka village of Rajkot taluka was trained and demonstrated for the processing and value addition of spices crop.



The Pulverizer machine (Masala mill) and hand sealers machine having cost of Rs. 85,680 were provided among 7 rural youths of Gadhaka village for this enterprise under ARYA project. Group of these 7 rural youths established the Pulverizer machine (Masala mill) unit enterprise in the year 2017 at Gadhaka village. The youths of this group produced and selling powder of spices i.e. Chilly and Cumin-coriander with “ARYA” brand in packing of 500 gm and 1 kg directly to consumers and local market. The farmers of Gadhaka village and surrounding villages are also grinding their spices on rent basis.

Economics

The monthly average 1200 to 1500 kg Chilly and Cumin-coriander powder is produced. The spices processing enterprise is earning net profit of Rs. 59,500 per month by selling of spice powder. This enterprise is run more than 6 month during the year and earning net profit of Rs. 3,57,000 per year. Therefore, income of every member of group is increased up to Rs. 51,000 per youth per year as in addition to early income from agriculture and other sources.

Impact

A total of 05 youths who got employment for 165 days due to establishing entrepreneurial units in a year. A total of 115 farmers/youth visited the enterprise unit. It has spread to 02 village.



Successful Cases- XX

Name of Enterprise: Namkeen (Farsan) Making enterprise
Implementing KVK: KVK, Rajkot-1, Gujarat

Background

With considering this concept of value addition of pulses at village level, an enterprise of Namkeen (Farsan) making unit has established with the objectives of value addition of pulse crop, selling of pure Namkeen (Farsan) to the society and to generate employment & income

Activities

The group of 5 rural youths of Targhadia village of Rajkot taluka was trained and demonstrated for the processing and value addition of pulse crop. Namkeen (Farsan) making machine and hand sealers machine having cost of Rs. 18,585 were provided among 5 rural youths of Targhadia village for this enterprise under ARYA project.



Group of these rural youths established the Namkeen (Farsan) making unit enterprise in the year 2017 at Targhadia village. The youths of this group making varieties of Namkeen (Farsan) products made from besan flour and selling with 250 gm to 1 kg of packing with “ARYA” brand to local market. This entrepreneurial unit is run throughout the year and 3 youth got employment of 300 days in a year.

Economics

The monthly average 800 kg Namkeen i.e. Gathiya, Sev and Fafadais produced. This Namkeen (Farsan) making enterprise is earning net profit of Rs. 3,90,000 per year. Therefore, income of every member of group is increased up to Rs. 78,000 per youth per year as in addition to early income from agriculture and other sources.

Impact

A total of 15 youths who got employment for 300 days due to establishing entrepreneurial units in a year. A total of 53 farmers/youth visited the enterprise unit. It has spread to 02 village.



Successful Cases- XXI

Name of Enterprise: Nursery unit (fruits & vegetables)

Implementing KVK: KVK, KVK-Bhavnagar, Gujarat

Background

In the district is cotton, pearl millet, sesame and groundnut are the main crops. Animal husbandry is also an important livelihood in the district. Migration of rural youth is a regular phenomenon of the district, as the district is prone to frequent draughts or scares rainfall.

Activities

KVK Bhavnagar oriented and trained various farmers groups for establishment of enterprises for nursery raising of Fruits and vegetables. The groups were identified for skill training. Skill training was organised for different enterprise to developed skill in the relevant subject. Two farmers' groups interested to develop nursery unit for fruits and vegetables were trained at the plug nursery unit of KVK.



Economics

KVK Bhavnagar established 07 fruit nursery and successfully running by 07 youth. Average Size of each entrepreneurial unit was 1.2 ha and Kagzilime–20,000 seedlings and Guava-10,000 seedlings were produced. The Per unit cost of production was Rs. 7 - 10 / Seedling. Sale value of the produce in the market was Rs. 15 - 20 per seedling. Economic gains from the fruit nursery was Rs. 125000/season. In case of Vegetable Nursery, 05 vegetable nursery and successfully running by 05 youth. Average size of each entrepreneurial unit was 0.8 ha and cabbage–50,000 seedlings and Chilli-25,000 seedlings and Tomato-25,000 were produced. The Per unit cost of production was Rs. 0.80 per seedling. Sale value of the produce in the market was 1.5 - 2.0 per seedling. Economic gains from the fruit nursery was Rs. 80000/season. In case of fruit nursery the average income of Rs. 17857 and Rs. 16000 was generated in case of vegetable nursery.

Impact

From fruit nursery the employment was generated for 04 youth for 365 days. Average employment (No. of days) per person was 1460 man-days in fruit nursery. In case of vegetable nursery the employment was generated for 03 youth for 210 days. Average employment (No. of days) per person was observed in tune of 630 man-days in vegetable nursery.



ANNUAL ACTION PLAN 2020-21

Annual action plan of ARYA project for the year 2020-21 has been finalized. 11 centers have submitted their annual action plan. It has been reviewed critically and finalized with major suggestions. State and KVK wise annual action plan has been given below:

Nashik-I, Maharashtra

Enterprise 1

Entrepreneurship development and value addition of Fruits, Vegetables

Interventions for establishing micro entrepreneurial units

Fruit and vegetable Pulping & juice extraction Unit : Mango, Jamun, Karonda and Tomato

Fruits and vegetable Dehydration Unit: Aonla, Grapes, Leafy vegetables, Bittergourd, Bottle Gourd.

Candy, Syrup & Ready to serve processing Unit: Aonla, Mango, Papaya, Cashew processing Unit: Cashew

- No. of training programs : 02
- No. of youth to be involved : 25-30

Enterprise 2

Promotion and Establishment of Layer poultry unit as a small enterprise

Interventions for establishing micro entrepreneurial units - Promotion and Establishment of Layer poultry unit as an alternative agribusiness in backyard system.

- No. of training programs - 03
- No. of Youths to be oriented - 30

Nagpur, Maharashtra

Enterprise 1: Nursery Management

Key technological and institutional Interventions for establishing micro entrepreneurial Units- Demonstration nursery along with guidance and proper training to trainees will be provided at KVK, ICAR-CICR, Nagpur.

- No. of training programs-10
- No. of youth to be involved -150

Enterprise 3

Entrepreneurship development through primary value addition in paddy through Mini Rice Mill for youths

Awareness training and demonstration on paddy mini rice mills per village in the selected cluster of tribal villages. generating village level employment for the tribal youths / families.

- No. of training programs : 10
- No. of youth to be involved : 60

Enterprise 4

Establishment of Custom Hiring entrepreneurship for Tribal youths for mechanised harvesting with Vertical Conveyor Reaper in paddy

Awareness training and demonstration on paddy mechanization and Providing technical and financial support for paddy reaper as custom hiring enterprise.

- Vertical conveyor reapers : 04
- No. of training programs : 04
- No. of youth to be involved : 80

Enterprise 2: Food and Processing

Key technological and institutional Interventions for establishing micro entrepreneurial units- Demonstration on preparation of various pickles and processing of vegetables with proper training will be provided at KVK, ICAR-CICR, Nagpur.

- No. of training programs-10
- No. of youth to be oriented -150

Solapur-I, Maharashtra

Enterprise 1: Commercial Goat farming

Breed up gradation, Disease management, Marketing, Exposure visit to model unit & publicity of products.

- No. of training programs- 02
- No. of youth to be involved- 25

Enterprise 2: Seed production in Chickpea

Packaging, Marketing, Branding & supply of breeder seed & Exposure visit to university seed production unit.

- No. of training programs- 02
- No. of youth to be oriented- 30

Pune-II, Maharashtra

Enterprise 1: Nursery Management

Key technological and institutional Interventions - Training, Demonstrations, Exposure visits, Marketing and Branding

- No. of training programs- 04
- No. of youth to be involved- 100

Enterprise 2: Fruit & Vegetable Processing

Key technological and institutional Interventions- Training, Practical, Study tour, Marketing and Branding

- No. of training programs- 04
- No. of youth to be oriented- 100

Washim, Maharashtra

Enterprise 1: Nursery Management

Training, Input Linkages, Proposal writing, Support for marketing of Produce.

- No. of training programs - 02
- No. of youth to be involved - 50

Enterprise 2: Backyard Poultry Farming

Training, Input Linkages, Proposal writing, Support for marketing of Produce.

- No. of training programs - 02
- No. of youth to be involved – 50

Enterprise 3: Vermicompost production

Packaging, Marketing, licensing of vermicompost, Exposure visit to model unit & publicity of products.

- No. of training programs- 02
- No. of youth to be involved- 25

Enterprise 4: Value addition in Sorghum

Self life enhancement through improved packaging, Exposure visit to processing industries, support for online marketing, Standardization of multi grain food products.

- No. of training programs-04
- No. of youth to be oriented- 25

Enterprise 3: Vermicompost Producer

Key technological and institutional Interventions – Training, Demonstration, Exposure visit, Group formation, Marketing & branding

- No. of training programs- 05
- No. of youth to be involved- 150

Enterprise 4: Goat Farming

Key technological and institutional Interventions - Training, Demonstration, Exposure visit, Marketing & branding

- No. of training programs- 04
- No. of youth to be oriented- 120

Enterprise 3: Fresh water fish farming

Training, Input Linkages, Proposal writing, Support for marketing of Produce.

- No. of training programs - 02
- No. of youth to be involved - 50

Enterprise 4: Fruit & Vegetable Processing

Training, Input Linkages, Proposal writing, Support for marketing of Produce.

- No. of training programs - 02
- No. of youth to be involved - 50



Osmanabad, Maharashtra

Enterprise 1: Nursery Management (Mango, Lemon and Custard Apple)

Key technological and institutional Interventions for establishing micro entrepreneurial units - Nursery Unit

- No. of training programs - 01
- No. of youth to be involved – 30

Enterprise 2: Fruit & Vegetable Processing (Mango, Papaya and Tamarind)

Key technological and institutional Interventions for establishing micro entrepreneurial units - Fruit & Vegetable Processing Unit

- No. of training programs - 01
- No. of youth to be oriented – 30

Enterprise 3: Osmanabadi Goat Farming

Key technological and institutional Interventions for establishing micro entrepreneurial units – Osmanabadi Goat Unit

- No. of training programs -01
- No. of youth to be involved– 30

Enterprise 4: Pulses and Oilseed Processing

Key technological and institutional Interventions for establishing micro entrepreneurial units – Infrastructure (room) available

- No. of training programs -01
- No. of youth to be oriented - 30

Gujarat

Bhavnagar, Gujarat

Enterprise 1: Value Addition (Groundnut processing through Mini Oil Mill)

Skill training, Visit of other functional units related to enterprise will be provided with key equipment for establishment of unit

- No. of training programs -02
- No. of youth to be involved-12

Enterprise 2: Value Addition (Spice Pulverizing Unit)

Skill training, Visit of other functional units related to enterprise will be provided with key equipment for establishment of unit

- No. of training programs - 02
- No. of youth to be oriented -10

Navsari, Gujarat

Enterprise 1: Mango products Unit

Key technological and institutional Interventions for establishing micro entrepreneurial units

- No. of training programs -02
- No. of youth to be involved -100

Enterprise 2 : Mango grafting

Key technological and institutional Interventions for establishing micro entrepreneurial units

- No. of training programs-02
- No. of youth to be oriented-100



Rajkot-1, Gujarat

Enterprise 1: *Khakhara and Papad Making Unit*

Key technological and institutional Interventions

Establishment of Khakhara making unit at village level

- No. of training programs - 02
- No. of youth to be involved – 50

Enterprise 2: *Fruits and Beverages Processing Unit*

Key technological and institutional Interventions

Establishment of small scale fruit processing unit

- No. of training programs - 01
- No. of youth to be involved - 25

Enterprise 3: *Vegetable Plug /Ornamental Nursery Unit*

Key technological and institutional Interventions

Income generation through establishment of plug/vegetable Nursery/Ornamental Nursery at village level.

- No. of training programs -01
- No. of youth to be oriented - 25

Enterprise 4: *Poultry Unit*

Key technological and institutional Interventions

- No. of training programs - 01
- No. of youth to be oriented - 25

Kheda, Gujarat

Enterprise 1: *Portable Rice mill unit*

Home Scale Unit to be establish 05 unit

- No. of training programs-08
- No. of youth to will be involved -250

Enterprise 2: *Mini Dal Mill Unit*

Home Scale Unit to be establish 01 unit

- No. of training programs-03
- No. of youth to will be involved-100

Enterprise 3: *Fruit and Vegetable Dehydrator*

Home Scale Unit to be establish 02unit

- No. of training programs-05
- No. of youth to will be involved-150

Anand, Gujarat

Enterprise 1: *Fish seed rearing unit*

Establishment of Fish seed rearing unit for Indian Major Carps

Key technological and institutional Interventions for establishing micro entrepreneurial units

- No. of training programs- 05
- No. of youth to be involved- 100

Review Workshops for Entrepreneurial Orientation

Review Workshop on Attracting and Retaining Youth in Agriculture (ARYA) Project (17-18 January, 2017) at New Delhi

Dr Trilochan Mohapatra, Secretary (DARE) & Director General (ICAR), inaugurated review Workshop on ARYA project. Dr. Mohapatra, in his inaugural address emphasized that youth, skilling and start-up are integral part of ARYA project. He said youth should be linked with various public and private institutions including financial institutions. He spoke of soil testing scheme which government is implementing. In this context, he emphasized that youth can be motivated to be entrepreneur to provide relevant information on soil health and provide data, results at door steps of farmers. The modern youth can be reached through mobile and provided with soil health parameters including nutrients and microbes and entrepreneurial youth can function as soil health doctor. He underscored the importance of KVKs to perform routine mandatory roles apart from implementations of projects like ARYA, Skill India and Oilseeds and Pulses demonstrations programs.



Perfect planning is essential for KVKs to play greater role in a bigger scale and in this context. There is relevancy for ARYA to get expanded.

Dr. A. K. Singh, Deputy Director General (Agricultural Extension) gave more focus on entrepreneurial activities, income generation and building capacity of youth groups to manage their agri-based enterprises. For the project, various enterprises have been identified, linkages with state governments, technical institutions to deal with technologies and to build innovative processes. He suggested that the incubation centres at IARI and other institutions can be linked with the project. He suggested that over a period of implementation of project, large number of partners will be involved and entrepreneurship models will be established at district level. About 100 KVKs providing skill training may be involved with ARYA project. It is emphasized to go beyond agriculture production and accordingly need based interventions are to be planned.

Review Workshop on Attracting and Retaining Youth in Agriculture inaugurated

Dr Trilochan Mohapatra, Secretary (DARE) & Director General (ICAR) inaugurated two-days Review Workshop on Attracting and Retaining Youth in Agriculture (ARYA) Project (24-25 August, 2018) at New Delhi.

He appreciated the successful implementation of ARYA project by the KVKs. Based on the experiences of the project implementation, more enterprises may be identified both in primary agriculture and secondary agriculture depending upon the KVK, interests and capacity of youths, and need of the location. There is need to segregate the parameters for identification of the youth for the project and scope for ARYA project for contributing to Doubling Farmers' income.



Shri Chhabilendra Roul, Special Secretary, DARE & Secretary, ICAR observed that apart from processing and value addition there is a need to include in the project, the possible income generating activities in primary agriculture where youth can generate additional income. In view of the shortage of labour in agriculture, enterprises like custom hiring and mechanization involving youth may be promoted.

Dr. A.K. Singh, Deputy Director General (Agricultural Extension) said in view of ensuring National Food Security and utilizing knowledge and wisdom of youth, there is a need to attract youth in agriculture. Further, he briefed on the overall achievements of the ARYA project across the country highlighting the number of youths oriented under the project and established entrepreneurial units leading to corresponding economic gains.

Action Plan of ARYA Project organized

This programme was organized by ICAR-ATARI, Pune and Krishi Vigyan Kendra, Bhavnagar from 7th to 9th December - 2018 at KVK Bhavnagar.

The Action Plan of ARYA Project to attract and retain youth in agriculture at 11 centres (6 KVKs in Maharashtra and 5 in Gujarat) was also reviewed during the programme.



Attracting and Retaining Youth in Agriculture: Review Workshop organized

The ICAR-Agricultural Technology Application Research Institute, Pune organized a Review Workshop on “Attracting and Retaining Youth in Agriculture (ARYA) for KVKs of Maharashtra and Gujarat” at Kolhapur.

Dr. K. Narayan Gowda, Former Vice-Chancellor, University of Agricultural Sciences, Bengaluru accentuated to identify the willing rural youths, empowering them for taking up the various agricultural and allied sector enterprises, orienting towards entrepreneurial skill development for sustainable income and gainful employment. He expressed his concerns on less interest of rural youths in agriculture. He stated that making farming as a profitable area is a more challenging task. He urged to fill up the vacuum of farming in the rural areas. Dr. Gowda urged for identifying the enterprises as per locality’s/villagers’ demands, required inputs and market. He also opined for exploring the financial support from the other agencies for the sustenance of the enterprise.



Dr. Lakhan Singh, Director, ICAR-ATARI, Pune urged the Krishi Vigyan Kendra experts for developing the entrepreneurial skills among the identified rural youths. He urged the rural youths to be vigilant about the market demands, visualize calculated risk, choosing right enterprise, building confidence, quality products, etc., for profitable employment.

A total of 11 ARYA Centres (Nagpur, Rajkot, Osmanabad, Bhavnagar, Pune, Kheda, Washim, Navsari, Sholapur, Anand and Nasik) presented their Progress Report for the Year - 2019-20 and Action Plan for the Year - 2020-21.

Major Recommendations

- Focus should be given on processing of fruits and vegetables which is emerging demand in consumer market.
- Promotion of disease free seedlings production unit through rural youths is needed.
- Facilitate linking the farmers to the market for selling their products.
- Develop the brand of processed products with quality to stand in the competitive market.
- Along with major farm based enterprises, attention should be given on supplementary enterprises like poultry, fishery, goat rearing for additional family income.
- Need to promote customised hiring centre.



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