

# 21 Inspiring Stories of Tribal Women Entrepreneurs

(Valsad - Gujarat)



Premila R Ahir - Rajendrasinh Thakor - Kamlesh A Patel



Gujarat Vidyapith  
Krishi Vigyan Kendra  
Ambheti, Ta. Kaparada, Dist. Valsad







"THERE IS NO OCCASION FOR  
WOMEN TO CONSIDER  
THEMSELVES  
SUBORDINATE OR  
INFERIOR TO MEN"

- MAHATMA GANDHI



आज़ादी का  
अमृत महोत्सव

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## **Citation**

21 Inspiring stories of tribal women entrepreneurs (Valsad - Gujarat)

## **Published by**

Gujarat Vidyapith Krishi Vigyan Kendra

Ambheti,. Ta. Kaparada, Di. Valsad. Gujarat. 396 191

E-mail : kvkvalsad@gmail.com

Website : www.kvkvalsad.org

## **Year of publication**

2022 - 23

**Printed at : Maharathi Mudrak - Vapi**

**Copies : 300**



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## FOREWORD

Agriculture continues to remain a major sector of the Indian economy.

The Indian Council of Agricultural Research (ICAR) has established huge network of 731 Krishi Vigyan Kendras across the country. At district level, the KVK is playing a greater role in frontline extension and enhancing farmers' income. Technological backstopping and capacity building of farmers and farm women is being done by the KVK to update their knowledge and skill. KVK, Valsad is situated in tribal dominated area of the district and serving farming community from last two decades for agricultural development. The centre has made significant efforts for socio-economic transformation and livelihood security of tribal farm women.

KVK, Valsad has put up an effort to compile various inspiring stories of tribal women entrepreneurs which will be helpful for other stakeholders to get acquainted with successful experiences. I congratulate the Head of KVK along with his team for this informative and valuable publication

Date:

  
(Dr. A. K. Singh)



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## PREFACE

Krishi Vigyan Kendras, the knowledge and resource centers of National Agricultural Research System of ICAR at district level, are envisioned to play a key role in the transfer of agricultural technologies among the farming community. KVKs are addressing location specific problems and providing need based solutions to farmers in respective district.

The zone VIII have 67 KVKs situated in two states namely Maharashtra, Gujarat & Goa (UT) KVK located in Valsad district of Gujarat is working under the auspices of Gujarat Vidyapith (a deemed university) founded by mahatma Gandhiji in 1920. The KVK is serving tribal farming community for more than two decades towards agricultural development of the district and development of skill of farmers, farm women and rural youth by organizing long term vocational training programmes. Livelihood improvement model, Nutritional security model and Entrepreneurship model developed by This KVK has made remarkable contribution in transfer of women appropriate technologies

I am happy that the Sr. Sci. & Head and his team have made sincere efforts to document the impact of various activities undertaken by the Kendra especially for the women empowerment and publishing a document entitled 21 **Inspiring stories of tribal women entrepreneurs of Valsad district** in the form of success stories.

It is my privilege to thanks Dr. A. K. Singh, DDG (Agril. Ext.), ICAR, Dr. Lakhan singh, ZPD, Zone-VIII, ATARI-Pune for their encouragement and suggestions for documentation and publication of success stories. I congratulate Dr. Rajrndrasinh Thakor, Head KVK and his team for wonderful documentation.

Date:

(Dr. Rajendra Khimani)





Dr. Lakhan Singh



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## MESSAGE

Krishi Vigyan Kendra, Valsad is working well in tribal and difficult terrain. The centre has given more focus on technological backstopping and empowering the farmers and farm women. The KVK have compiled successful cases/stories of tribal women and included different components of agriculture, horticulture, livestock and allied enterprises. Women entrepreneurs have raised their economic status by adopting modern scientific practices and income generating activities.

I appreciate the efforts put up by Dr. R.F. Thakor, Head and his whole team for documenting the success stories of the tribal women. I hope this publication will be useful for different stakeholders.

Date:

(Dr. Lakhan Singh)



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### ACKNOWLEDGEMENT

I express my deep sense of gratitude and thanks to ICAR for giving an opportunity to organize skill development programmes for unemployed youth to develop potential people into entrepreneurs.

My special thanks to Dr. Rajendra Khimani, Honble Vice Chancellor, Gujarat Vidyapith for untiring support, involvement, encouragement, guidance and monitoring in bringing out this publication.

I am grateful to Dr. Lakhan Singh, Zonal Project Director, ATARI -VIII for providing advice, suggestions, feedback and support in implementing the mandates.

I must acknowledge the contribution of smt. Premila Ahir for organizing training, in getting the timely feedback information, assistance for bank loan to trainees, collection of data and providing guidance to potential people in starting their enterprises.

I appreciate Sh. Kamlesh Patel and Smt. Aditi solanki for their efforts in computerizing the case studies, photo setting and for the best design and printing of the book and timely publication.

Date: 22/02/2022

(Rajendrasinh Thakor)

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### **Krishi Vigyan Kendra**

KVK is an innovative science based institution at district level which is a frontline extension system in the world. Presently ICAR runs 732 KVKs across the country. KVKs have been effective institutional link between agricultural research system and extension delivery and development systems. KVKs play pivotal role under National Agricultural Research System (NARS) to assess, refine and transfer the agricultural technologies to the farmers in diverse farming system.

#### **Activities of KVK includes...**

- On-farm testing to assess the location specificity of agricultural technologies under various farming systems.
- Organize Frontline Demonstrations to establish production potential of technologies on the farmers' fields.
- Capacity development of farmers and extension personnel to update their knowledge and skills on modern agricultural technologies.
- To work as knowledge and resource centre of agricultural technologies for supporting initiatives of public, private and voluntary sector in improving the agricultural economy of the district.
- Provide farm advisories using ICT and other media means on varied subjects of interest of farmers.

KVK emphasized on capacity building of small and marginal farmers through skill oriented vocational training which ultimately develop confidence amongst them about use of the technology on their farm to increase production and also become economically self reliant through gainful self employment. KVK also promote activities related to women empowerment to bring changes in the lives of rural women. KVK located in Valsad district of Gujarat state started functioning in September,1992 under the aegis of Gujarat Vidyapith (Founded by Mahatma

Gandhiji in 1920). Valsad district is tribal dominated hilly area with heavy rainfall. These ADIVASI communities are affected by severe hardships. Women in this region have been cut off from development and progress and suffer significant gender inequality. Poverty, poor educational infrastructure, language barriers, etc. hamper access to proper education. The women especially have been identified as being highly oppressed and distressed due to lack of education, social issues and lack of livelihood opportunities.

Gujarat Vidyapith Krishi Vigyan Kendra, Valsad since its inception emphasizing for up gradation of tribal farm women in term of capacity building through training, demonstration campaign and sensitization programme. KVK imparted long term skill oriented training to them in different vocations such as leaf cup/dish making, mango pulp preservation, bamboo articles making, vegetable fiber articles making, sewing, decorative items preparation, vermi compost production, oyster mushroom production, vegetable and flower nursery, dairy management etc. and linked them with the financial institutions for obtaining loan so that they can earn and sustain their family through remunerative enterprise. Since inception GVPKVK has organized more than 174 vocational training programmes from 5 days to 90 days duration specially on women appropriate technologies and trained 5609 tribal women.(Appendix-A). KVK periodically collected the information from the ex trainees of the vocational training programmes and generates several success stories from the field. This booklet entitled **Inspiring stories of tribal women Entrepreneurs (Valsad –Gujarat)** contains 21 success stories of women entrepreneurs who had taken up agriculture based, horticulture based, dairy based and allied activities such as tailoring, leaf cup /plate making, bamboo articles making, clay articles, vermi compost production etc. and improve their socio-economic conditions.

## **Production of Quality Vegetable Seedlings : A promising enterprise for livelihood security of tribal women.**

Maheshwariben Dharmeshbhai Patel

Village: Ambheti, Ta. Kaparada, Di. Valsad

Mo. No. 9687558328



### **Background**

After completion of class 12 th study, smt. Maheshwariben Dharmeshbhai Patel, Scheduled tribe women of 31 years, resident of Ambheti village of Valsad district were involved in different farming operations despite her responsibilities of household task. She was not satisfied with the level of income of her six member's family from the 2 acres of rain fed farming. In her words it was very difficult run household and also to cope with increasing expenditure in farming. She decided to go for some labor work in nearby town for having extra income. Once she come in contact with home scientist of KVK, and make up her mind to start her own seedling nursery to add into her family income from leisure time.

**Technology:** Plug nursery for vegetable seedlings production

### **Role of KVK:**

She participated in a week-long skill oriented plug nursery management training organized by the Krishi Vigyan Kendra, Valsad in 2015, and learnt preparation of media through using coco pits, vermin compost ,use of well decomposed FYM, selection of tray, watering technique , selection of varieties of vegetable etc. After underwent training, KVK provided her a kit includes....coco pit ,50 nos. of plug tray, liquid bio fertilizer, water can , neem cake etc. for starting nursery at her own farm using the skills acquired under training. She could produce 5800 nos of brinjal seedlings and sale it .She had earned Rs.5700 only. But this exercise had made her very confident to established small nursery.

### **The Success**

During 2016 she had started full-fledged small plugs nursery with 211 trays and gradually increasing the number of trays every year. This year she reaches to more than 1100 trays and producing more than 1,02,000 seedlings of vegetables .Due to shortage of land



she had started tray filling on the terrace of her home. She has also adopted tunnel shape structure made up of bamboo structure to protect the seedlings from heavy rains

#### Outcomes

The family members are now paying more attention on nursery .During last three years her nursery has been famous for the quality seedlings production. Usually she sale out brinjal (Rs.1/-/seedling) whereas for hybrid tomato and chilly getting Rs.2/-seedling.

#### Economic analysis of seedling production

Sr No.	Year	Plug Tray Filled with seeds (Nos.)	Total Cost Incurred (including labour) Rs.	Total seedlings production (Nos.)	Total income Rs.	Net income Rs.
1	2015-2016	53	1250	5725	5725	4475
2	2016-2017	211	3525	20528	32232	29707
3	2017-2018	522	8530	43234	73535	6505
4	2018-2019	853	11525	78537	129230	117705
5	2019-2020	1132	16231	102625	156540	140309
<b>TOTAL</b>			<b>41060</b>	<b>250649</b>	<b>2982262</b>	<b>357201</b>

The net average profit of her nursery since last five years was about Rs.70,000 which is more than that what she could earn from two acres of paddy and pulse crops otherwise. She has been honored by voluntary organizations, rural development agency, and educational institutions for various activities of women empowerment



Training on vegetable seedlings production



Vegetable seedlings production at home

## Oyester mushroom production - An alternative income generation venture

Sangitaben Kalpeshbhai patel

Village: Dhodhadkuva Ta. Kaparada, Di. Valsad

Mo. No. 8469544523



### Background

Sangitaben Kalpeshbhai Patel (37) who have studied up to std. 8<sup>th</sup> owned three acres of land and is involved in household work. She found it difficult to support seven members because her farming income was not enough to meet the felt needs of family members. Thus she was seeking some other ways to boost the family income during the leisure time.

**Technology:** Oyester (*Pleurotus sajor caju*) mushroom production

### Role of KVK:

Sangitaben is one of the participants attended five days skill training on mushroom production organized by KVK valsad during the year 2015-16 in which various technologies such as selection of spawns, selection of subtracting materials, pest and diseases of mushroom and its remedies, grading, packing of fresh and dried mushroom and marketing were taught to the participants. KVK also provided inputs kit containing 5 kg of spawn of *Pleurotus sajor caju* spp., 20 Nos. of Polyethylene bags, formalin, carbendezim powder etc. to all trainees so that they can take up mushroom production at their home.

### The Success

Sangitaben had started mushroom production unit at her home in 60 ft space under the guidance of kvk. She had filled 10 cylinders during June , 2015 to harvest the maximum mushroom during monsoon. Out of 10 cylinders, she could harvest only 35 kgs of fresh mushroom from seven cylinders. She earned Rs. 14,000 as gross income. After two years of constant interaction with KVK scientists, she is now able to produced more than 40 cylinders in a year in rotational manner with the average

production of 160-200 kgs of fresh mushroom per annum from the small area i.e.175 sq.ft. During initial year she sold out fresh mushrooms @ Rs.175-200 per Kg. But with increase in demand selling price was also increased to Rs.250 - 310 per Kg.

### Outcomes

During last five years she was practicing with mushroom production and earning about Rs. 35000-40,000 per year as an additional income. Under the leadership of Sangitaben as many as 34 tribal women of six villages started mushroom production . The success has helped in improving livelihood of tribal women by increasing income to the tune of Rs 20,000 to Rs 25,000 per annum.

### Economic analysis of mushroom production

Sr No.	Year	Cylinders filled Nos.	No of Cylinders success	Economics of mushroom enterprise			
				Total Production Kg	Total cost (Rs)	Gross income (Rs)	Net income (Rs.)
1	2015-2016		20	100	6450	21235	14785
2	2016-2017	30	50	250	12900	50745	37845
3	2017-2018	60	70	420	28000	84872	56872
4	2018-2019	80	75	450	30450	90544	60094
5	2019-2020	85	80	480	32800	96722	63922
6	2020-2021	90	88	520	35400	102535	67135
<b>TOTAL</b>		105	-	<b>2220</b>	<b>146000</b>	<b>446653</b>	<b>300653</b>



Skill training on mushroom production



Mushroom production unit at home



## **Dairy enterprise brings better yields and returns**

Naynaben Jayeshbhai Patel

Village: Sukhala, Ta. Kaparada, Di. Valsad

Mo. No. 9537323341



### **Background**

Mrs. Naynaben Jayeshbhai Patel 12 th pass 43 years was from Sukhala village of Kaparada taluka. she has 3 children. Income what they get from the agriculture was not sufficient for family. She was interested to start any enterprise on her own which would be easy for her to maintain with her household work and agriculture activities. She was interested in dairy enterprise because of no knowledge she had stepped backward, by that time she came to know about kvk training with help of trained.

**Technology:** Feed and fodder management, preventive measures

### **Role of KVK:**

She attended one week couple training programme on dairy in which she gained knowledge regarding selection of cow, feed and fodder management for milking cattle, clean milk production, preventive measures and disease of cattle, vaccination schedule etc. With her personal savings she purchased two HF cow. Whatever she learnt from the training programme i.e. growing of perennial fodder grass , proper mix of dry and green fodder as feed, chaffing of fodder , timely drinking water supply, pinch of salt with concentrate feed, clean milk production, cleanliness of shelter ,preventive care -vaccination etc were put into the practices by her. She started the enterprise with own interest .After two years she added three more cows and turn it into a profitable venture. She is supported by training assistant of KVK for all veterinary services.

### **The Success**

Today she owns eight cows (Jersey cows and HF) which are yielding 30-32 liters of milk on an average daily, which she is selling to the Vasudhara milk cooperative.

She had grown perennial fodder variety Co-4 on the boundary of her field which fulfilled her requirement of green fodder throughout the year. Besides she has also taken additional one acre land on lease for fodder cultivation. Besides that she also owns 08 other non milk yielding cattle.

### Outcomes

The yield and availability of milk for selling is for seven to eight months in a year. The gross annual average income is Rs. 3,21,270/- per year by selling 11000 liters of milk @ Rs 22-26/- liter. The gross average expenditure per year is approximately Rs 1,32,175/- towards feed concentrates and fodder. The net average income is Rs. 1,89,100/- per annum. Initially she owned only 3cows, With grit and determination she developed this enterprise into a profitable venture. This enterprise add Rs.15758 per month .

### Economic analysis of dairy enterprise

Sr No.	Year	No of milking cow	Total milk production liter/ year	Income from cow			Gross income (Rs)	Total expenditure (Rs)	Net income (Rs)
				Milk sale/ year	Cow dung sale (Rs)	Cow sale (Rs)			
1	2015-2016	4	8460	186120	9000	0	191520	95000	130110
2	2016-2017	5	10530	231660	11200	0	242860	112750	208735
3	2017-2018	6	12610	296335	13000	39000	348335	139600	220276
4	2018-2019	6	12735	318375	13900	41501	373776	153500	256831
5	2019-2020	8	11330	294580	15700	81251	391531	134700	218530
6	2020-2021	6	12470	361630	14400	0	376030	157500	1134602
<b>TOTAL</b>		-	<b>68135</b>	<b>1688700</b>	<b>77200</b>	<b>161752</b>	<b>1927652</b>	<b>793050</b>	



Milking operation



Improved cow shed (Head to Head)

## Tribal women farmer scripts success story in floriculture

Surekhaben Pratapbhai Patel

Village: Bhomapardi Ta. Valsad, Di. Valsad

Mo. No. 9662510542



### Background

While majority of the tribal farmers in Valsad district of South Gujarat are still finding it tough to come out of the paddy- gram cycle, a progressive farm women from a Bhomapardi village of valsad district having 5 acres of land has taken to flower cultivation and scripted a success story. She previously cultivated agricultural crops like paddy, gram etc and used to get low income from these crops due to various reasons. Her success mantra is something that numerous farmers in the region are now trying to emulate.

### Technology: African marigold (*Tagetes erecta*) production

After completing her graduation, Surekha Patel started agriculture operations. She is having 3 acres of land under irrigation she thought that she should go for other high valued crops that gave higher income than Paddy .She telephonically contacts horticulturist of the KVK and expressed her interest to grow flower. Later, she settled for floriculture as her prime area of operations. She took up marigold as major crop on one acre land and now a day successfully producing marigold along with bijli flowers..

### Role of KVK:

Surekha Patel 42 year's old lady who is in contact with kvk was informed about training at kvk. She attended a week-long skill oriented plug nursery management training organized by the Krishi Vigyan Kendra, Valsad in 2015, and learnt many things i.e. preparation of land for nursery , selection of varieties of flower, grading and packing of flower etc. After training, Krishi Vigyan Kendra provided her a kit that includes...coco pit ,50 nos. of plug tray, liquid bio fertilizer, water can , neem cake and seeds of seasonal flower and vegetables for starting nursery at her own farm using the skills acquired during training. Initially she started with vegetable nursery, but with passing of time she realized that the cultivation of flower crops will be more remunerative. She had started growing chrysanthemum and marigold flower on 10 guntha of land.



### The Success

She expanded marigold and bijli cultivation to 1.5 acres land within six years. In her words "Initial years were tough. Marketing of the flower was very difficult. With constant guidance from KVK, I was able to overcome the problems.

### Outcomes

While an average farmer earns around Rs 25,000 to 40,000 per crop from vegetables, gram and paddy crops, She earns anywhere between 0.50 to 0.75 lakh per annum from african marigold flower cultivation."For floriculture, input cost and dependence on expert labour is high as compared to paddy. In our fields, work is simple and usually I prefer giving employment to local village women for harvesting, grading and packing operations." Surekhaben said.

### Economic analysis of marigold flower production

Sr No.	Year	Area coverrd in guntha	Flower production in Kg./acre	Cost of production/ acre (Rs.)	Gross income (Rs.)	Net income (Rs.)
1	2014-2015	10	200	5342	20500	15158
2	2015-2016	15	500	7653	25200	17547
3	2016-2017	20	1000	15536	50700	33164
4	2017-2018	30	1500	20432	8590	65468
5	2018-2019	40	1800	26845	90700	63855
6	2019-2020	50	2000	32560	107600	75040
<b>TOTAL</b>				<b>108368</b>	<b>380600</b>	<b>272232</b>



Exposure visit to trainees during training



African marigold production

## Entrepreneurship in Cultivation of Ashwagandha

Bhartiben Patel

Village: Pandor, Ta. Vapi, Di. Valsad

Mo. No. 95373 69022



### Background

Mrs. Bhartiben Patel is 45 year old, tribal women from Pandore village, Taluka – vapi, District- Valsad, Gujarat. She left her school at childhood. Her husband is self-employed having small business of wood timber. Mrs. Bhartiben possesses nearly 5 acres land in which she used to grow conventional crops having with average yield. Out of the 5 acre land, she owned a mango orchard in 3 acre land, where she wants to cultivate medicinal plants as other traditional crops are not performed well under mango orchard.

**Technology:** Ashwagandha (*Withania somnifera*) production

Department of Biotechnology, Ministry of Science and Technology, Government of India has support Zandu Foundation for Health Care (ZFHC), Ambach, Valsad, Gujarat as Biotech KISAN Hub for Gujarat Plains and Hills agro climatic zone in November, 2019. Krishi Vigyan Kendra –Ambheti is one of the partners of this project .Under the program, ZFHC was surveying the nearby villages for progressive farmers and came in contact with her.

### Role of KVK/ZFHC:

ZFHC has invited her to attend the farmer's training program, where she was exposed to new and latest techniques of agriculture and her attitude was changed towards agriculture and showed her interest in cultivating medicinal plants. She visited the demo units established at ZFHC. Then after, she further attended two more training programs at ZFHC regarding new techniques, of production of medicinal plants. Finally she decided to go for cultivation of *Withania somnifera* (Ashwagandha ) on her farm.

### Technology Demonstration at farmer's field

Subsequently, under Biotech-KISAN Hub – Gujarat, Zandu Foundation for Health Care has given her quality planting material of *Withania somnifera* (Ashwagandha). She availed advisory services from scientist of Zandu Foundation for Health Care and Krishi Vigyan Kendra and adopted intercropping model by cultivating Ashwagandha under the mango orchard in 3 acre land following (GAP) Good Agricultural Practices. She has been convinced to use only organic inputs viz. vermicompost and farm yard manure for the effective growth and development of the crop.

### The Success

She is able to produce nearly 825 Kg of roots of Ashwagandha. She also used Good Post-harvest Processing Techniques for primary processing of Ashwagandha to improve the quality of the raw material. The produce was bought by Zandu Foundation for Health Care, Ambach. She got Rs. 60500 for her produce against total cost of cultivation of Rs. 26000 for three acre cultivation.

### Outcomes

By adopting intercropping model of cultivation, she is earning a handsome income and was able to double her income from agriculture. She was selected for the Mahila KISAN Biotech Fellowship, under Biotech KISAN Hub program by Zandu Foundation for Health Care for the FY 2019-20.



Dr. M. Aslam, Advisor, DBT distributing QPM to Mrs. Bhartiben Patel during inauguration of Biotech Kisan Hub scheme at Zandu Foundation for Health Care for ashwagandha cultivation.

## Mango graft preparation - A gateway of success for tribal women

Miraben Nanubhai Bhoya

Village: Karjun, Ta. Kaparada, Di. Valsad

Mo. No. 9978273649



### Background

Mango (*Mangifera indica* L.) is known as "King of Indian Fruits" grown commercially on large scale in Valsad district. Valsadi alphanso is world famous. The targets of the enhancing mango production in the coming years will be achieved only through production and distribution of healthy, genuine and quality planting material of commercial/improved varieties of mango in sufficient quantities. Looking to the great demand of good quality planting material, KVK initiated efforts to train tribal youth for production of quality grafts adopting scientific practice. Miraben Nanubhai Bhoya, eight std. Pass women farmer is a resident of Karjun village was one of the trainees of the training programme on epicotyle mango grafting organized by KVK during the year 2011-12.

**Technology:** Epicotyl grafting

### Role of KVK

During the training programme the participants were imparted intensive practical experiences of epicotyle mango grafting various aspects such as selection of rootstock, raising of root stock, thickness of the rootstock, selection of scion preferably a terminal non-flowered shoot of 3 to 4 months maturity, matching of scion and stock thickness, selection of healthy mother plants, and true to type progeny trees of commercial /new varieties, which are free from viruses, disease and pest occurrence etc.

### Technology Demonstration at farmers field

Krishi Vigyan Kendra also provided a kit includes Knife, seacature, cocopit, plastic bag, water can etc. for initiating epicotyle mango grafting at her own farm using the skills acquired under training. Under constant guidance and supervision of the kvk, Miraben Nanubhai Bhoya could produce only 2050 nos of mango grafts during the year 2012-13 of which only 1735 were survived. She had earned Rs.32500. This exercise had made her very confident to established small nursery.



### The Success

Alongwith Miraben her daughter, husband and son also joined hands. The ventures started with 2050 grafts reaches up to 7600 grafts during the year 2019-20. She has also developed shed net structure to protect the grafts from heavy rains and sunlight for the vigorous growth of mango grafts.

### Outcomes

The family members are now paying more attention on mango graft nursery. During last eight years Bhoya family produced more than 35000 grafts in her nursery and sold as many as 30000 grafts of kesar, alphanso, amrapali, and dasheri varieties of mango. It has added av. Rs.75,000 as additional annual income to her family.

### Economic analysis of mango graft production

Sr No.	Year	No. of grafts Prepared	No. of grafts survived	No. of grafts sale (one year old grafts )	Expenditure (Rs.)	Income (Rs.)	Net return (Rs.)
1	2013-2014	2050	1735	1625	12635	32500	19865
2	2014-2015	2532	2343	2145	13125	47190	34065
3	2015-2016	3421	2527	2437	14645	53614	38969
4	2016-2017	3557	3122	3125	16365	78125	61760
5	2017-2018	4203	3645	3546	18125	88650	70525
6	2018-2019	5447	4572	4427	21360	115102	93742
7	2019-2020	6524	5123	4833	23125	135324	112199
8	2020-2021	7633	7321	6734	25321	208754	183433
<b>TOTAL</b>		<b>35367</b>	<b>30388</b>	<b>28872</b>	<b>144701</b>	<b>759259</b>	<b>614558</b>



Mass production of mango graft (Epicotyl graft) on farmers field

## **Entrepreneurship in Drumstick (*moringa oleifera*) Cultivation**

Bhanuben Babubhai Patel

Village: Nanivahiyal, Ta. Dharampur, Di. Valsad

Mo. No. 96876 13220



### **Background**

Mrs. Bhanuben Babubhai Patel is 42 year old, a bachelor degree holder tribal women from Nani Vahiyaal village, Taluka Kaparada, District- Valsad, Gujarat possesses nearly 2 acres land in which he used to grow conventional crops organically. Once both husband and wife attended shibir on mahila kisan diwas organized by KVK in their village. In which a lecture was delivered and a video was also displayed on uses and benefits of Drumstick. This arouse interest in the couple regarding drumstick cultivation. Patel family contacted KVK to know about drumstick production technology.

### **Role of KVK**

Subsequently, under Frontline Demonstration (FLD) introduced the drought tolerant and high-yielding variety of drumstick (PKM-2) variety developed by Tamil Nadu Agricultural University and provide her quality planting material of drumstick during the year 2014-15. She has grown it at 3 x 3 meter distance under the guidance of KVK scientist. She has been convinced to used only organic inputs viz. vermicompost and farm yard manure for the effective growth and development of the crop. At present she has total 71 plants of drumstick. Moringa is among the rare horticulture crop which begins fruiting within six months of planting, and continues to do so for a period of six to seven years. It was pruned after three years.

### **The Success**

In Bhanuben's farm, the crop was ready for harvest after six months. Since then, he has been harvesting drumstick regularly. During the year 2015-16 she was able

to harvest 350 kg of green pod of drumstick from 71 plants. With neat packing (10 kg packs) and proper transportation, the produce remains fresh for hours, and thus fetches good price. It fetches higher market price due to long size, slender and dark green colour of the pod. Gradually production of green pod increased year by year. She is earning a handsome income and was able to double her income from agriculture.

### Outcomes

She realized marginal income during first year due to lack of marketing and low price. But from the second year she contacted a vegetable vendor in nearby town. Now she sells two to three tonnes of harvest. "The 71 moringa trees give me between Rs 25,000 to Rs 30,000 annually," Bhanuben told. Proper packing and identifying the right sale point are the other aspects that have helped her reap rich rewards from drumstick.

### Economic analysis of drumstick production

Sr No.	Year	No. of plant	Production (kg)	Expenditure (Rs.)	Annual income (Rs.)	Net Annual income (Rs.)
1	2015-2016	71	350	1221	2833	1612
2	2016-2017	71	537	1527	8523	6996
3	2017-2018	71	1632	1731	32735	31004
4	2018-2019	71	2445	7435	62525	55090
5	2019-2020	71	3125	8123	65135	57012
6	2020-2021	71	3125	9132	67545	58413
<b>TOTAL</b>			<b>11324</b>	<b>29169</b>	<b>239296</b>	<b>210127</b>



Supply of moringa saplings to trainees



Doorstep production of drumstick

## **Rose cultivation as a successful income generating enterprise.**

Kalpanaben Bharatbhai Patel

Village : Dhodhadkuva, Ta. Kaprada, Di. Valsad

Mo. No. 9727873389



### **Background**

Kalpnaben Bharatbhai Patel, 37 years having 1.5 acres of land, hails from Dhodhadkuva in valsad district where her family is still into conventional agriculture. She previously cultivated agricultural crops like paddy, pigeon pea etc and used to get low income from these crops due to various reasons. She is very much interested in cultivation of rose owing to its high market demand and her passion to the red rose flowers.

**Technology:** Rose cultivation (Gladiator var.)

### **Role of KVK**

She consulted scientist of KVK and attended training programme for 04 days for popularization of flower growing in open field and production technology of flowers and got lot of awareness and techniques i.e. preparation of land, selection of varieties of flower, cutting, grading and packing of flower etc. adopted in flowers cultivation.

Later on, Kalpnaben started rose cultivation by procuring gladiator variety of rose plants from private nursery. She took up rose as major crop on half acre land with as many as 2250 plants. She practiced the (150 cm x 45 x 45 cm) rose cultivation with drip irrigation system. It saved the labor charges for irrigation, quantity of water to be applied to the crop and reduced weed growth in the field and increased water use efficiency.



### The Success

She regularly consults the scientist for suggestions in production aspects, pest and disease management. She has invested Rs.91,000/- initially for half acre plantation of rose and got gross returns of Rs. 2,25,000/- with net profit of Rs.1.34 lacs. She is able to harvest approximately 1.20 lacs nos of cut flower per annum .It gives regular income to her.

### Outcomes

While an average farmer earns around Rs 25,000 to 40,000 per crop from vegetables, gram and paddy crops, She earns anywhere between 2.00 lac per annum from rose flower cultivation."For floriculture, input cost and labour is high as compared to other crops. All the women member (05) of her family helped her in harvesting, grading and packing of flowers."

### Economic analysis of Rose cultivation

Sr No.	Year	Area covered in acre	Cut flower production in nos.	Cost of production (Rs.)	Gross income (Rs.)	Net income (Rs.)
1	2017-2018	0.5	112500	91125	225000	133875
2	2018-2019	0.5	119700	36625	239400	202775
3	2019-2020	0.5	132300	49800	297675	247875
4	2020-2021	0.5	125800	41625	283050	241425
<b>TOTAL</b>				<b>219175</b>	<b>1045125</b>	<b>825950</b>



Rose (Gladiator var.) cultivation with mulching



Rosy smiling with flower production

## Harvesting nutrition through Gangama nutri garden

Nirmalaben Anilbhai Gavit

Village: Amdha, Ta. Kaparada, Di. Valsad

Mo. No. 7874147032



### Background

Backyard areas of majority of small and marginal tribal families remain fallow or unutilized, which is a common phenomenon in tribal areas of Valsad district. There is a scope to bring these backyards under vegetable production through kitchen gardening. This ultimately will play a vital role in ensuring food and nutritional security to the tribal families and also can provide supplementing income to them.

**Technology:** Vegetable production through Gangama nutri garden

### Role of KVK

Tribal women farmers, who are interested and having backyard space were chosen for backyard kitchen gardening training . Women were trained about selection of plot, selection of vegetables, lay out preparation, organic inputs, etc. Of the trained women Smt. Nirmalaben Anilbhai Ganit village, Amdha picked up organic production of vegetables in her backyard since 2015-16.

### Technology Demonstration at farmers field

Gangama mandal design of nutri garden enables to produce large no of various types of crops with limited resources like land, water, labour etc. Mandal is a circular garden 30 feet in diameter, covering less than 800 *sq.ft* areas include four circles. The diameter of outer circle is 42 *sq.ft*. The radius of two inner and inner most circles is 4 *ft*. and 2 *ft* respectively. The whole circle is divided in to seven equal parts by 1.5 *ft* pathway. Each circle has approximately 1*ft* width useful various operations without disturbing adjacent plot/plants. The plants are grown in a circular beds arrayed in the centre as well as on both the sides of the path way. It includes proper combination of short and long duration vegetables, vine crops and herbal medicinal plants.

### The Success

From 2016-2017 to 2019-20 during last three years Smt. Nirmalaben Ganvit is practicing Organic vegetable production through Gangama nutri garden layout. She is producing 32 types of vegetables crops from small piece of land. It does not only fulfill the requirements vegetables of her five member's family throughout the year but also increases income of Rs. 5500 to 6500 per annum through sale of fresh organic vegetables.

### Outcomes

- Looking to her efforts around 130 Kitchen Garden have been prepared in the backyard by tribal women beneficiaries of 18 villages. It decreases expenditure on vegetables, increase the availability of varied vegetables in the diet and increase av. income of Rs. 2300 to 4500 per annum.
- As many as 417 supervisors of Integrated Child Development schemes (ICDS) of valsad district have been trained on this aspect.
- As many as 195 primary teachers of the valsad district have been trained on nutri garden.
- More than 135 schools of the district have prepared the nutrigarden in their school with a view to provide nutritional literacy among tribals.
- KVK has supplied more than 4500 plantlets of moringa (moringa oleifera) amongst 615 tribal farm families of the district during last five years.



ICDS staff visit on Nutrigarden



School students visit on Nutrigarden



**Economic analysis of Gangama nutri garden models (pooled data 2017-2020)**

Sr No.	Vegetable grown	Average yield (kg/ annum)	Average income (Rs/ annum)	Sr No.	Vegetable grown	Average yield (kg/ annum)	Average income (Rs/ annum)
1	Brinjal	96.42	1928.37	17	Cucumber	8.40	420.00
2	Bottlegouard	12.50	1500.00	18	Radish	3.70	259.00
3	Indian bean	2.30	160.70	19	Carrot	2.40	168.00
4	Coriander	0.77	77.13	20	Basil	0.29	23.14
5	Fenugreek	0.23	22.96	21	Lemmon grass	0.10	5.36
6	Ivy gourd	3.80	494.00	22	Mint	1.93	192.84
7	Spinach	7.17	860.88	23	Garlic	0.39	23.14
8	Clusterbean	1.32	85.80	24	Marrygold	2.10	157.50
9	Amaranthus	5.74	573.92	25	American corn	3.90	390.00
10	Temaric	0.57	57.39	26	Ginger	0.97	97.00
11	Cowpea	1.15	86.09	27	Onion	0.96	77.13
12	Cauli flower	3.09	215.98	28	Papaya	37.62	2257.20
13	Lady finger	1.93	86.78	29	Banana	36.00	1620.00
14	Chilly	0.19	57.85	30	Lemon	4.00	400.00
15	Tomato	9.64	385.67	31	Sweet potato	7.30	511.00
16	Cabbage	11.57	347.11	32	Beet root	1.20	96.00



**Nutrigarden**



**Nutrigarden in backyard**



## Income and employment generation through vermi compost

Manjulaben Ramubhai Gavit

Village: Amdha, Ta. Kaparada, Di. Valsad

Mo. No. 9687872032



### Background

Once Manjulaben Ramubhai Gavit attended the farmers shibir on organic farming organized by KVK. She got excited about rearing earthworms and preparing vermicompost. She interacted with the SMS of KVK on different occasion. She admitted that having only one acre of land. Soils are poorly fertile and thus applying higher doses of chemical fertilizers. It has increased the cost of cultivation. However situation started changing when he enrolled his name for training programme on vermicompost preparation in 2014-15.

**Technology:** Vermi compost production from farm waste

### Role of KVK:

Five days skill oriented vocational training programme on vermi compost preparation was organized especially for the farm women having marginal land and desired to opt for composting farm waste using vermin culture. In which participants were taught about collection of dried leaves and other bio mass, spreading the bio mass in layers over the soil, application of worms, water application to maintain humidity, collection of ready compost, etc. KVK also provided all the participants –One vermi bed 12 x 4 x 2.5 ft with 2 kgs of *Eudrilus eugeniae* spp of worms. Manjulaben started small unit of vermin compost preparation on his farm. Looking to her entrepreneurial skills and interest, KVK established one movable floating type biogas plant with a capacity of 2.0m<sup>3</sup> made up of HDPE material on her farm. Use of cow dung slurry to prepare vermi compost is a better option to convert farm waste to organic manure. The cow dung used for cake preparation is now being utilized to feed the biogas plant.

### The Success

Establishment of biogas plant has inspired her to expand vermin compost production unit. She had initiated with 12 beds in 2014-15 and produced 4800 kg compost. Now a day she is able to managed 40 beds of vermicompost in a cycle, producing more than 20 tonnes of vermin compost per annum. She is the leading vermicompost producers earning average Rs. 50,000 /year from this business. Usually she sale out vermi culture @ Rs. 200-250 per kg and vermicompost (Rs.4-5//Kg) during last two years.

### Outcomes

Manjulaben Ramubhai Gavit formed a group of 20 women of the same village. kvk trained them and provided them vermibed and worms were given by Manjulaben on loan basis. Today more than 37 units are successfully producing vermicompost and are earning very good additional income.

### Economic analysis of vermicompost production

Sr. No.	Year	Bed filled Nos.	Total vermin compost production Kgs.	Total vermin culture production Kgs.	Total income (Rs.)	Total Cost incurred including labour (Rs.)	Net return (Rs.)
1	2014-2015	12	4800	00	9600	12000	00
2	2015-2016	16	7600	60	27000	11000	16000
3	2016-2017	19	8400	75	40200	12500	27700
4	2017-2018	24	11000	95	67750	10500	57250
5	2018-2019	32	15400	115	105750	8000	97750
6	2019-2020	40	20800	148	118725	12300	106425
<b>TOTAL</b>		<b>145</b>	<b>68000</b>	<b>493</b>	<b>369025</b>	<b>66300</b>	<b>305125</b>



Practical training on vermi composting farm waste



vermicompost ready for sale

## Prosperity from Pickle preparation – A home made business

Pragnaben Pratapbhai Patel

Village: Kakadmati, Ta. Valsad, Di. Valsad

Mo. No. 7698235153



### Background

Pragnaben Pratapbhai Patel of Kakadmati village of Valsad district inherited her interest in food processing from her mother who was passionate about pickle making. Pragnaben is a mother of two kids and initially, she made pickles which were enough for just her household. Her children loved the pickles and so did all her friends and neighbors. This constant positive feedback finally motivated her to enter the food processing enterprise i.e. preparation of pickle from the mango.

**Technology:** Pickle preparation, packaging

### Role of KVK

In 2012-13 she took the first step by attending a 10 days training course organized jointly by the KVK and Department of food and nutrition, Valsad in which 17 rural women were participated. Pragnaben 43 years enthusiastic lady was one of them. Practical training on the various aspects such as Selection of mango fruit, cleaning the mango by hot water treatment, Cutting of mango in to small pieces, selection of ingredients, oil, Soaking of mango pieces in to salt solution, Sun drying of soaked mango pieces, proportion of oil and other ingredients and different recipes for preparation of Mango and vegetable pickles from tamarind (*Tamarindus indica*), Kerda (*Capparis desidua*), Carot (*Dacus Carota*), chilly (*Capsicum annuum*) etc. were imparted to the them. Varieties of mango and lemon pickles include dry, green, sweet and mix pickles.

### The Success

Pragnaben's dedication, hard work and growing technical expertise through all the training enabled her to set up her own processing unit with an investment of Rs.

1,50,000 and started making pickles at their home in 2013-14. She then received financial assistance in the form of loans which helped her expand the business. Products made by her include a large range of pickled includes lemon, tamarind, mango, kerda, carrot, chillies, etc. She buys the raw material from the local market and also from the weekly market, at a reasonable price. It has reduced the cost of production. For packaging, she used food grade plastic pouches / jars. Roughly calculated, the enterprise operates at a 25% to 30% profit margin.

#### Outcomes

The total turnover of the business during last eleven years goes to Rs.68 lacs. Patel family earned average Rs.13 lacs per annum from this venture. She has received many opportunities to showcase her products at exhibitions organized by the Government of Gujarat. She has herself trained women from various villages and aspiring entrepreneurs who are particularly interested in food processing.

#### Economic analysis of Pickle preparation

Sr No.	Year	Total production (Kg.)	Total expenditure (Rs.)	Total income (Rs.)	Net return (Rs.)
1	2015-2016	9735	749595	860223	110628
2	2016-2017	11231	864787	1112435	247648
3	2017-2018	13524	1041348	1347232	305884
4	2018-2019	14350	1104950	1632721	527771
5	2019-2020	15241	1173557	1925331	751774
<b>TOTAL</b>		<b>64081</b>	<b>4934237</b>	<b>6877942</b>	<b>1943705</b>



Training on pickle preparation



Bulk production of SAGAR brand pickle



## Papad making – Value addition for economic empowerment

Kusumben Kalidas Patel

Village: Ambheti, Ta. Kaparada, Di. Valsad

Mo. No. 9727294461



### Background

Papad making business is often associated with empowerment of women in India. Many individual and organized businesses run by women produce papad, pickle and other snacks which provide them regular income from minimal financial investments. This is the story of Kusumben Kalidas patel, one of the participants of the training programme on value addition of Finger millet (*Eleusine coracana*), organized by KVK. Kusumben, 44 years, belongs to village Ambheti lies in Kaparada block of valsad district of Gujarat.

### Technology: Papad making from fingermillet flour

Traditionally, papads are prepared with urad papad, rice papad, ragi papad, dried lentils as the base ingredients, seasoned by spices such as chilli, cumin, garlic, black pepper, etc. Finger millet is grown in hilly area of valsad district. It contains rich source of iron.

### Role of KVK:

Kusumben had joined a three days training programme on Value addition on finger millet. During the year 2015-16. She started preparation of papad from Ragi (Finger millet) flour as base ingredient with addition of different spices such as cumin, ajwain, sesamum etc. for flavour. The making of Papad happened by chance. One day few guests arrived at her house, she served some delicious food for them. The guests praised her cooking skills and asked from where she bought the served papads. "They are homemade", Kusumben replied. The guests suggested her to start selling her home made papads as they have a huge demand and she can fetch a good price.

### The Success

Kusumben tried to sell it in nearby areas but it was a big disappointment. There weren't many buyers for her product. After discussion with one of her friend she exhibited her product in exhibition at various places. Eventually she started getting orders from food malls, as quality of her product was good. She has now employed her family members to roll papads.

### Outcomes

Over the years Kusumben formed a group of 15 women .The group started selling of papad in food grade plastic bag under the brand name of Self Help Group. Due to good quality and packing she is able to sale the papad @ Rs.200 per Kg. The annual average income she is realizing from this business goes to Rs1 lac per annum.

### Economic analysis of papad making

Sr No.	Year	Production (Kg.)	Annual income (Rs.)	Expenses incurred (Rs.)	Net annual income (Rs.)
1	2015-2016	532	106400	15231	91169
2	2016-2017	575	115000	17321	97679
3	2017-2018	651	130200	21436	108764
4	2018-2019	668	133600	23251	110349
5	2019-2020	732	146400	25132	121268
6	2020-2021	835	167000	28543	138457
<b>TOTAL</b>		<b>3993</b>	<b>798600</b>	<b>130914</b>	<b>667686</b>



Practical training on nagli papad making



Nagli papad production at home

## **Mango Pulp preservation promotes sustainable livelihood for tribal women**

Ilaben Maheshbhai Patel

Village: Dhodhadkuva Ta. Kaparada, Di. Valsad

Mo. No. 8758945381



### **Background**

Valsad—a tribal dominated district of Gujarat where mango is an important horticultural crop. Tribal farmers grow mango on the border of farm or small piece of land. Most of them had to forcefully sell their produce at low price. Perishable in nature, no space for storage, over ripening of fruit and small marketable lot were the main factors responsible for selling of mango in local market at lower rates. Ilaben and her husband Mahesh Patel is a marginal farm family having mango orchard. The couple was advised to go for value addition of mango through simple food processing activities."

**Technology:** Mango Pulp extraction, Preservation , Bottling

### **Role of KVK:**

KVK organized a training programmes of eight days duration on different aspects of mango pulp preservation in which 16 rural women had participated. It was smt. Premila ahir (Home Scientist) kvk valsad who imparted training to these rural women to extract mango pulp. The skills regarding selection of fruits, cleanliness of fruits, extraction of pulp using machines, boiling of pulp, quantity of preservative, sealing of bottle using corking machine were imparted to them. After undergoing the training, Ilaben patel , one of the participants started this activity on small scale. She faced certain problems. Non availability of corking machine was one of the major problems. In absence of the corking machine, she had sealed the bottle using wax which allows air inside resulting in to fungal attack. It was a drudgeries and time consuming task to peeling off fruits and extract pulp from large quantity of mango fruits. KVK acquired help from Tribal Sub-Plan (TSP) in organizing trainings and provided a kit to each participant, i.e. corking machines, bottles, corks etc. Kendra had also provided them electric operated automatic pulper machine with stainless steel body having capacity of extracting 50-60 kg pulp/hour. Use of machine enabled Ilaben patel and others to filled bottles of pulp of different varieties of mango. It saves the time and also maintains cleanliness.

### The Success

Mrs. Ilaben successfully extracting the mango pulp and preserving it. The couple is realising the slogan of 'vocal for local'. Mrs. Ilaben had alone filled more than 8500 bottles of mango pulp of different varieties during last six years with an average of 1400 bottles per annum. Brimming with confidence, and encouraged due to the positive response from the market, she is resolved to make pulp preservation from different varieties of mango such as dussehri ,alfanso, kesar for her livelihood.

### Outcomes

She is earning around Rs.35000 per year from this business. KVK in collaboration with Tribal Sub Plan department of Gujarat state had organized six such training programmes in subsequent years and trained as many as 102 participants. Of the trained farm women 36 are earning additional income. It has improved the livelihood status of the tribal families.

### Economic analysis of mango pulp preservation

Sr No.	Year	No. of Mango pulp Bottle filled	Labour charge /Bottle (Rs.)	Total income (Rs.)
1	2014-2015	111	15	1665
2	2015-2016	251	20	5020
3	2016-2017	525	25	13125
4	2017-2018	1521	25	38025
5	2018-2019	2118	25	52950
6	2019-2020	4150	30	124500
<b>TOTAL</b>		<b>8676</b>		<b>255285</b>



Skill training on mango pulp preservation



Skill training on mango pulp preservation



## Leaf cup and Leaf dish making – Successful income generating enterprise

Arunaben Jayntibhai Patel

Village: Ambheti Ta. Kaparada, Di. Valsad

Mo. No. 846913907



### Background

Leaf cups and plates are traditionally made by hand in Indian villages. These are commonly used for serving food at marriages, religions and social functions. The laborious craft can now be converted into a machine operation to make these containers in elegant shapes and sizes. Such cups and plates are made out of plant leaves of *Butea monosperma* which is available in plenty in this forest region. These are inexpensive, hygienic and biodegradable. Smt Arunaben of Ambheti village in Kaparada taluka had no other way but had to go for daily labour along with her family members to fill the rice bowl.

**Technology:** Leaf cup/ Leaf dish preparation from *Butea monosperma*

### Role of KVK:

Meanwhile, she enrolled for skill development training program organize by kvk. As a member of Shiv Shakti self-help group, she was trained along with 15 women for one week on collection of leaf , storage of dried leaf , selection of leaves for dish/cup preparation, operating of machines and packing & marketing of finish products by the expert of kvk. Procuring machine after training was the major problem for trained women. While certificate distribution ceremony KVK invited offices of Dena bank. He agreed to sanctioned loan for selected cases who fulfill the bank criteria for loan. Finally bank approves the loan of four trainees for purchase of leaf cup machine. Arunaben was one of them. As promised by the KVK, technical and marketing support was provided to establish an *Butea monosperma* leaf plate making unit. She is working for about 3 to 4 hours daily for 8 months in a year apart from their routine work. The quality of the produce i.e leaf cup and leaf dishes are so good and thus created high demand in the local market. KVK helped her to exhibit her produced in the exhibition, agril. fair and also introduced her with the vendors of nearby town.

### The Success

It is astonishing fact that she has repaid the loans to the bank and became the self sufficient unit. She used to sell around 40,000 leaf plates and 50,000 leaf dishes per annum with the help of her husband.

### Outcomes

The livelihood has opened the avenue as she has earned Rs.5,14,000 net income during the span of eight years from this business. Her average annual income is around Rs.81,350 with the total turnover from this business goes to Rs. 6,51,000. Inspired from this activity, eighteen new groups of women were formed in the nearby villages during six years.

### Economic analysis of Leaf cup/Leaf dish making

Sr No.	Year	Leaf cup Nos. Prepared	Leaf dish Nos.	Income Leaf cup (Rs.)	Income Leaf dish (Rs.)	Total annual income (Rs.)	Total expenditure (Rs.)	Net profit (Rs.)
1	2012-2013	1923	36232	7321	18232	25625	5221	20404
2	2013-2014	24234	39945	9897	21930	31945	7895	24050
3	2014-2015	29734	44335	13500	26735	40503	10445	30058
4	2015-2016	35000	49845	17342	34834	52500	12435	40065
5	2016-2017	39621	54525	24222	43645	67745	15120	52625
6	2017-2018	48223	59435	31500	54221	85500	19975	65525
7	2018-2019	59735	69225	39335	87500	127500	25000	102500
8	2019-2020	69235	98735	69925	149000	219535	39995	179540
<b>TOTAL</b>		<b>325905</b>	<b>452277</b>	<b>191242</b>	<b>436427</b>	<b>680853</b>	<b>136086</b>	<b>514767</b>



Leafcup /leaf dish preparation training



Leafcup /leaf dish preparation at doorstep

## **Biogas- brings smiles**

Nirmalaben Kamleshbhai Jadhav

Village: Khuntali, Ta. Kaparada, Di. Valsad

Mo. No. 9081011425



### **Background**

Tribal women of valsad district collect firewood from forest and used it as fuel for cooking along with dried cow dung cake. This practice is unsafe as it add carbon in the atmosphere and become the major causes of deforestation. KVK suggest farmers to go for biogas plant but they refused proposal. It was come to know that farmers had very bad experiences with Dinbandhu type of biogas plants installed by some other agency in the village. Crack formation in the digestion chamber and slurry chamber made up of cement concrete was the major issue for failure of the technology.

### **Role of KVK**

KVK as an alternative introduce movable floating type biogas plant with a capacity of 2.5 cu.mts made up of PVC material. It has long life, light in weight and sufficient gas production capacity for small family with five members. The first such plant was installed on the farm of Shri Nirmalaben Kamlesh Jadhav, member of Village climatic risk management committee formed under NICRA project at Khuntli village of valsad district.

Nirmalaben Jadhav said that before the installation of plant, she use to cut and carry 45-50 kg firewood from the forest (2.5 km away) along with her husband to fulfill fuel requirement of a week. She also add that this is in addition to the 6-8 kg cow dung cake per week. Now, Jadhav family daily uses cow dung to feed biogas chambers to produce gas which is good enough for 4-5 members of family. Her husband with smile on face told that now there is no tears in the eyes my wife because of smoke while cooking and we need not to go forest for collecting firewood. Thus it saves time and reduced drudgery.

### The success

After initial success, she had collected good amount of slurry. KVK advised her to use their spare time for vermi compost preparation. Use of cow dung slurry to prepare vermin compost –is a better options to convert inorganic waste to organic. Jadhav family collected bio mass and started compost unit in their back yard. KVK provides her *Eudrilus eugeniae* spp of worms. She had started with 2 beds, now producing 20 tonnes of vermi compost during last two years and incorporates in soil. It does not only reduce the dependency on chemical fertilizer but also reduce cost of production.

### Outcomes

Nirmalaben sets an example for other farmers of village. It has inspired many farmers of the village. But it was difficult for kvk to provides financial assistance to the interested farmers. Then, KVK contacted and convinced an NGO Acil Navsarjan Rural Development Foundation to provide financial assistance for establishment of biogas plant in the village with active contribution of farmers. KVK was instrumental for capacity building of users group. Today, 35 such biogas plants and vermi compost units are working successfully under the guidance of kvk scientist.

### Economic analysis of biogas

The total unit cost of the biogas plant was Rs.15,500/-.Nirmalben produced 20 tonnes of vermicompost valued Rs.80,000. It is estimated that 35 biogas owners produced more than 370 tonnes of vermicompost per annum and add revenue of Rs.14,80,000. It has also created employment.Area under organic farming also increased, as many farmers started using vermicompost which is locally available.



Installation of biogas plant in backyard



Use of biogas for cooking



## **Tailoring: A means of self employment to tribal women**

Ramilaben Dineshbhai Patel

Village: Karaya, Ta. Vapi, Di. Valsad

Mo. No. 8469010338



### **Background**

Ramilaben Dineshbhai Patel, is a 39 years old women and she stopped going to school after 8th class and was not doing anything. She belonged to marginal holding family .Originally, she is from a Karaya village of Valsad- Gujarat and has 4 family members. With a view to learn some skills which can help her to earn money. She approached KVK and expressed her desire to join training programme that help her to earn money.

**Technology:** Tailoring , Stiching

### **Role of KVK:**

KVK advised her to join three months duration (90 days) skill oriented training programme on tailoring. Ramilaben had participated and learnt all the basics of sewing, cutting, designing of blouse, dress etc., and professional experts were also invited to provide practical experience to the trainees during programme. After completion of training programme kvk approached the officer of banking institution and District industrial Centre and convinced them to approve the credit at subsidized rate. Smt Ramilaben was amongst sixteen trainees who had purchased machine with the help of bank loan. She worked for about 3 to 4 hours daily for 20-25 days in a month. During first two years she had been associated with professional tailor .She learnt lot of lessons regarding the business.

### The Success

Now she is working at her home and manages her family as well as business. She is earning monthly income of Rs.2200 to 2500 and had repaid the full amount of loan. Other women were also inspired from the trained group and two more SHG have been formed. As a result of continuous effort of KVK, 137 machines have been provided free of cost to the trainees under Manav kalyan scheme of Gujarat government.

### Outcomes

Few of them joined with industrial unit as skilled worker and earning up to Rs.7500-8000 per month. Under the dynamic leadership of Ramilaben Patel more than 60 rural women associated with this vocation. She not only learned to stand on her own feet but also helped many other women stand on theirs by working with her. Without losing an iota of courage and with steely determination, she singlehandedly runs the business with her 03 women supporters, making a grand success of it.

### Economic analysis of Tailoring

Sr No.	Year	Annual income (Rs.)	Expenses incurred (Rs.)	Net annual income (Rs.)
1	2014-2015	65225	18324	46901
2	2015-2016	84735	21545	63190
3	2016-2017	90124	24235	65889
4	2017-2018	97722	16523	81199
5	2018-2019	114613	18778	95845
6	2019-2020	132323	23470	108853
<b>TOTAL</b>		<b>584752</b>	<b>122875</b>	<b>461877</b>



Training programme on Tailoring



Tailoring work at the doorstep

## Soft toys production-A supplementary income enhancement enterprise

Gitaben Bhupendra Patel

Village: Ambheti, Ta. Pardi, Di. Valsad

Mo. No. 7069334826



### Background

Gitaben Bhupendra Patel belong to ambheti village in valsad district, is a 12 th passed unemployed lady of 26 years is an example how woman can effectively utilize their talents and leisure time for income generation. When her children were small and attending Kindergarten school, their teacher told her about an exhibition to be organized by the handicraft department. She decided to participate in one such exhibition and the response she received was good.

**Technology:** Soft toys production

### Role of KVK

To keep herself busy she enrolled herself to one month long vocational training on soft toys making course organized by KVK in collaboration Atul Rural Development Foundation , where she learned to make 15 different types of soft toys. After completing the course, she started making soft toys and gifting it to small children for their birthdays. People around her started placing orders for soft toys and appreciated her craft. She prepared toys viz. Lord Ganesha, teddy bear, dolls, elephant etc. Which is more popular amongst the children's. To meet the modern trends of marketing she has been started making range of products. KVK provide her an opportunity to exhibit her products in the fair and exhibitions organized by various agencies in the district.

### The Success

She took bulk orders from fancy stores, and local markets. She has purchased the required raw materials in bulk and has employed a woman of her own family and neighbor to work along with her .she does the main and finishing touches to herself and the rest of the work is done by the woman working with her .she purchases the raw materials in bulk at a cheaper rate and the work place is her-own house. Therefore, the profit she gains is comparatively higher.

### Outcomes

Owing to the finishing and lower pricing of her products, she got very good response from the traders. During last seven years she was practicing with soft toys production and earning about Rs. 35000-40,000 per year as an additional income. Under her guidance as many as 12 women (Hari Om group)are come forward for this business.

### Economic analysis of soft toys production

Sr No.	Year	Soft toys Production Nos.	Cost of production (Rs.)	Gross income (Rs.)	Net return (Rs.)
1	2014-2015	221	20365	51320	30685
2	2015-2016	225	25221	58535	33314
3	2016-2017	365	27331	62625	35294
4	2017-2018	473	31435	69222	37787
5	2018-2019	482	33575	74325	40750
6	2019-2020	525	42560	85635	43075
7	2020-2021	945	43445	91321	47876
<b>TOTAL</b>		<b>3236</b>	<b>224202</b>	<b>430683</b>	<b>268781</b>



Training on soft toys preparation



Product display in exhibition



## Supplementing family income through Decorative article production

Poonamben Yogeshbhai Patel

Village: Ambheti Ta. Pardi, Di. Valsad

Mo. No. 9925945596



### Background

Poonam Patel- a 28 years young girl from ordinary family whose parents stopped her studying, when she was in 12th class and trained her in domestic work and got her married. She became a mother of two children. She was good at creativity and had zeal to do something.

**Technology :** Decorative article production

### Role of KVK

Incidentally when she was came in contact with VLW. She was told that KVK going to organize 10 days training programme on preparation of decorative article and it does not required formal education and can be done at her doorstep with less investment. Later she contacted KVK and enrolled her name for the programme. During the programme professional trainer from Utkarsh Mahila Association (an NGO) has imparted skills for the preparation of decorative articles. Poonam has a strong determination to pursue her dream as an entrepreneur. she started preparation of decorative wall pieces, jhumar, brooch, woolen toran , cloth flower, woollen doll , artificial pearl toran etc. These are made using high quality raw materials and are offered attractive designs and shining colour combinations.

### The Success

Poonamben Yogesh Patel took great self-initiative to learn many things within the time frame. She has utilised the training in a better way and making artificial jewellery and selling to her customers and school students in a cost effective manner. After discussion with one of her friend Poonamben exhibited her product in exhibition at various places. Initially she fetched a very low price for it and was barely able to make any profit. Eventually she started getting orders from food malls, as quality of her product was good. Now she is able to get average monthly

income of `Rs. 6,500. She is very much thankful to and Utkarsh Mahila Association and Krishi Vigyan Kendra for having given the opportunity to undergo the training.

### Outcomes

She formed a group of 10 women for bulk production of decorative articles . After group formation she started selling of articles in the brand name of Self Help Group. My participation in entrepreneurship development training program conducted by KVK has given me inspiration and through knowledge in acquiring entrepreneur skills, made me a women entrepreneur. Due to good quality and packing she is able to earn the average additional income of Rs. 60,000 per annum.

### Economic analysis of Decorative article production

Sr No.	Year	Product Nos.	Total production Nos.	Cost of production (Rs.)	Income (Rs.)	Net return (Rs.)
1	2014-2015	07	455	51432	105625	54193
2	2015-2016	01	549	56545	121436	64891
3	2016-2017	11	659	59323	125523	66291
4	2017-2018	12	625	61525	131633	70108
5	2018-2019	11	823	63623	135545	71922
6	2019-2020	10	924	65432	138323	72891
7	2020-2021	11	1210	69234	145735	76501
<b>TOTAL</b>			<b>5242</b>	<b>427023</b>	<b>903820</b>	<b>476797</b>



Training on production of decorative articles



Decorative articles for sale

## Foot mate / floor mate making – A lucrative vocation

Alpaben Rameshbhai Patel

Village: Arnala, Ta. Pardi, Di. Valsad

Mo. No. 9512238645



### Background

After obtaining bachelor degree in arts, smt. Alpaben Rameshbhai Patel, scheduled tribe women of 42 years, resident of Arnala village of valsad district was involved in different farming operations despite her responsibilities of household task. She realized that the level of income of her four members' family, earned from the 2 acres of rain fed farming is not sufficient. In her words it was very difficult to run house hold and also to cope with increasing expenditure in farming and education of children. She decided to go for some labour work in nearby town for having extra income.

**Technology:** Foot mate/ floor mate making

When come in contact with home scientist of Krishi Vigyan Kendra, in a meeting in her village she picked up the idea from the discussion during the meeting and make up her mind to start her own foot mate making unit to add into her family income from leisure time.

### Role of KVK:

She participated in a week-long skill oriented foot mate making training organized by the Krishi Vigyan Kendra, Valsad in 2013-14. She learnt preparation of foot mate from the natural fiber i.e. coconut fiber, darbh fiber (*Desmostechaya bipinnata* L), wild okra fiber (*Abelmoscus ficulnens* spp ). Since the area is endowed with forest, both wild okra and darbh is available in plenty. Under the constant guidance and supervision of the home scientist she started preparation of foot mate at her home.

### The Success:

Mrs. Alpaben Rameshbhai Patel had produced 321 nos of foot mate / floor mate of different size and shapes during first year. There is a high demand of floor mate made up of natural fiber i.e. Darbh fiber as this mate is used in the religious rituals. She had earned net income Rs.5905 only for the first year. But this exercise had made her very confident to carry on with this profession.

### Outcomes:

The family members are now paying more attention on foot mate preparation .During last six years she prepared more than 3000 foot mate/floor mate and earn more than Rs. 1,00,000/- as an additional income. They earn good income by serving as master trainers in government, non-governmental agencies. The success of Alpaben has grabbed the attention of many women.

### Economic analysis of Foot mate making

Sr No.	Year	No of foot mat production Nos.	Cost of production (Rs.)	Gross income (Rs.)	Net income (Rs.)
1	2014-2015	321	3210	9115	5905
2	2015-2016	351	4212	11510	7298
3	2016-2017	415	5395	17652	12257
4	2017-2018	521	7294	22521	15227
5	2018-2019	630	12735	31723	18988
6	2019-2020	935	14025	55424	41399
<b>TOTAL</b>		<b>3173</b>	<b>46871</b>	<b>147945</b>	<b>101074</b>



Footmate preparation training



Footmate preparation at home



## Coconut and jute fiber article production-Best from waste

Sangitaben Navinbhai Ghutia

Village: Mandva, Ta. Kaparada, Di. Valsad

Mo. No. 8758357743



### Background

Coconut has multidimensional appeal to man, with its uses ranging from food, fiber and fuel to a role in his social and cultural life. Coconut fiber, obtained from unripe coconut, is a natural fiber extracted from the husk of coconut. Coconut fiber is the most well-known fibrous waste from the coconuts cultivation. Sangitaben Navinbhai Ghutia- thirty one year old lady resident of Mandva village, studied up to 9th std. and having 2 acres of land had joined training along with a group of 25 women on preparation of natural fiber (coconut fiber ,jute fiber and wild okra fiber) articles.

**Technology :** Coconut fiber waste

### Role of KVK

Sangitaben Navinbhai Ghutia undergone training organised by Krishi Vigyan Kendra, Valsad in partnership with the Rural Technology Institute, Pardi at free of cost. It is realised that coconut husk available in plenty as it is used in religious occasion and in temples. Rural Technology Institute was requested to depute a master trainer for organizing this training programme. The candidates were trained in how Coconut fiber obtained from unripe coconut, from jute and from wild okra and making small golden color Kalash article, floor mats, doormats, brushes, mattresses. rope etc. From among the trained group only six participants had started preparation of articles from coconut coir, wild okra fiber and jute fiber.

Sangitaben Navinbhai Ghutia was one of them. Remaining participants not involved in this activity mainly because the coconut, wild okra ,and jute needs to steeped in hot water, and subsequently, the fibers are to be removed from by combing and crushing which is a time consuming process and requird skill.

### **The Success**

Sangitaben started preparation of articles like doormet, pot, kalash,Ganesha idol,jhumar, toran, latter box,tpli jhula, mobile stand, key chain, flower vase, wall piece, pen stand etc She tried to sell it in nearby areas but it was a big disappointment. There weren't many buyers for her product. After discussion with one of her friend she exhibited her product in exhibition at various places. Eventually she started getting orders from food malls, as quality of her product was good. She has now employed her family members by imparting skills to prepare the bamboo articles..

### **Outcomes**

Her annual income rose to Rs.25, 000 in 2020-21 from Rs.8,000 during the year 2017-18. She explained her success "My participation in entrepreneurship development training program conducted by Krishi Vigyan Kendra,Valsad in partnership with the Rural Technology Institute, Pardi has given me inspiration and through knowledge in acquiring entrepreneur skills, made me a first generation women entrepreneur.



Fiber article preparation training to self help group

## Empowerment through bamboo article preparation

Ilaben Aminbhai Patel

Village: Dhodhadkuva, Ta. Kaparada, Di. Valsad

Mo. No. 7862988900



### Background

Bamboo has been an easy and versatile material for all societies that have practiced a self-reliant, ergonomically and environmentally sustainable way of living. For rural people who depend on forest based economy make use of bamboo for various purposes includes traditional food and furniture.

### Terchnology : Bamboo article preparation

KVK identified a group practicing with preparation of bamboo articles. Most of them were worked on indigenous design and prepare the articles for the domestic use only. Ilaben was among the 20 participants.

### Role of KVK:

Bamboo article making course of 60 days duration organized by KVK in collaboration with Rural Technology Institute with a view to enhanced skill of the participants regarding designing of the products such as wall piece, mates, flower vaas etc.

### The success

Ilaben started preparation of decorative items at home. She earns good income by selling it in HAT market. Due to good quality she is able to earn the average additional income of Rs. 30,000 per annum. The success of Ilaben patel has grabbed the attention of many women farmers in the villages.



Bamboo article preparation training



Bamboo articles prepared by trainees

### Skill oriented vocational training organised by KVK

Sr. No.	Name of Training Course	Nos. of courses	Total participants
01.	Tailoring	11	255
02.	Paper/Leaf cup.	18	445
03.	Preservation of fruits/vegetables	22	466
04.	Bamboo articles	11	313
05.	Footmate	05	152
06.	Vermi compost production	06	149
07.	Vegetable Nursery	05	121
08.	Mushroom production	31	802
09.	Jute /Coconut fibre article	10	296
10.	Decorative article	02	41
11.	Soft toys making	02	38
12.	Paper article preparation	02	40
13.	Nutritional garden	25	1954
14.	Dairy management	13	287
15.	Clay article making	01	31
16.	Incense stick making	02	32
17.	Candle preparation	01	21
18.	Leather work	01	25
19.	Immitation jewellery	02	41
20.	Storage grain pest	02	52
21.	Kite preparation	02	48
<b>Total</b>		<b>174</b>	<b>5609</b>



## Dignitaries visit



District Development Officer, Valsad



Chairman, RTI, Gandhinagar



ADG (Ext) and Director ATARI ICAR



Scientists, KVK Kheda, Gandhinagar



Shri. Kharsan Collector, Valsad



Vice chancellor, GVP, Ahmedabad

## Marketing of products prepared by SHGs





# Marketing of products prepared by SHGs







**Gujarat Vidyapith**  
**Krishi Vigyan Kendra**  
**Ambheti, Ta. Kaparada, Dist. Valsad**

