

Success story -01

Increase in millet cultivation and production

Dr. P. P. Javiya, Dr. L. V. Ghetiya, Mr. B. M. Vahunia, Dr. S. A. Patel, Dr. J. B. Dobariya & Mr. H. A. Prajapati

- **Background/Problem statement**

In dang district, productivity of millets is low because of not maintaining proper spacing and sowing method by farmers. Due to this, severe weed and low tillering problem occur in the area which ultimately reduces the yield and income of the farmers. Most of the farmers were throwing millets seedling so that 8-10 kg/ha seed required in place of 4-5 kg/ha, which ultimately increase the seed cost. Most of the farmers are tribal and resource poor, so that they have not knowledge regarding scientific cultivation practices of millets.

- **Intervention of KVK**

KVK Waghai, Dang give improve and high yielding varieties under FLDs and OFTs every year and also give so many on and off campus training and exhibition of new varieties in each and every krusi mela in dang district. In dang district mainly tow millets growing more one is finger millet and second one if little millet. KVK gives more than 25 FLDs and 3 OFTs, also KVK conduct more than 110 of training and awareness program during last 10 years. KVK organize 3 millet mela during 2023 in contest of celebration of International Millets Year.

- **Output**

Crop	Details of Technology	No. of Farmers /Demos	Area (ha)	Yield (q/ha)		% Increase in yield
				Demo	Check	
Finger millet	CFMV 2 (Gira)	50	10	14.57	9.95	46.43

Crop	Details of Technology	No. of Farmers /Demos	Area (ha)	Yield (q/ha)		% Increase in yield
				Demo	Check	
Little millet	GV 3	50	10	13.11	9.75	34.46

- **Outcome**

1. **Increased Yield:** With the adoption of better cultivation practices and high-yielding varieties, millet yields improved significantly in Dang district.
2. **Economic Impact:** Farmers witnessed an increase in income due to better yields and the sale of value-added millet products, contributing to the economic sustainability of rural households. Benefit cost ratio of finger millet is 4.86 and little millet 3.8 which higher than local varieties
3. **Improved Nutrition:** The promotion of millet-based products in local markets increased the availability of nutritious, gluten-free foods, contributing to better public health.
4. **Revival of Traditional Practices:** Millet cultivation helped in the revival of traditional agricultural systems and dietary habits, aligning with sustainable farming practices.

Horizontal Dissemination:

1. **Farmer-to-Farmer Knowledge Transfer:** Successful farmers trained by KVKs shared their knowledge with other farmers in their communities, creating a ripple effect and spreading best practices across regions.
2. **Collaboration with NGOs:** KVKs collaborated with non-governmental organizations and self-help groups to further promote millet cultivation in rural communities.
3. **Government Initiatives:** Government policies and programs, such as the National Food Security Mission (NFSM) and the introduction of millets as part of public distribution systems, supported the horizontal dissemination of millet cultivation practices.
4. **Private Sector Involvement:** Food processing companies and entrepreneurs were encouraged to invest in millet-based products, expanding the market and driving further interest in millet cultivation.
5. **Farmer-Focused Platforms:** Platforms like KVK-run demonstrations, agricultural fairs, and online resources spread millet cultivation techniques and products to a wider audience.



Success story -02

Success Story of Watermelon Cultivation in the Dang District

Mr. H. A. Prajapati, Dr. P. P. Javiya, Dr. L. V. Ghetiya, Mr. B. M. Vahunia, Dr. S. A. Patel & Dr. J. B. Dobariya

- **Background / Problem Statement :** The cropping pattern of the district is mostly single rainfed crops. The major crops in *khharif* are Paddy, Finger millet, Little millet, Sorghum, Black gram, Pigeon pea *etc.* As far as horticulture crop is considered the major grown crops of the district are mango, cashew, okra, cucurbits and other vegetables.
- **Intervention of KVK:** Krishi Vigyan Kendra (KVK) plays a crucial role in crop diversification with promoting and improving watermelon cultivation through various extension activities. The main efforts focused on enhancing productivity, sustainability, and profitability for farmers for sustainable income generative sources. KVK mainly focusing on training and capacity building of farmers. KVK conducted 10 on-farm and 07 off-farm training programs for farmers with 756 beneficiaries on improved watermelon cultivation techniques in last 12 years. One RKVY project also implemented in 2012-13 for increasing productivity of watermelon in the Dang district with 98 beneficiaries. With the help of different extension activities, KVK educated the farmers on non-chemical pest and disease management, drip irrigation with mulching and nutrient management of watermelon.
- **Input**
 - ✓ No. of farmers Trained: 700+ (including small and marginal farmers)
 - ✓ No. of demonstrations Conducted: 100+ on improved agronomic practices and watermelon varieties.
 - ✓ Drip Irrigation and Mulching Implemented: 100+ farmers adopted water and labour saving techniques.
 - ✓ Mulching Cultivation Introduced: 100+ farmers using plastic mulching in watermelon.
 - ✓ 30 to 40 % water & 10 to 20 % fertilizer saving through drip and fertigation, with increased efficiency.
 - ✓ Increase in yield and net profit.
 - ✓ 40 to 50 % less incidence of weeds in the field with drip and 80 to 90 % with mulch area which is the major problem in the Dangs.
 - ✓ Saving in electricity as the time required for irrigation through drip was reduced in comparison to flood irrigation.
 - ✓ Saving of time & labour for irrigation and weeding operations.
 - ✓ Low incidence of pest and diseases.

- ✓ Market Linkages Developed: Direct sales to wholesalers, supermarkets, and online platforms
- **Outcome**
 - ✓ Increase in income of farmers. (Rs.30,000 to Rs.8,00,000)
 - ✓ Increase in yield due to hybrid varieties, drip irrigation and mulching.
 - ✓ Increase in area of watermelon crop along with drip irrigation by more than 300 ha (750 acre) in the Dangs.
 - ✓ Improvement in quality of the watermelon fruits.
 - ✓ Strategy formation for marketing of the produce by farmers themselves as the demonstration was given in group or cluster.
- ✓ Farmers adopted scientific cultivation practices in terms of plant geometry, timely fertigation as per crop stage, aware about the use of organic as well as bio-fertilizers, use of optimum doses of biopesticides, installation of fruit fly pheromone traps and proper post-harvest practices.
- **Large Scale Impact/ Horizontal Dissemination (Area covered/ No. of farmers covered/ input saving/ employment generated/ entrepreneurship developed/impact on migration/etc.):**
 - ✓ Due to Implementation of Project on watermelon and various extension activities Farmers obtained higher yield under demonstration as compared to their traditional practices which ultimately increased their income.
 - ✓ It increased awareness about the advantages of Drip + Mulching technology in watermelon crop.
 - ✓ Nowadays in the Dang district, watermelon become a major crops in vegetable and cultivated in 317 ha with 4432 MT production.



Diagnostic visit



Watermelon field



Success story -03
Success Story of Mushroom cultivation

Mr. B. M. Vahunia, Dr. S. A. Patel, Dr. J. B. Dobariya, Mr. H. A. Prajapati, Dr. P. P. Javiya, & Dr. L. V. Ghetiya

- **Background/ Problem Statement :**

Mushroom cultivation has long been underutilized by farmers, despite its potential as a high-value, low-investment crop. Many farmers in our region faced challenges like nutrition deficiency, climate irregularities and limited crop diversification, which hindered their income stability. Additionally, migration to urban areas in search of work was a common phenomenon, leaving rural regions with a labor shortage. Despite possessing suitable resources for mushroom farming, knowledge gaps and lack of technical expertise prevented local farmers from tapping into this lucrative venture.

- **Intervention of KVK**

To address these issues, KVK stepped in with a series of interventions aimed at enhancing mushroom cultivation. The intervention involved:

Training Sessions: 12 vocational training on mushroom cultivation techniques, including substrate preparation, inoculation, and harvesting given to **349 farmers**.

Demonstration on KVK Farm: KVK established model of Low Cost Mushroom Unit to demonstrate best practices, showcasing high yields and profit potential.

Technical Support: KVK provided ongoing technical guidance, helping farmers overcome initial hurdles in mushroom farming.

Input Support: Low-cost materials, such as quality spawn and substrate, were distributed **5kg spawn kit** to the **225 farmers** to kick-start their farming ventures.

- **Output**

Adoption of Technology: Over **500 farmers** adopted mushroom cultivation as an alternative or supplementary source of income.

Diversification of Income Sources: Farmers experienced a significant boost in household income, reducing dependency on seasonal crops.

Adopted by landless labours: Nearly 50 Landless families adopted low cost Mushroom cultivation as a new source of income.

Awareness of Best Practices: Farmers were empowered with the knowledge of scientific mushroom farming practices, leading to improved productivity.

- **Outcome**

Improved Income Stability: Farmers who initially faced financial instability due to low crop yields found mushroom cultivation to be a reliable source of income. The steady market demand for fresh mushrooms contributed to a consistent cash flow. They earn **6500 to 7000 Rupees** after investing **1500-1700 rupees**.

Reduction in Migration: With the success of mushroom farming, many farmers found employment opportunities within their own villages, leading to a reduction in migration to urban centers.

Community Empowerment: The success of mushroom farming fostered a sense of community among farmers, as they began sharing knowledge and best practices, creating a collaborative environment.

Nutritional Benefits: The introduction of mushrooms also improved dietary diversity in the region, contributing to better nutrition for families.

- **Large scale Impact/ Horizontal Dissemination (Area covered/ No. of farmer's covered/employment generated/entrepreneurship development/impact on migration/ etc.)**

Area Covered: The intervention has spread across districts, covering over **500 land holders with about 50 landless labour** due to successful demonstration and word-of-mouth.

Employment Generated: Mushroom cultivation has created employment for over **600 individuals** in the region, through in mushroom harvesting, packaging, and marketing. It is in increasing mode.

You Tube : We upload one video on mushroom cultivation which have more than 14000 views

Selling: By our KVK intervention More than **9000 kg spawn** has been sold from College of Agriculture, NAU, Waghai and Gram Sewa Trust, Navsari/Anjana ben Ganvit, Vyara Dist. Tapi sold **1400 kg spawn** and Bhoomi Mushroom, Vapi sold spawn nearly **600 kg in the Dang district.**



Success story -04

Dr. J. B. Dobariy, Mr. H. A. Prajapati, Dr. P. P. Javiya, Dr. L. V. Ghetiya, Mr. B. M. Vahunia & Dr. S. A. Patel

Name of Farmer: Sunitaben Vipulbhai Chaudhari

Village: Bharvad Faliya, At- Waghai

Taluka : Waghai

District: Dang



Education: 12th pass

Mobile No: 9879136436, 9925604888, 9898429745

Introduction

Sunitaben Vipulbhai Chaudhary is a house wife. She has 3 family member's viz., Her husband, mother in law and brother in law. She has formed one Self Help Group. The name of SHG is Shiv Parvati. In these group, 10 members is registered by Mission Mangalam, Waghai and DRDA, Ahwa. Before the intervention with KVK, Waghai, she has confused about the concept and activity of SHGs. There have not known about agency that helps her to financial and technical support.

Training and guidance of KVK

KVK is the Farm Science Centre with multidisciplinary aims to transfer the latest technology to farmers in the district. Recently, empowerment of women has been central issue in determining the status of women. Recognizing importance of women as a new approach to the whole concept of women empowerment and all over the country concept of SHGs sprang up. The basic objective of SHG is to develop the saving capacity among the poorest sections of the society which in turn reduces dependence on financial institutions and develop self reliance, self confidence, social and economic empowerment among women member. Member of the SHG are frequently contact to bank for their saving and credit purpose. It is necessary that member of SHGs having knowledge of value addition of various products that is provided by Krishi Vigyan Kendra, Waghai. KVK, NAU, Waghai arranged 5 days vocational training for preparation of hair oil, finger millet papad, finger millet biscuit, Khakhara, chakkarri, shiro, Ladoo, to the members of SHG. KVK, Waghai also arranged 5 days training in marketing strategies for member of self help groups.

Practices adopted

Materials use for preparation of 15 liter hair oil: Sesame oil (15 liter), Coprel (5 liter), Castor oil (1 liter), Bottle gourd (20 kg), *Amla* (500 gm), *Eclipta* (500 gm), *Bacopa monnieri* (500 kg), *Ghodavaj* (250 gm), sweet powder (250 gm), *nagmath* (250 gm), aloe vera (10 big leaves), neem leaves (4-5 kg), curry leaves (4-5 kg), henna leaves (2-2.5 kg), jasud-rose flowers (1 kg), *jatamasi* (250 gm), *jethimadh* (250 gm), agar (250 gm), *ananthamul* (250 gm).

Practices adopted: She has made ayurvedic hair oil using various natural resources

1. **Mixing:** First, we mixed up all the herbs in a large bowl with 15 liter of sesame oil, 5 liter of coconut oil, and 1 liter of castor oil.
2. **Heating:** The mixture is heated on moderate heat until all moisture evaporates.
3. **Filtering:** The contents are filtered through a fine mesh clean cloth.
4. **Packaging:** At last, oil has been packaged with labels in a different bottle sizes.

Comparison between Value added Hair oil and Conventional Hair Oil

Hair Oil

Parameters	Dangi Ayurvedic Oil Preparation (Data in the year)	Conventional Hair Oil preparation (Data in the year)
Name of Oil	Dagi Ayurvedik Oil	Chemical Hair Oil
Cost of production (Rs)	1,20,000/-	1,60,000/-
Production (Kg)	360	420
Price per liter oil (₹/liter)	1300	800
Gross return (₹/Year)	4,68,000/-	3,36,000/-

Net return (₹/Year)	3,48,000/-	1,76,000/-
B:C Ratio	3.9	2.1

Finger millet Papad and Simple Papad

Parameters	Finger millet Papad (Data in the year)	Simple Papad (Data in the year)
Name of Papad	Finger millet Papad	Simple Papad
Cost of cultivation (Rs)	72,000/-	95,000/-
Production (Kg)	520	615
Price per Kg papad (₹/Kg)	300/Kg	170/Kg
Gross return (₹/Year)	1,56,000/-	1,04,550/-
Net return (₹/Year)	84,000/-	1,76,000/-
B:C Ratio	2.16	1.10

Benefits and achievements

- Her product is marketed in several places in Gujarat, including Surat, Ahmedabad, Bharuch, Baroda, Vidyanagar, Ahwa, Navsari, Gandhinagar, and so on.
- She has a good reputation in the field.
- More than fifteen women are employed by her, while she creates value-added products.
- She sells her goods under her own Brand Name.
- She utilizes natural resources appropriately.
- She use location specific technology

Impact of the Technology to the end user

- Stops hair graying
- Prevents Whitening of hairs and increase blackening of hair.
- Promotes hair growth.
- Keeps head and eyes cool
- Use this oil to get rid of hair problems including dandruff and alopecia.
- Ayurvedic Pure Hair Oil enhances our well-being.







Success story -05

Economic Empowerment through Innovative Dairy Business Background /Problem Statement

Dr. S. A. Patel, Dr. J. B. Dobariya, Mr. H. A. Prajapati, Dr. P. P. Javiya, Dr. L. V. Ghetiya & Mr. B. M. Vahunia

Vaishaliben Rameshbhai Bhoje is a woman farmer of Village Uga-Chichpada, Taluka- Waghai, District Dangs in Gujarat, educated up to B.Ed. and having 6.0 Acre of land. Her husband is also a farmer. They have two children a son and a daughter. Somehow, they were earning their livelihood by practicing rain fed agriculture in their land. She was growing local and old varieties of Paddy, Vari, Ragi and some vegetable during Kharif season. She had two bullocks and one cows of local origin. These animals were a burden rather than a source of income due to the meagre productivity; however the bullocks were used for the agricultural operations. Under such situation, it was difficult to sustain house hold food and nutritional security of her family. Therefore, she was in search of some alternate sources of income.



Vaishaliben Rameshbhai Bhoje

Village: Uga-Chichpada, Taluka-Waghahi, District Dangs - (Gujarat)

Age: 38 years , Education: B.ed pass , Size of Land holding: 3.0 Acre

Intervention of kvk

By some sources, she came to know about some welfare schemes for tribal. First of all she visited a co-operative dairy in a nearby village and she also decided to join co-operative dairy in her nearby village. Meanwhile her village, Uga-Chichpada was care by KVK and ATMA -Dang of the district. A series of animal husbandry activities like meetings, trainings, kisan goshtis, field visits, farm school, visit to a dairy co-operative has been started by KVK scientists. Vaishaliben and other interested farmers had purchased HF cross-bred cow.

As cross bred cow was a new enterprise for them, they often faced so many troubles for proper guidance. In the beginning she was not able to maintain the proper health of her animals. she came in contact with Krishi Vigyan Kendra, through ATMA, Dang and was inspired to abandon conventional dairy practices and adopt animal husbandry in a scientific manner as per the guidance of scientists. Animal scientist of KVK was impressed to see her keen interest in dairy farming. It was found that the farmers of this village were rearing the animals with traditional method, imbalance in use of feeds and fodder as well as facing the chronic problem of anoestrus, repeat breeder and

poor growth. The Scientist of KVK started a series of activities i.e. training, demonstration, farmer's scientist interaction etc to deal with the existing problems and observed a positive impact.

Output

At present, Vaishaliben Rameshbhai Bhoje has adopted scientific concepts to rear her animals as per the suggestions given by KVK scientists. She has extended her farm and today she owned 3 milking HF crossbred cows, 2 heifers and 1 calves. She has constructed a pakka house with manger and water tank. She uses proper concentrate feed, green and dry fodder, mineral mixture, timely vaccination, de-worming and diagnosis as per the guidance provide by the scientists of KVK through training, demonstrations and very frequent farm visits. As result, a strong competition between various farm women to get more and more milk production developed.

Outcome

Due to adoption of improved practice, her constant efforts and hard work and timely support from KVK, ATMA Dang & other line departments and Vasudhara dairy she could achieve very impressive growth in dairy farming as per the table-1.

Impact of KVK

Sr. No.	Particulars/ Items	Before KVK intervention	After KVK intervention
1	Animals own	1-Desi cows 2- Desi Bullocks	2021-22 2- HF cows 1-Heifers 1 - Calves 2- Bullocks 2022-23 2- HF cows 1-Heifers 1 - Calves 2023-24 3- HF cows 2-Heifers 1 - Calves
2	Vaccination & De-worming	Not proper	Regular
3	Milk production (day)	Initial 1.5 lit/day	Average-16 lit/cow/day highest income up to Rs. 24,177/- per month
4	Highest milk production per animal per day	2.0 lit/day	Up to 8 lit/day/animal
5	Anoestrus and repeat breeder problems	Yes	No
6	Inter-calving interval	More than 2 yrs	12-16 months
7	Service period	Average-170 days	90-95 days
8	No. of service per conception rate	7-8	1-2
9	Growth of calves and heifers	Poor	Good
10	Age of first calving	5-6 yrs	30-48 months
11	Economics enhancement Income per month(Net profit)	Not good	Rs.10,000-17,000 per month
	Income through selling of self	Nil	Planned in future

	reared HF animals		
12	Modern assets in the house because of dairy farming	Nil	Freeze – 1 TV - 1 Mobile - 2 Motorcycle – 1 Tractor -1
13	Bank loan	-----	Paying regularly

Milk production Data

Sr. No.	Year	Annual Milk production	Annual Profit (Rs)
1	2021-22	938 liter	26279
2	2022-23	488 liter	14865
3	2023-24	4853 liter	168717

For the success of dairy farming in tribal areas she believes that it is due to intensive guidance provide by the Scientist of KVK and ATMA-Dang. In addition to this, humble support made by Vasudhara dairy as well as state government to provide subsidy for purchasing the cross bred cows and proper marketing facility, respectively.

She feels that having good genetic potential and dairy characters of HF cross bred animals plays an important key role in dairy business. She also emphasized that after starting the dairy farming she need not to go anywhere for earning employment as well as she could make herself away from the money lender's clutch to satisfy her needs. Now she can easily manage her all needs and able to think in advance for the sake of better education to her children due to dairy farming.

This impressive result of dairy farming turned Vaishaliben Rameshbhai Bhoys & her husband from poor farmer to a happy progressive dairy farmer. The success of dairy farming in resource poor areas is a unique example to generate the employment as well as empower the tribal economy in the country.