How Drought Farmers Became

Millionaires

Mann Deshi Foundation

HSBC

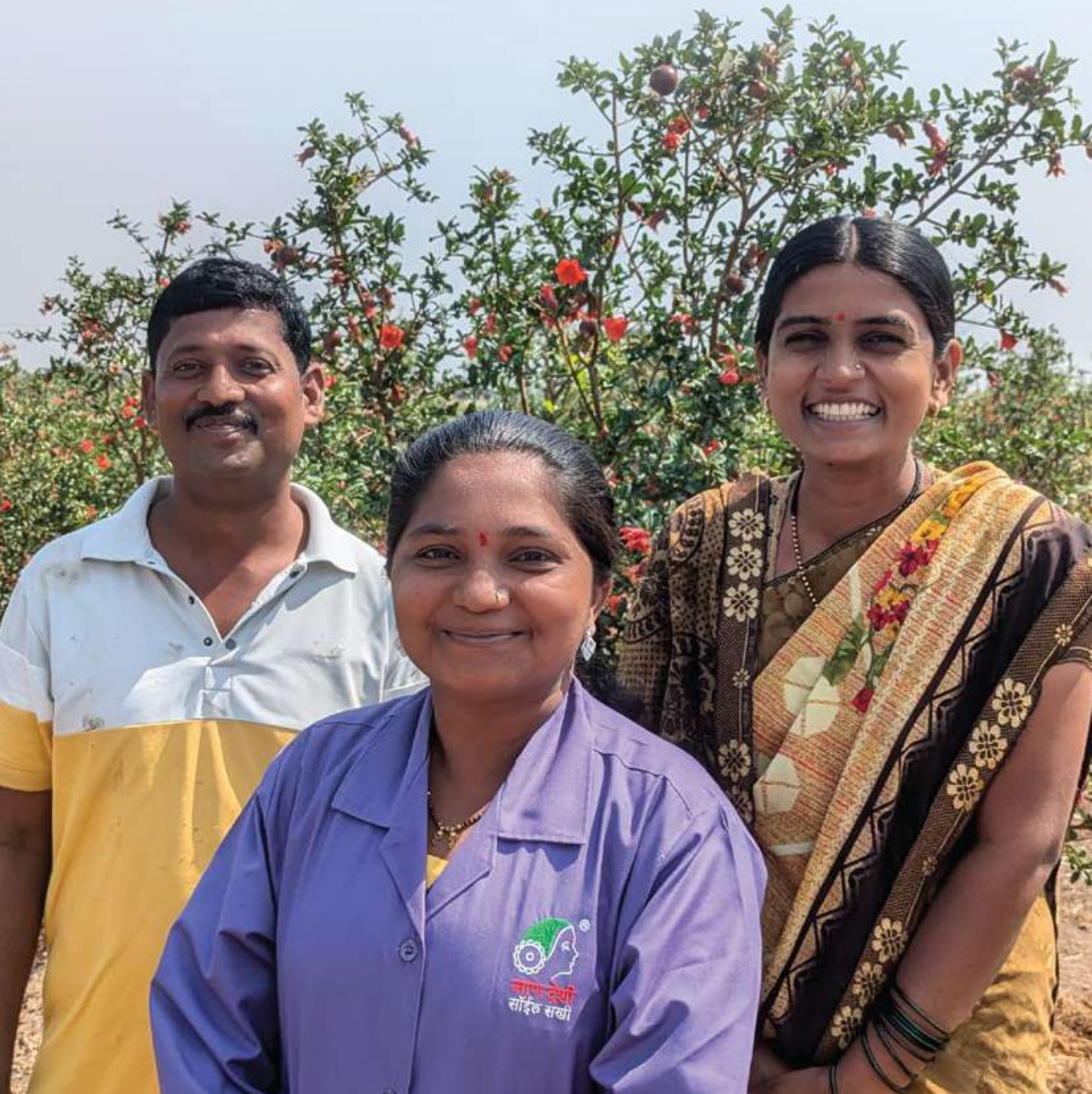

Table of Contents

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Intro Note

A Story of Soil, Struggle, and the Quiet Power of Women Farmers

When most people hear the word millionaire, they think of glass towers, tech unicorns, and the manic pulse of stock markets. Rarely do they picture sunburnt fields, blistered palms, or a woman farmer walking five kilometers for water before returning to tend her orchard. Yet, in the parched belts of western Maharashtra—Mann, Khatav, Phaltan, Sangola, Malshiras, Atpadi, and Indapur—the word has slowly come to mean something else entirely.

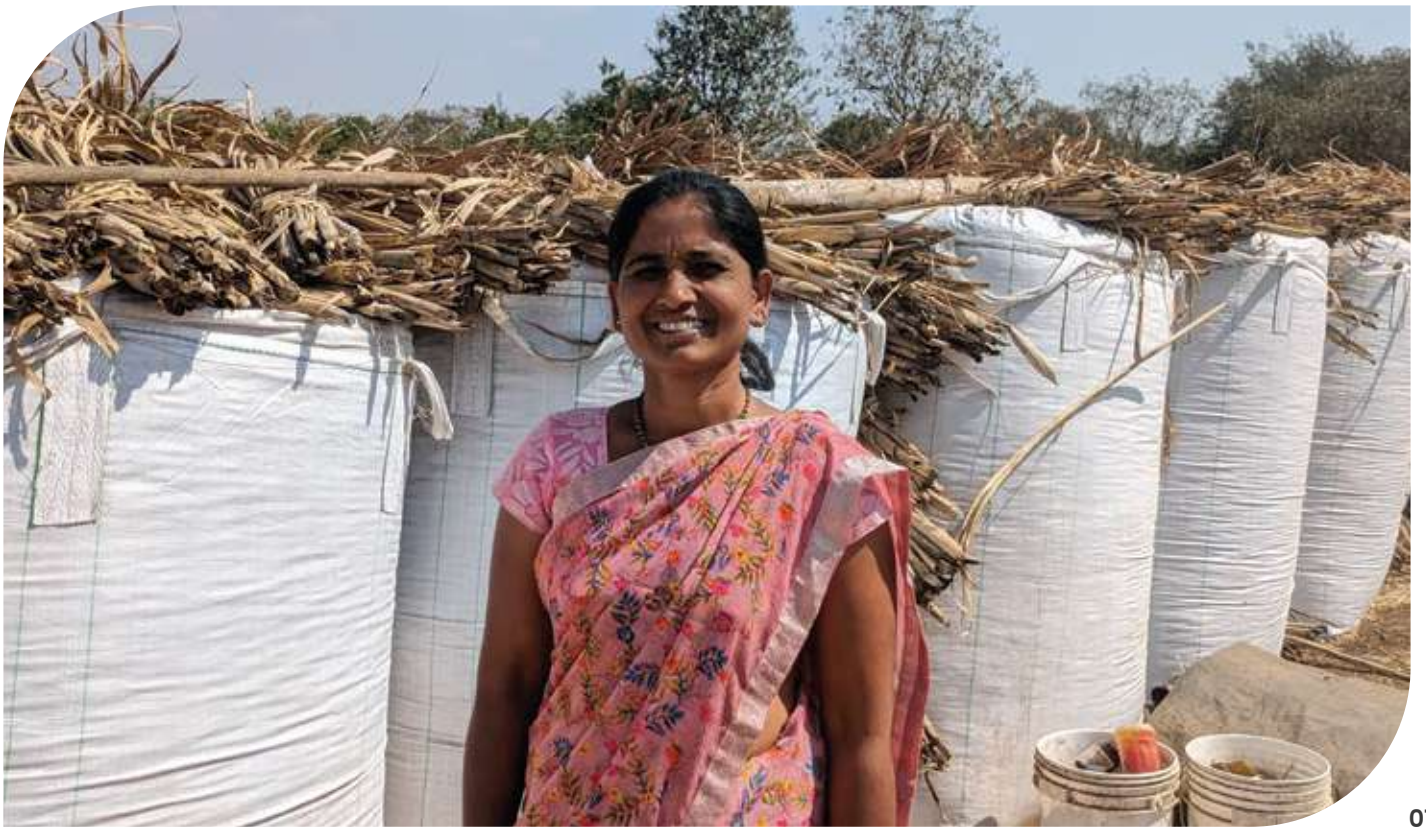
Not just money. But dignity. And control over one's land, labor, and life.

This report encapsulates the collaborative efforts and transformative journey of farmers in the drought-affected regions of Maharashtra. In a landscape often defined by scarcity and hardship, our mission is to revolutionize agriculture while tackling climate change through the innovative application of AI, science, and technology. Our aim is to empower these farmers—especially women—enabling them to achieve greater success, dignity, and prosperity.

My heartfelt gratitude goes to the leadership team of Mann Deshi, and particularly to HSBC, whose unwavering support has been truly remarkable. Their partnership is reminiscent of the ancient "Bali Raja," the King of Farmers, who champions the rights and dignity of those who cultivate the land. Without the support of HSBC, our ambitious endeavor to transform grasslands into modern, AI-driven horticulture farms would not have been achieved. This is no tale of technologies imposed from the top. It is about soil - tested, read, and respected. About women - once invisible in farmer identity - now leading the charge against climate change.

It was a quiet revolution that began not with AI or big finance but with listening. With the recognition that the most intelligent system in any field is the farmer herself. The beginnings were humble - a soil sample, training on composting, and a pruning demonstration. Then came the Soil Sakhis - grassroots champions who carried knowledge from the lab to the land. The data, interpreted by agronomists and soil technicians, was translated by the Sakhis into simple, practical advice that farmers could act on - not in jargon, but in the everyday language of farming life.

With the timely and unwavering partnership of HSBC - not just as funders, but as believers in the potential of smallholder farmers - and the steadfast support of scientists from the National Research Centre on Pomegranate (NRCP), this model took root.



But what does it mean to be a "millionaire farmer"? Because the wealth we're speaking of is not just monetary. It's in the woman who no longer has to choose between water for her children and water for her crops. It's in the family that has turned barren land into a flourishing orchard. It's in the confidence of a farmer who once relied on chemical sprays now preparing her own Jivamrut. We saw women - once relegated to farm labor or tagged as "farmer's wives" - attending national-level training and hosting scientists in their fields. They learned to negotiate prices, interpret weather data, and build cooperatives. They weren't just changing how they farmed - they were changing who gets to be called a farmer.

And yes, incomes rose. Dramatically. Fertilizer costs fell by 30%. Yields climbed by over 25%. Pomegranate growers reported tripled profits. But these numbers tell only part of the story. What they represent is the difference between migrating for work or staying rooted. Between distress and dignity. Between surviving and planning for the future.

This report documents not just a shift in agricultural practice - but a power shift.

If this effort has succeeded, it is because it never set out to "transform the farmer." It began by respecting her. It is understood that no climate solution can be effective unless those closest to the land are at its center.

Looking ahead, we are preparing for a future where technology serves farmers - not the other way around. Weather stations, soil sensor networks, and climate financing models are on the horizon. But these are only tools. The proper drivers of this transformation are older: solidarity, collective action, and locally rooted leadership.

The vision shared by HSBC and Mann Deshi is both radical and straightforward - that farmers in Mhaswad and Mahalung, Dhokmod, and Chorade shouldn't just survive climate change - they should lead the fight against it.

This report is a tribute to them. To the women and men who did not quit — who stayed, fought, and cultivated dignity where only dust once settled. It is a story of how drought, once a byword for despair, became a ground for resistance, innovation, and life.

And perhaps, in the years ahead, when we speak the word millionaire, we will no longer think first of Silicon Valley. But of a woman farmer from Kasarwadi, who turned dry, cracked soil into an orchard of abundance - and rewrote what was possible, not just for her village, but for all of us.

Karan Sinha,
Founder,
Mann Deshi Centre for Climate Resilient Agriculture
3rd July 2025

Introduction

Mann Deshi has dedicated nearly a decade to working on climate challenges in agriculture. In that decade, we failed many times to create a successful program, but with the help and support from farmers, we created The Agriculture and Soil Centre, a systematic scientific program that benefits farmers economically and elevates their social status. Most importantly, it reduces carbon emissions and makes soil and the environment healthier.

The program focuses on tackling climate change through various training of each crop, exposure to reducing carbon emission training, learning to make organic fertilizers, training on various agriculture stages like pruning, cutting, fertilizers application, water usage, and understanding science and technology in agriculture. In 2022, we launched a soil-water and leaf testing laboratory alongside a climate action initiative, leveraging insights gathered directly from farmers. Although the initial implementation of the Soil Sakhi model faced hurdles due to the high costs and maintenance demands of soil testing equipment, coupled with the need for skilled technicians, these challenges were met with determination. This innovative approach empowers trained Soil Sakhis to visit farms directly, facilitating hands-on support in soil management. The program is now thriving, driven by the collaboration between our Soil Sakhis and a network of agronomists and agricultural scientists, who collectively work to raise awareness and provide essential technical guidance. Through rigorous soil testing, farmers began to witness significant benefits, including reduced fertilizer usage, increased crop yields, carbon emission reduction,and improved soil health.To elevate the program's stage and Impact, Mann Deshi has proudly signed a Memorandum of Understanding with the National Research Center of Pomegranateto bolster our initiatives and expand our program's reach and Impact. This partnership signifies a commitment to fostering sustainable agricultural practices and empowering farmers facing climate challenges.

Since October 2022, we have had the following training and capacity-building activities:

TOTAL SOIL SAMPLES COLLECTED
1016

TOTAL SOIL TESTS CONDUCTED
1016

SHETI SHALA WORKSHOPS CONDUCTED
298

EXPOSURE VISITS
26

Skill and Training Enhancement

1. Climate Change Understanding and Mitigation Strategies

2. Seed Treatment and Sowing Training

3. Irrigation Technology and Technique Training

4. Fertilizer Application Training

5. Pruning and Thinning Training

6. Flowering and Spraying Training

7. Harvesting Training

8. Training of Climate Technologies: Weather Forecast Stations

9. Branding and Marketing Training

Non - Agricultural Support

1. Introducing new technologies and research on crops
2. Giving Access Market Linkage
3. Financing farmers for climate action

Mann Deshi Agriculture and Climate Action program works in the regions of Mann Taluka, Khatav, Sangola, Phaltan, Malshiras, Atpadi, and Indapur, in Satara, Sangli, Solapur, and Pune districts. Mann Deshi works with communities across these districts, ensuring that knowledge and technology of agriculture and climate action benefit every farmer and the community.

Report

“How Drought Farmers Became Millionaires”

When individuals think of millionaires, they often envision business tycoons,engineers, surgeons, and software company owners. Rarely do farmers come to mind. However, it is important to recognize that farming can also lead to significant financial success. Notably, some farmers have achieved millionaire status through the innovative programs offered by the Mann Deshi Foundation, which HSBC has supported. This shows that individuals from diverse backgrounds can thrive economically with the right resources and support.

The farmers' conference is a vibrant celebration of the remarkable journeys of farmers who have achieved the status of "millionaire farmers' by fighting drought, uncertain climate, high rise prices of fertilizers- technologies, and lack of government support.

The conference is named under the idea of “How our drought region farmers became millionaires”. These millionaire farmers are advanced farmers who use science, chemistry, biology, physics, and AI-technology skills in agriculture.

Meet the Team

Ajinkya Kulkarni
Program Manager

Favourite Food:
Puran Poli

Vanita Pise
Community Leader

Favourite Food:
Dahi Dhapate

Hanumant Gaikwad
Community Leader

Favourite Food:
-

Poonam Lokhande
Agriculture Officer

Favourite Food:
Mutton Bhakri

Vishwajit Kale
Senior Agronomist

Favourite Food:
Aamras

Nilesh Tate
Senior Agronomist

Favourite Food:
Bhakri Bhaji

Sahil Kalel
Agronomist

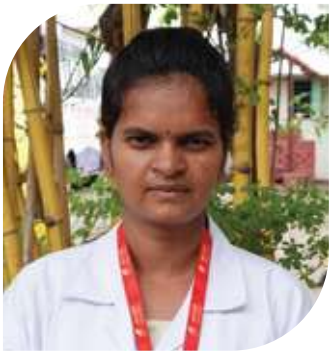
Favourite Food:
Kanda Pohe

Trinad Kolekar
Agronomist

Favourite Food:
Sabudana Khichdi

Samarth Gujare
Lab Technician

Favourite Food:
Puran Poli



Punam Zimal
Lab Assistant

Favourite Food:
Waran Bhat

Meet the Team

Manisha Sokasane
Helper

Favourite Food:
Samosa

Bhagyashree Sonawane
Data Operator

Favourite Food:
Dahi Dhapate

Varsha Khandekar
Senior Soil Sakhi

Favourite Food:
Wangyachi Bhaji

Sujata Mane
Senior Soil Sakhi

Favourite Food:
Gulab Jamun

Karishma Khandekar
Soil Sakhi

Favourite Food:
Vada Pav

Shital Kale
Soil Sakhi

Favourite Food:
Sabudana Khichdi

Roshani Kalel
Soil Sakhi

Favourite Food:
Pitla Bhakri

Shimona Chadha
Fundraising and Communications

Favourite Food:
Chocolate Cake

Karan Sinha
Founder, Mann Deshi Centre for Climate Resilient Agriculture

Favourite Food:
Pomegranate

Anagha Kamath
Director of Innovation & Founder, KickStart Girls

Favourite Food:
Bombil Fry

Programme Information

Born in 2012, Mann Deshi's agriculture programme has focused on providing market linkages, eliminating the middleman and ensuring fair pricing for farmers. With the increase of unseasonal rainfall, extreme heat during summers and periods of drought, we realized that there was a need to help farmers cope with the challenges of climate change. This gave birth to Mann Deshi's Agriculture and Soil Testing Centre. We have introduced capacity building for farmers especially women farmers through exposure visits, agriculture workshops and discussion groups.

1. Agricultural and Soil Testing Centre

Soil testing has become a cornerstone of the foundation's efforts, equipping farmers with valuable insights into their soil's fertility, nutrient deficiencies, and pH levels. This knowledge empowers farmers to make informed choices regarding fertilizer use, crop selection, and soil management techniques. Consequently, this leads to enhanced crop yields, reduced input expenses, increased revenue, and the promotion of sustainable agricultural practices.

2. Soil Sakhi Programme

The Mann Deshi Foundation has introduced the concept of "soil champions (Sakhi)," empowering rural women farmers to lead the way in advocating for scientifically sound soil sampling and the adoption of technology in agriculture. These women soil champions play a pivotal role in promoting the collection of soil samples using scientific methods, and tools and educating fellow women farmers on leveraging technology to enhance agricultural practices, while simultaneously reducing environmental damage and carbon emissions. By involving and empowering women farmers, the foundation is actively promoting gender equality and creating avenues for women to assume leadership roles in agriculture with the support of science and technology.

3. Sheti Shalas, Farmer Conferences & Exposure Visits

Increasing temperatures and unseasonal rainfall have led to an increase in pest attacks and plant diseases. Farmers are at greater risk as they are facing climate-related shocks in which they have no or minimal experience. Training workshops and farmer conferences aims to fill this gap by providing farmers with access to scientific knowledge and diagnosis of their crop health. Additionally exposure visits to agriculture research centres and agri industries provides farmers with the innovations, techniques and products in the agriculture ecosystem. During the year crop specific farmer conferences were held to provide information on pest attacks and diseases and how to grow fruits such as pomegranate, grape and mango for export. This setup encourages peer learning and discussions that agricultural scientists guide. As a result, farmers are gaining more scientific knowledge about their farming and can make informed decisions.

4. Farm to Market

Farmers from our region face various challenges when they are trying to sell their products in the market. To tackle this, the farmer to market initiative offers farmers post-harvest services such as warehousing and cold storage, helping them secure the best prices for their produce. To ensure farmers have access to affordable storage, we've established a 25 MT cold storage facility and a 1,530 MT warehouse. Additionally, the programme connects farmers directly with urban markets and customers, enabling them to receive better prices for their goods.

Impact

1016
SOIL TESTS COMPLETED

1016
SOIL TESTS COMPLETED

298
SHETI SHALA WORKSHOPS

26
EXPOSURE VISITS

21.86%
REDUCTION IN USE OF CHEMICAL FERTILISERS

₹9474
REDUCED ON AVERAGE PER FARMER IN CHEMICAL FERTILISER COST

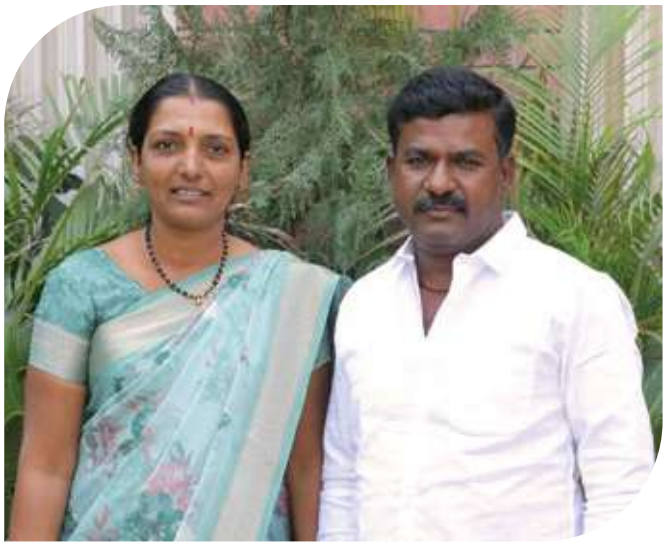
48.22%
INCREASE IN YEILD HAS BEEN SEEN ACROSS 134 FARMERS

264.92 tonnes
CO2 EMISSIONS REDUCED OVER A SAMPLE SIZE OF 182 FARMERS

99.59%
INCREASE IN INCOME ACROSS 137 FARMERS SURVEYED

Millionaire Farmers

Archana & Dipak Babar



Background

Archana and Dipak Babar, are progressive farmers from Devapur village, having 3.5 acres and facing challenges in grape cultivation due to irregular climate patterns, pest infestations, and high production costs. Their vineyard lacked modern agronomic techniques, resulting in lower yields and high chemical dependency. Seeking a sustainable solution, they connected with the Mann Deshi Agriculture Centre to improve their farming practices.

Intervention from Mann Deshi

Dipak attended multiple training sessions and field demonstrations provided by Mann Deshi Agriculture Centre on scientific grape farming techniques.

Key interventions included:

1. Integrated Nutrient Management (INM): Adoption of organic fertilizers and precise chemical inputs reduced soil degradation.
2. Drip Irrigation &Water Management: Optimized water usage by 40%, improving plant health and reducing costs.
3. Pest and Disease Management: Shifted to 80% organic pest control methods,reducing pesticide expenses.
4. Canopy Management & Pruning Techniques: Enhanced grape quality and increased yield.
5. Market Linkages & Post-Harvest Management: Improved storage and marketing strategies, fetching higher market prices.

Economic Impact

Area	3.5 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	1.20 Lakh
Cost of Fertilizer (Bulk) After Soil Testing	1 Lakh
Production in Ton/Q ui. Before Soil Testing	21 Ton
Production in Ton/Q ui. After Soil Testing	26 Ton

Production in Rs. Before Soil Testing	17 Lakh
Production in Rs. After Soil Testing	18 Lakh
Percentage Reduction in Cost	20%
Carbon Emission Reduction	0.5 Ton

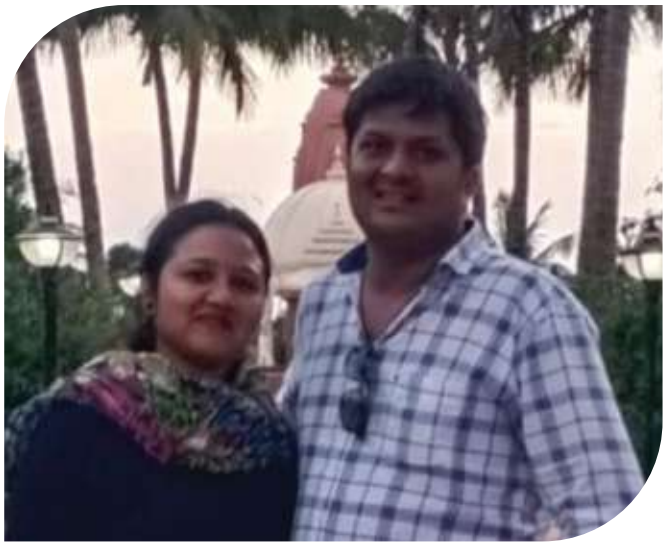
Environmental Impact

1. Reduced Chemical Usage: 50% reduction in synthetic fertilizers and pesticides,improving soil health.
2. Water Conservation: Saved extra water from wastage through drip irrigation.
3. Improved Soil Fertility: Organic compost and microbial inputs enriched soil biodiversity.

Farmer Testimonial

"Before joining the Mann Deshi Agriculture Centre's training, I struggled with high costs and low yields. With their guidance on nutrient management, water conservation, and organic practices, my grape production has increased, and expenses have reduced. Today, I earn more while protecting my soil and environment."
- Dipak Babar, Devapur

Kalyani & Pruthviraj Bhongale



Background

Kalyani and Pruthviraj Bhongale, are dedicated farmers from village Mahalung, Maharashtra, embarked on a journey to cultivate date palms on their 6 acre farm, planted 4500 date palm trees. However, they faced challenges in soil management, irrigation, and pest control. This is where the Mann Deshi Agriculture Centre stepped in, providing essential training and support.

Intervention from Mann Deshi

Through the Mann Deshi Agriculture Centre, Kalyani and Pruthviraj received comprehensive training in soil analysis, fertilizer application, and water management. The training covered the following key areas:

Key interventions included:

1. Soil Analysis: Pruthviraj learned how to analyze the soil quality and nutrient content, which enabled him to apply the right fertilizers tailored to the specific needs of his date palms.
2. Fertilizer Management: He was trained on the best practices for fertilizing date palms, focusing on organic fertilizers and sustainable practices that would enhance soil health without causing environmental harm.
3. Water Management: The training included techniques for efficient irrigation, such as drip irrigation systems, which helped conserve water while ensuring that the trees received adequate moisture.

Economic Impact

With the knowledge and skills gained from the Mann Deshi Agriculture Centre, Pruthviraj successfully harvested jaggari (a traditional jaggery made from date palm sap) and nira (the sweet sap extracted from date palms).

The results were remarkable:
Production: Pruthviraj produced approximately **10,000 liters of nira and 2,000 kilograms of jaggari** in his first year of harvest.
Revenue Generation:

- Selling nira: Rs 100 per liter × 15,000 liters/ month = **Rs 15,00,000/-**
- From this nira,he produces 1 kg jaggery From 15 litres of Nira.
- Selling jaggari: Rs 1000 per kilogram × 1,000 kilograms/ month = **Rs 10,00,000/-**
- **Total Income: 10,00,000/-**

Environmental Impact

Pruthviraj's sustainable practices led to several positive Environmental impacts:
1. Soil Health: Use of organic fertilizers improved soil fertility and structure, reducing the need for chemical inputs.
2. Water Conservation: The implementation of drip irrigation systems minimize water wastage, ensuring that every drop was utilized effectively.
3. Biodiversity Promotion: The date palm trees attracted various pollinators and beneficial insects, contributing to the overall biodiversity of the farm.

Farmer Testimonial

"I was struggling with my farming practices and looking to improve my yields. After learning about soil analysis, fertilizer management, and water conservation techniques, I could see a significant improvement in my date palm cultivation. Not only did I produce more nira and jaggari, but I also increased my income substantially. I am grateful for the support and knowledge that Mann Deshi provided."
- ***Pruthviraj Bhongale, Mahalung***

Kanchan & Vijay Pawar

Background

Kanchan and Vijay Pawar, are dedicated farmers from a small village in Maharashtra, have been cultivating pomegranates on his 1-acre farm with 470 trees. Despite their experience, they faced persistent challenges such as bacterial blight and wilt diseases that threatened their yield and income. In search of solutions, Vijay sought assistance from the Mann Deshi Agriculture and Soil Testing Centre, leading to a remarkable transformation in his farming practices.

Intervention from Mann Deshi

1. Soil Testing for Nutrient Management: Through Mann Deshi's soil testing, Vijay identified key nutrient deficiencies in his soil. He implemented a balanced fertilization strategy, combining organic inputs like compost and chemical fertilizers, leading to healthier trees and improved fruit quality.

2. Shed Net Installation During Fruit Development: To protect the developing fruits from adverse weather conditions and pest attacks, Vijay installed shed nets. This innovation helped minimize fruit damage, enhancing overall yield and marketable quality.

3. Bacterial Blight Management Training: With guidance from Mann Deshi, Vijay learned effective management strategies for bacterial blight, including the use of antibiotic sprays and preventive measures. This reduced the incidence of disease, resulting in healthier plants and higher yields.

4. Wilt Management Through Drenching: To combat wilt diseases, Vijay adopted drenching techniques using both organic solutions likeneem oil and chemical treatments. This dual approach significantly reduced disease incidence, protecting his crop from potential losses.

Economic Impact

Area	1 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	65,000/-
Cost of Fertilizer (Bulk) After Soil Testing	49,000/-
Production in Ton/Q ui. Before Soil Testing	7.8 Ton
Production in Ton/Q ui. After Soil Testing	9 Ton

Production in Rs. Before Soil Testing	8.2 Lakh
Production in Rs. After Soil Testing	10 Lakh
Percentage Reduction in Cost	21.33%
Carbon Emission Reduction	0.4 Ton

Farmer Testimonial

"Before, I was losing 10% of my crop to bacterial blight and wilt. Mann Deshi's training and soil testing helped me adopt better disease management techniques. Now, my fruits are healthier, and my income has more than previous . The shed nets and organic practices have made my farm more sustainable. I am grateful to Mann Deshi for guiding me towards a more profitable and eco-friendly farming approach."

- Kanchan Vijay Pawar, Pomegranate Farmer

Lakshmi & Yuvaraj Babar

Background

Lakshmi and Yuvaraj Babar, dedicated farmers from Dhokmod village, faced challenges in pomegranate cultivation, including declining soil fertility, nematode infestations, and high input costs. Despite their efforts, the quality and yield of his produce were not meeting expectations. Seeking solutions, Yuvaraj attended multiple training programs at Mann Deshi Agriculture Centre, which provided practical, science-backed techniques to improve their farm's productivity.

Intervention from Mann Deshi

1. Organic Fertilizer Training: Improving Soil Health & Reducing Costs

Training Details:

- Techniques on preparing and using organic fertilizers like vermicompost, Jeevamrut,and farmyard manure.
- Benefits of reducing dependency on synthetic fertilizers while improving soil fertility.
- Proper application methods to increase nutrient absorption and enhance fruit quality.

Impact:

- Reduced chemical fertilizer usage by 30%, cutting fertilizer costs from 40,000 to 28,000 per season.
- Increased microbial activity, leading to better soil health and improved root development.
- Higher fruit quality, fetching a higher market price (202/kg compared to 86/kg earlier).

2. Nematode Management Training: Preventing Tree Loss & Boosting Yield Training

Training Details:

- Identification of nematode infestations and their impact on tree health.
- Use of bio-nematicides, neem cake, and crop rotation to control nematode spread.
- Soil solarization techniques to eliminate nematode larvae naturally.

Impact:

- 40% reduction in tree mortality, saving 40 trees that would have otherwise been lost.
- Stronger root system, leading to better water and nutrient absorption.
- Increased total yield from 12,500 kg to 15,200 kg, boosting revenue.

Economic Impact

Area	1 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	65,000/-
Cost of Fertilizer (Bulk) After Soil Testing	49,000/-
Production in Ton/Q ui. Before Soil Testing	7.8 Ton
Production in Ton/Q ui. After Soil Testing	9 Ton

Production in Rs. Before Soil Testing	8.2 Lakh
Production in Rs. After Soil Testing	10 Lakh
Percentage Reduction in Cost	21.33%
Carbon Emission Reduction	0.4 Ton

Farmer Testimonial

"I was struggling with high farming costs and nematode attacks. The organic fertilizer and nematode management training from Mann Deshi Agriculture Centre transformed my farm. Not only did my yield increase, but my expenses reduced significantly. My soil is healthier, and my profits have grown. I am grateful for this support and will continue practicing organic farming."

- Laskmi Yuvaraj Babar

Madhavi & Manoj Katkar

Background

Madhavi and Manoj Katakar, are farmers from Kukudwad, who had been cultivating grapes on their 2 acre plot for several years. Despite their efforts, they struggled with inconsistent yields, poor fruit quality, and limited knowledge about modern agricultural practices.

Intervention from Mann Deshi

1. Soil Testing and Analysis: The Centre conducted a thorough soil test, revealing deficiencies in micronutrients and organic matter, which were affecting plant health and productivity.

2. Agronomical Advisory: Based on the soil test results, the Centre provided a customized nutrient management plan that included:

- Organic Fertilizer Training: Manoj learned to prepare and apply organic fertilizers, enhancing soil fertility and health.
- Nutritional Balance in Sugar Recovery Stage : He received guidance on maintaining optimal nutrient levels during critical growth stages, ensuring better sugar accumulation in grapes.

3. Pruning Techniques: Manoj participated in training sessions on April and October pruning, which improved airflow, sunlight exposure, and overall fruit quality.

4. Bunch Thinning: The advisory included techniques for thinning grape bunches to reduce competition for nutrients, resulting in larger, healthier fruit.

Economic Impact

Area	2 Acres
Cost of Fertilizer (Bulk) Before Soil Testing	1.5Lakh
Cost of Fertilizer (Bulk) After Soil Testing	1.2Lakh
Production in Ton/Q ui. Before Soil Testing	20 Ton
Production in Ton/Q ui. After Soil Testing	25 Ton

Production in Rs. Before Soil Testing	9.3 Lakh
Production in Rs. After Soil Testing	12.5 Lakh
Percentage Reduction in Cost	20%
Carbon Emission Reduction	0.8 Ton

Environmental Impact

1. Sustainable Practices: The shift to organic fertilizers and reduced chemical usage led to improved soil health and biodiversity on Manoj's farm. The use of organic inputs helped to absorb carbon 1.8 tons and increased water retention capacity, contributing to a more sustainable farming system.

2. Reduced Chemical Footprint: By focusing on organic practices, reduced his reliance on synthetic fertilizers and pesticides, leading to a healthier ecosystem in and around his farm.

Farmer Testimonial:

"Before working with Mann Deshi Agriculture Centre, I felt lost and frustrated with mygrape farming. The training and support transformed my approach to agriculture. Now, my farm is thriving, and I'm not just making more money; I'm also farming sustainably. I feel confident about the future."

- ***Madhavi Manoj Katkar***

Malan & Rajaram Jadhav

Background

For sevaral years, Malan Jadhav cultivated pomegranates on her 1.5- acre farm in Bhataki, Satara District. Despite her passion for farming, she struggled with **wilt infestations**, causing significant **plant losses, flower drop and fruit cracking,** leading to reduced yields. This further lead to low and inconsistent income due to low fruit quality, compounded by mounting financial pressures. **In 2024, determined to improve her farms productivity, Malan got help from the Mann Deshi Agriculture Centre,** whose scientific, soil-based approach had transformed other farmers livelihoods.

Intervention from Mann Deshi

A soil health test conducted by Mann Deshi revealed high salinity in parts of the soil, deficiency of micronutrients like zinc and iron, low organic matter content and reducing nutrient retention. The Mann Deshi Agronomist designed a tailored crop management plan, addressing these specific challenges.

Trainings Attended and Their Impact:

1. Wilt Management Training: Strategies included improving soil drainage, biological controls, and chemical drenching during the trees rest period. This reduced plant losses by 20%, saving Malan 12,000 annually on pesticide related costs. Previously, the loss of 80 trees due to wilt equated to a2.5 lakh revenue shortfall annually.

2. Biofungicide Usage: Learned techniques for using bio-fungicides like trichoderma, Pseudomonas to control fungal infections effectively. This reduced dependency on chemical fungicides, improving both soil health and cost-efficiency.

3. Use of Cotton Cake Slurry: Training included the preparation and application of cotton cake slurry. This practice enhanced the shine, color, and texture of the fruits, fetching premium prices in the market.

Economic Impact

1. **Production rose by 40%**, from 6 tons to 10 tons.
2. Larger fruits with thicker rinds, no cracks, and improved shine fetched **premium prices (avg 125 Rs/kg)** in the market.
3. Efficient nutrient and water use **saved 20,000 in input costs.**
4. **Fertilizer use dropped by 630 kg,** saving ₹18,900 and reducing 0.7 tons of carbon emissions.
5. Malan's pomegranate **farm absorbed 20.4 tons of CO2 annually,** contributing to environmental sustainability.

Area	1.5 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	55,200/-
Cost of Fertilizer (Bulk) After Soil Testing	33,100/-
Production in Ton/Q ui. Before Soil Testing	6 Ton
Production in Ton/Q ui. After Soil Testing	10 Ton

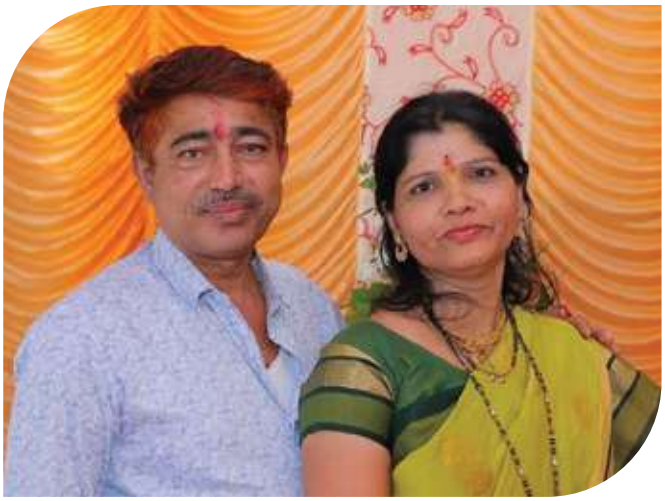
Production in Rs. Before Soil Testing	4.8 Lakh
Production in Rs. After Soil Testing	11.25 Lakh
Percentage Reduction in Cost	36.2%
Carbon Emission Reduction	0.7 Ton

Farmer Testimonial

"I learned that healthy soil is the foundation of a successful crop. The support from Mann Deshi Agriculture Centre transformed my pomegranate orchard and gave me hope for a brighter future. I urge all farmers to test their soil and adopt scientific practices—it can truly change your life."

- ***Malan Rajaram Jadhav***

Manisha & Bhaskar Deshmukh



Background

Manisha and Bhaskar Deshmukh, experienced farmers from Kukudwad, Maharashtra, have been cultivating **tomatoes on 2 acres** for several years. However, they struggled with challenges like **blossom end rot, early and late blight,** and low yield due to poor fruit development. They were determined to improve their farm's productivity and profitability.

Intervention from Mann Deshi

1. Soil Testing for Nutrient Management: With the help of Mann Deshi's soil testing services, Bhaskar identified deficiencies in calcium and other micronutrients which were affecting fruit quality. Based on the recommendations, he applied a balanced mix of organic compost, gypsum, and calcium nitrate, improving soil fertility and plant health.
2. Staking of Tomatoes During Fruit Development: To prevent fruit damage and disease spread, Bhaskar adopted the staking method of supporting plants using wooden stakes and twine. This ensured better airflow, reduced fungal infections, and improved fruit quality.
3. Early and Late Blight Management Training: Through Mann Deshi's blight management training, Bhaskar learned to control these diseases using a combination of organic fungicides like Trichoderma and selective chemical treatments such as copper-based sprays. This reduced disease outbreaks, leading to healthier plants and higher yields.
4. Blossom End Rot Management with Calcium Application: By applying calcium through organic sources (bone meal) and chemical sources (calcium nitrate), he minimized blossom end rot, resulting in uniform, high-quality tomatoes.

Economic Impact

Area	2 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	65,000/-
Cost of Fertilizer (Bulk) After Soil Testing	50,000/-
Production in Ton/Q ui. Before Soil Testing	28 Ton
Production in Ton/Q ui. After Soil Testing	35 Ton

Production in Rs. Before Soil Testing	11 Lakh
Production in Rs. After Soil Testing	14 Lakh
Percentage Reduction in Cost	23.07%
Carbon Emission Reduction	0.4 Ton

Environmental Impact

1. Reduced Chemical Dependency: By integrating organic fungicides and targeted chemical sprays, Bhaskar reduced overall chemical use by 30%, improving soil and water quality.
2. Water Conservation: The staking method reduced plant contact with soil, minimizing fungal infections and reducing the need for excess irrigation by20%.
3. Soil Health Improvement: Regular calcium supplementation and organic compost application improved soil fertility, leading to better root development and long-term sustainability.
4. Reduced Carbon Footprint: Using organic calcium sources and compost decreased reliance on synthetic fertilizers, lowering carbon emissions by 0.4 tons from production inputs.

Farmer Testimonial

"I used to lose a large portion of my crop to blight and blossom end rot, which left me struggling to make a profit. With Mann Deshi's guidance, my annual income increased from 11 lakh to 14 lakh rupees and I learned how to manage these issues effectively using staking and proper calcium application. Now, my yields have increased, and my income has almost tripled. I feel more confident about my farm's future!"
- ***Manisha Bhaskar Deshmukh, Tomato Farmer***

Mayuri & Bhanudas Babar

Background

Mayuri Bhanudas Babar, a grape farmer from Satara, with 1.5 acres of land faced challenges in managing soil fertility, optimizing fertilizer use, and improving yield consistency. Despite her efforts, excessive reliance on chemical fertilizers led to declining soil health, increased input costs, and fluctuating production. With an annual income that barely covered expenses, she needed scientific interventions to improve profitability and sustainability.

Intervention from Mann Deshi

In 2024, Mayuri approached the Mann Deshi Agriculture & Soil Testing Centre, which provided specialized training and advisory support to enhance her farming methods.

Soil Testing and Analysis

A detailed soil test was conducted, revealing deficiencies in essential nutrients and organic matter, which were impacting crop productivity. Based on the findings, a customized soil improvementplan was recommended to restore fertility and balance nutrient availability.

Agronomical Advisory

1. Organic Fertilizer Training: Mayuri was trained to reduce chemical dependency by incorporating farmyard manure, compost, and biofertilizers.
Impact: Improved soil health, enhanced microbial activity, and 50% reduction in chemical fertilizer costs, saving approximately 13,000 per acre.
2. Fertigation Training After Fruit Pruning: She adopted drip irrigation-based fertigation, ensuring precise nutrient delivery at critical growth stages.
Impact: Increased yield by 20%, leading to an additional profit, while reducing water and fertilizer wastage.

Economic Impact

Area	1.5 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	52,000/-
Cost of Fertilizer (Bulk) After Soil Testing	39,000/-
Production in Ton/Q ui. Before Soil Testing	19 Ton
Production in Ton/Q ui. After Soil Testing	27 Ton

Production in Rs. Before Soil Testing	19 Lakh
Production in Rs. After Soil Testing	25 Lakh
Percentage Reduction in Cost	25%
Carbon Emission Reduction	0.3 Ton

Farmer Testimonial

"Before Mann Deshi's guidance, I struggled with declining yields and high input costs. The training completely transformed my approach to farming. Now, my soil is healthier, my yield has improved, and I am earning more while using sustainable practices. I feel confident about my future as a grape farmer. With Mann Deshi Agriculture Centre's expert support, Mayuri successfully transitioned to scientific, cost-effective, and eco-friendly grape farming, proving that knowledge-driven agriculture leads to long-term success."

- Mayuri Bhanudas Babar

Meena & Tanaji Banagar

Background

Meena and Tanaji Banagar, are dedicated farmers from Virkarvadi village, have been cultivating pomegranates on their 0.67 acre farm for the past 7 years, managing around 400 pomegranate trees.

Intervention from Mann Deshi

At the centre on recommendation, Tanaji conducted a comprehensive soil testing analysis. The results revealed imbalances in organic matter and excessive use of chemical fertilizers which led to high Calcium Carbonate, and degraded soil health. The Mann deshi experts provided a detailed soil health management plan for his farm.

1. Soil Health Improvement: Introduced organic amendments like farmyard manure and compost to make availability of soil nutrients. Also recommended micronutrients and biofertilizers based on soil test results.

2. Reduction in Chemical Fertilizers: Reduced chemical fertilizer application by 30% (from 1200 kg to 800 kg annually) ans substituted with natural inputs like neem cake and liquid biofertilizers.

Trainings Attended and their Impact:

Tanaji also attended several specialized trainings held by the Mann Deshi Agriculture Centre to enhance his knowledge and skills in pomegranate farming. This had a profound impact on his farming practices and overall outcomes.

1. Three-Day Residential Training at the National Research Centre on Pomegranate (NRCP): Gained in-depth knowledge of advanced pomegranate cultivation techniques, such as pruning, irrigation management, and nutrient optimization. This helped to increase his yield by 25%, as he was able to implement modern practices effectively. And learned how 1 tree of 5 years gives an average 4-5 thousand per year so he shifts their focus on each tree.

2. Bordo Paste Training: Learned to prepare and apply Bordo paste to prevent fungal infections on his trees. The application reduced fungal infection incidents and attack of Pinhole borer and stem borer by 30%, improving the overall health of his plants. And also reduced chemical pesticides for stem washing and other pest control.

Results Achieved

1. Improved Yield: Pomegranate production increased from 8 tons per 0.67 acre in the previous year to 10.5 tons per 0.67 acre this season, marking a 25% improvement.

2. Enhanced Soil Health: Organic carbon levels increased by 0.1%, indicating better soil vitality.

The soil & water retention capacity improved, reducing irrigation needs by 15%. By using Sugarcane trash as a Mulch.

3. Cost Efficiency: Saved over 11,200/- on chemical fertilizers while achieving better productivity.

4. Sustainable Practices: Reduced dependency on chemical inputs lead to healthier and more sustainable farming.

Economic Impact

Area	0.67 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	40,000/-
Cost of Fertilizer (Bulk) After Soil Testing	28,800/-
Production in Ton/Q ui. Before Soil Testing	8 Ton
Production in Ton/Q ui. After Soil Testing	10.5 Ton

Production in Rs. Before Soil Testing	5.2 Lakh
Production in Rs. After Soil Testing	13 Lakh
Percentage Reduction in Cost	28%
Carbon Emission Reduction	0.8 Ton

Farmer Testimonial

"I am deeply grateful to the Mann Deshi Agriculture Centre for guiding me. Soil testing and adopting sustainable practices have not only increased my pomegranate yield but alsorestored my soil & health. I now feel more confident about the future of my farm."

- Meena Tanaji Banagar

Poonam & Vijay Linge

Background

Poonam and Vijay are pomegranate farmers with 1.5 Acres of land in Mhaswad, Satara District. Over the last two years, they **lost around 100 pomegranate trees** due to nematodes and wilt disease, incurring a **loss of approximately 3,00,000** (3,000 per tree). Desperate for solutions, Vijay approached the Mann Deshi Agriculture Centre in 2023.

Intervention from Mann Deshi

1. Nematode Control: This included soil solarization to reduce nematode populations, application of bio-control agents (Trichoderma and Pochoniachlamydosporia), neem cake application for natural suppression of nematodes and crop rotation with marigold as an intercrop to control nematode activity.
2. Wilt Disease Management: Improved soil drainage to prevent waterlogging, Application of biofungicides (Trichoderma harzianum and copper oxychloride) and regular monitoring for early detection of disease symptoms.
3. Canopy Management: Pruning techniques to enhance air circulation and sunlight penetration and training on maintaining an optimal flowering-to-fruit ratio.

Results Achieved

1. Tree wilting reduced by 80%, saving 80 trees compared to the previous year.
2. Avoided a potential loss of 2,40,000 caused by wilted trees (3,000 per tree).
3. Healthier trees led to a 30% increase in yield and improved fruit quality.
4. They sold premium-quality pomegranates at a better price (90-110/kg Rs) in local markets, increasing his income by compared to the previous season.
5. They earned an additional income of 2,50,000 in 2024 due to better productivity and reduced losses.

Economic Impact

Area	1.5 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	35,000/-
Cost of Fertilizer (Bulk) After Soil Testing	26,500/-
Production in Ton/Q ui. Before Soil Testing	13 Ton
Production in Ton/Q ui. After Soil Testing	15 Ton

Production in Rs. Before Soil Testing	9.75 Lakh
Production in Rs. After Soil Testing	13.5 Lakh
Percentage Reduction in Cost	25.42%
Carbon Emission Reduction	0.4 Ton

Farmer Testimonial

Today, Vijay proudly says, *"With the right knowledge and support, farming can truly transform lives. My orchard is not just a source of income but a symbol of hope for sustainable agriculture."*
- Vijay Linge

Sarika & Vilas Babar

Background

Sarika and Vilas Babar, farmers from Devapur, had been growing grapes on their 1-acre land for the past few years. However, inconsistent yields and declining produce quality were causing financial stress. The key challenges included poor soil fertility, improper water management, and lack of knowledge about advanced agronomical practices.

Intervention from Mann Deshi

In 2023, Vilas reached out to the Mann Deshi Agriculture Centre after learning about their soil testing and agronomy advisory services. The Centre provided him with a structured plan that included the following steps:

1. Soil Testing and Analysis: A detailed soil test revealed imbalances in micronutrients, low organic carbon content, and salinity issues. The report highlighted a need for balanced fertilization and organic amendments.
2. Customized Nutrient Management Plan: Based on the soil test results, the Centre provided a nutrient management plan that included application of organic compost and bio-fertilizers to improve soil health and balanced use of NPK fertilizers and essential micronutrients like zinc and boron for better crop development.
3. Irrigation and Water Management: The advisory team suggested drip irrigation to reduce water wastage and ensure uniform moisture distribution. Mulching techniques were also recommended to conserve soil moisture.
4. Pest and Disease Control: Vilas received training on integrated pest management (IPM) practices, including the use of natural predators and bio pesticides to reduce dependency on chemical pesticides.
5. Canopy Management and Pruning: The experts guided him on proper pruning techniques to ensure better airflow, sunlight penetration, and optimal fruit setting.
6. Market Linkages: The Mann Deshi Agriculture Centre connected with local and regional markets, like Sahyadri farms ensuring fair prices for his produce.

Economic Impact

Area	1 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	65,000/-
Cost of Fertilizer (Bulk) After Soil Testing	41,000/-
Production in Ton/Q ui. Before Soil Testing	12 Ton
Production in Ton/Q ui. After Soil Testing	18 Ton

Production in Rs. Before Soil Testing	7.2 Lakh
Production in Rs. After Soil Testing	17 Lakh
Percentage Reduction in Cost	20.19%
Carbon Emission Reduction	0.6 Ton

Farmer Testimonial

Vilas expressed his gratitude, saying: *"I had almost given up hope of making a profit from my orchard. Mann Deshi Agriculture Centre not only helped me revive my farm but also gave me the confidence to dream big. The soil testing and continuous guidance transformed my farming practices. Today, my orchard is flourishing, and I am planning to expand."*

- Vilas Babar

Seema & Nishikant Jitkar

Background

Seema and Nishikant Jitkar are dedicated farmers from Kasarvadi village who cultivate pomegranates on 2 acres of land, comprising 600 trees. Before engaging with the Mann Deshi Agriculture Centre, Nishikant faced numerous challenges, including poor soil health, pest management issues, and low yield.

Intervention from Mann Deshi

Through the Mann Deshi Agriculture Centre, Nishikant received comprehensive training in various agricultural practices. The training programs included:

1. Organic Fertilizer Training: Nishikant learned to develop and apply organic fertilizers, enhancing soil fertility and plant health. The training ensured reduced reliance on chemical fertilizers, leading to healthier crops.
2. Nematode Management Training: Nishikant was trained in identifying and managing nematodes, pests that can severely affect pomegranate trees. By implementing effective management strategies, he significantly reduced pest-related losses.
3. Wilt Management Training: Nishikant received guidance on managing wilting diseases, a common challenge in pomegranate farming. The knowledge gained from this training helped him adopt practices that improved the resilience of his trees.

Economic Impact

Area	2 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	75,200/-
Cost of Fertilizer (Bulk) After Soil Testing	52,100/-
Production in Ton/Q ui. Before Soil Testing	7 Ton
Production in Ton/Q ui. After Soil Testing	11 Ton

Production in Rs. Before Soil Testing	5.6 Lakh
Production in Rs. After Soil Testing	10.5 Lakh
Percentage Reduction in Cost	30.70%
Carbon Emission Reduction	0.7 Ton

Environmental Impact

Nishikant's adoption of organic practices has positively influenced the environment:
1. Soil Health: The use of organic fertilizers improved soil structure and fertility, leading to enhanced biodiversity in the soil ecosystem.
2. Reduced Chemical Usage: Minimizing the use of chemical inputs contributes to a healthier environment, reducing the risk of chemical runoff into nearby water sources and reduces carbon emissions by 1.3 tons.
3. Sustainable Practices: His commitment to sustainable farming practices ensures the long-term viability of his farm and contributes to ecological balance in the region.

Farmer Testimonial

"The training I received from Mann Deshi completely transformed my farming practices and my life. I never imagined I could achieve such high yields while also caring for the environment. Now, I can provide a better future for my family and contribute to my community. I am grateful for the support and knowledge that Mann Deshi has given me."
— Seema Nishikant Jitkar, Pomegranate Farmer, Kasarwadi Village

Shakuntala & Macchindra Narale

Background

Shakuntala and Macchinadra Narale, are dedicated farmers from Paryanti village, cultivating pomegranates for the past seven years. Despite their hard work, they often struggled with declining yields, soil health issues, and high input costs. A turning point in their farming journey came when they sought guidance from the Mann Deshi Agriculture Centre.

Intervention from Mann Deshi

At the Centre's recommendation, Macchindra conducted a comprehensive soil testing analysis. The results revealed imbalances in organic matter and excessive use of chemical fertilizers, which had degraded his soil's health. The Agriculture experts provided a detailed soil health management plan tailored to his farm's needs.

Trainings Attended and their Impact:

1. Attended a **one-day training program at the National Research Centre on Pomegranate (NRCP)** to learn about advanced techniques in pruning, disease management, and irrigation efficiency.
2. Participated in **three pomegranate management programs** conducted by NRCP scientists.
3. Gained i**nsights from Mango Scientist Dr. Bhagwanrao Kapase Sir** on innovative crop management practices.

Key Interventions:

1. Soil Health Improvement: Introduced organic amendments like farmyard manure and vermicompost to replenish soil nutrients and recommended micronutrients and biofertilizers based on soil test results.
2. Reduction in Chemical Fertilizers: Reduced chemical fertilizer application by 40% (from 1000 kg to 700 kg annually). and substituted with natural inputs like neem cake and liquid biofertilizers.
3. Crop Rotation with Mung Bean: Advised to adopt mung bean as a rotational crop after pomegranate harvests. Mung bean improved nitrogen fixation in the soil, enhancing fertility while providing an additional source of income.

Economic Impact

Area	1.5 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	65,000/-
Cost of Fertilizer (Bulk) After Soil Testing	53,000/-
Production in Ton/Q ui. Before Soil Testing	10 Ton
Production in Ton/Q ui. After Soil Testing	12.5 Ton

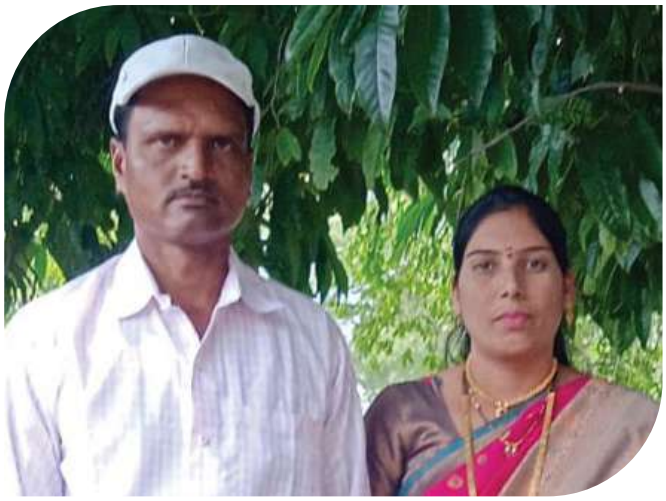
Production in Rs. Before Soil Testing	7.5 Lakh
Production in Rs. After Soil Testing	10 Lakh
Percentage Reduction in Cost	18.46%
Carbon Emission Reduction	0.4 Ton

Farmer Testimonial

"I am deeply grateful to the Mann Deshi Agriculture Centre for their support. Soil testing and sustainable practices have increased my pomegranate yield while restoring soil health. The training programs from NRCP and guidance from experts like Bhagwanrao Kapase Sir transformed my approach to farming. The mung bean rotation has been a game-changer, adding income and improving soil fertility. I feel confident about the future of my farm."

— Shakuntala Macchindra Narale

Sonali & Rahul Chirme



Background

Sonali and Rahul Chirme, are dedicated farmers from Bidal, Satara, have transformed their pomegranate farming practices with the invaluable support of the Mann Deshi Agriculture Centre. For years, they struggled with the challenges of pomegranate cultivation. The threat of wilt disease loomed large, affecting their crop yield and quality. They relied heavily on chemical inputs to control pests and diseases, which not only escalated their production costs but also raised concerns about soil health and long-term sustainability.

Intervention from Mann Deshi

In 2024, He enrolled in the Pomegranate Management Training Program organized by the Mann Deshi Agriculture Centre. Key areas of focus included:

1. Wilt Management: They received specialized training in identifying, preventing, and managing wilt disease using organic and integrated methods.

2. Sustainable Farming Practices: They learned how to reduce the use of chemical fertilizers and pesticides by adopting bio-fertilizers and natural pest control measures.

3. Efficient Irrigation Techniques: The training emphasized drip irrigation and mulching to conserve water and maintain soil health.

The Transformation:

With the insights gained from the training, they made significant changes to their farming practices.

1. They reduced use of chemical fertilizers and pesticides by 25%, replacing them with organic alternatives such as neem oil, compost, and bio-pesticides.

2. Implemented advanced disease management techniques, reducing crop losses due to wilt by 80%.

3. Adopted sustainable practices that not only improved soil health but also contributed to a reduction in carbon emissions by approximately 0.6 tons annually.

Economic Impact

Farmer efforts yielded remarkable results. By improving crop health and reducing input costs, they achieved a substantial increase in profitability. Here are the highlights of their economic success:

Area	2 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	51,000/-
Cost of Fertilizer (Bulk) After Soil Testing	39,000/-
Production in Ton/Q ui. Before Soil Testing	7 Ton
Production in Ton/Q ui. After Soil Testing	9 Ton

Production in Rs. Before Soil Testing	6.5 Lakh
Production in Rs. After Soil Testing	10.2 Lakh
Percentage Reduction in Cost	23.52%
Carbon Emission Reduction	0.6 Ton

Environmental and Social Benefits

Rahul's adoption of sustainable farming practices has had a positive impact beyond his farm. By reducing his dpendency on chemicals and adopting carbon-friendly methods, he has set an example for fellow farmers in Bidal. His journey underscores the importance of environmentally conscious farming in combating climate change.

Suvarna & Devappa Khandekar

Background

Suvarna and Devappa Khandekar, are experienced pomegranate farmers from Khadki village with a 2-acre farm and 470 trees. They faced challenges like uneven fruit quality, pest infestations, and fluctuating market rates. Determined to improve , they came to the Mann Deshi Agriculture and Soil Testing Centre and transformed their farming approach.

Intervention from Mann Deshi

1. Soil Testing for Nutrient Optimization: Mann Deshi's soil testing revealed deficiencies in nitrogen and micronutrients. Suvarna applied vermicompost and micronutrient sprays as recommended, reducing chemical fertilizers by 20%. This enhanced soil health and balanced tree nutrition.

2. One-Day Residential Training at NRCP, Solapur: Devappa adopted scientific pruning, disease management, and water - saving irrigation techniques. He learned to manage critical growth stages effectively.

3. Shed Net Installation During Fruit Development: Installing shed nets during the critical fruiting stage protected the pomegranates from sunburn and pests like fruit fly. This minimized losses, improved fruit color, and increased marketable quality to 85%, compared to 60% earlier.

4. Fruit Thinning for High-Quality Fruits: Thinning excessive fruits at the flowering stage focused the tree's energy on developing fewer but larger fruits. This improved fruit weight and sweetness, fetching a premium price in the market.

5. Bordo Paste for Fungal Protection: Regular application of Bordo paste on tree trunks safeguarded his orchard from fungal disease as well as pin hole and stem borer. This ensured healthy tree growth and prolonged productivity.

6. Integrated Pest and Disease Management (IPDM): Using a mix of organic pesticides like neem oil and carefully timed chemical sprays, controlled pests while preserving beneficial organisms, reducing pesticide use by 30%.

Economic Impact

Area	2 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	1,00,000/-
Cost of Fertilizer (Bulk) After Soil Testing	75,600/-
Production in Ton/Q ui. Before Soil Testing	10 Ton
Production in Ton/Q ui. After Soil Testing	16 Ton

Production in Rs. Before Soil Testing	11 Lakh
Production in Rs. After Soil Testing	18 Lakh
Percentage Reduction in Cost	24.6%
Carbon Emission Reduction	0.7 Ton

Environmental Impact

1. Reduced Chemical Dependency: Devappa's use of organic fertilizers and biopesticides reduced chemical inputs by 30%, leading to healthier soil and reduced groundwater contamination.

2. Water Conservation: The shed nets and efficient drip irrigation cut water usage by 20%.

3. Improved Soil Health: Incorporating vermicompost improved soil structure and microbial activity, resulting in long-term fertility gains.

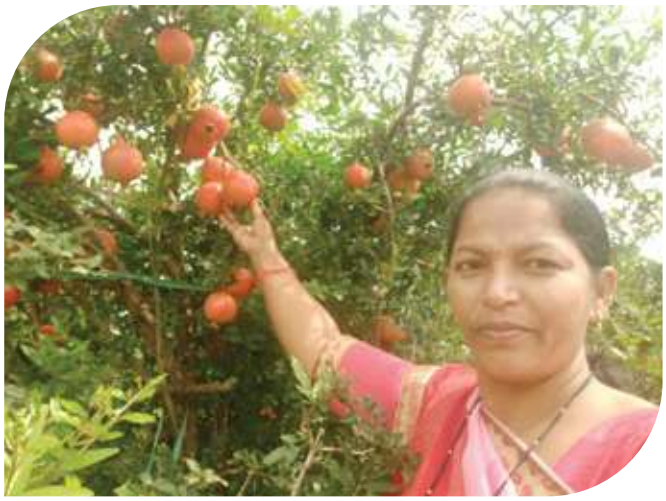
4. Carbon Footprint Reduction: The increased use of organic practices contributed to carbon sequestration, mitigating the environmental impact.

Farmer Testimonial

"Mann Deshi Agriculture Centre and NRCP training transformed my farming approach. The combination of organic and scientific practices improved my fruit quality and income. With soil testing, fruit thinning, and shade nets, I now grow premium-grade pomegranates and fetch better prices in the market. I am grateful for the support that has not only enhanced my livelihood but also made my farm more sustainable."

— Suvarna Devappa Khandekar

Varsha & Bhanusaheb Dhanavade



Background

Varsha and Bhanusaheb Dhanavade, are progressive farmers from Mhaswad, who faced significant challenges in managing their 3-acre pomegranate orchard. that had about 1000 trees.

Challenges Before Intervention:

1. Soil Health Problems: Declining fertility and improper nutrient management.
2. Wilt Disease: Severe plant mortality affecting productivity.
3. Inefficient Irrigation & Fertilization: Single-drip system causing water wastage and uneven nutrient distribution.

Intervention from Mann Deshi

To address these issues, Varsha participated in a comprehensive training program by Mann Deshi Agriculture Centre, which covered:

1. Soil Testing & Nutrient Management: A detailed soil test revealed deficiencies in nitrogen, phosphorus, and organic matter. Based on the test results, a customized fertilizer application schedule was developed. Organic inputs such as vermicompost and neem cake were integrated to improve soil health.

2. Wilt Management Training: Identified root rot and bacterial wilt as key threats. A Trichoderma-based biofungicide treatment to suppress soil pathogens was implemented. Deep ploughing and solarization were adopted to reduce pathogen load. Shifted to disease-resistant rootstocks to improve plant survival.

3. Double Drip Irrigation System: Replaced the single-line drip with a double-drip system for better water distribution. Installed inline filters and fertigation units for precise nutrient supply. Reduced water usage by 30%, enhancing water-use efficiency.

4. Advanced Fertilizer Application Techniques: Adopted fertigation, ensuring nutrients reached the root zone efficiently. Balanced macro and micronutrient supply at different crop stages, improving fruit quality.

Economic Impact

Area	3 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	1,50,000/-
Cost of Fertilizer (Bulk) After Soil Testing	1,30,000/-
Production in Ton/Q ui. Before Soil Testing	10 Ton
Production in Ton/Q ui. After Soil Testing	13 Ton

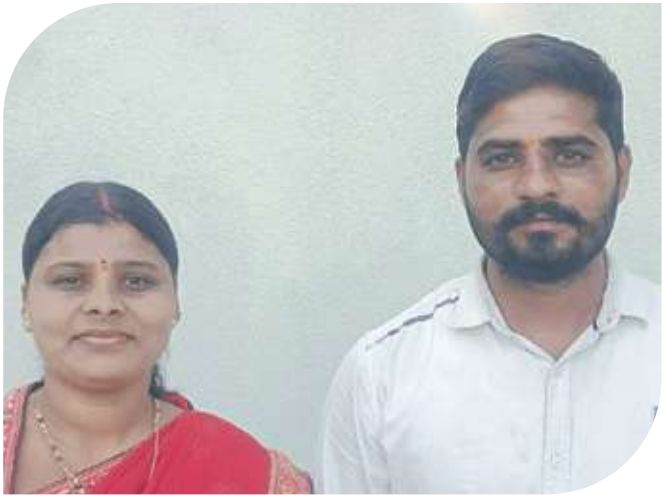
Production in Rs. Before Soil Testing	10 Lakh
Production in Rs. After Soil Testing	13 Lakh
Percentage Reduction in Cost	13.33%
Carbon Emission Reduction	0.8 Ton

Farmer Testimonial

"Before Mann Deshi's guidance, I struggled with low yields and frequent wilt disease. With soil testing, double drip irrigation, and improved fertilizer management, my orchard's health and income have both flourished. Now, I save water, reduce costs, and earn better profits!"

— Varsha Bhausaheb Dhanavade

Varsha & Kamlesh Tarange



Background

Varsha and Kamalesh Tarange, are experienced farmers from Indapur, transformed their pomegranate orchard on 2.5 acres with the help of Mann Deshi Agriculture and Soil Testing Centre.

Challenges Before Intervention

They owned 1500 pomegranate trees, but their yield was inconsistent due to pest infestations, especially the Fruit sucking moth, and improper nutrient management. Lack of precise soil testing and ineffective disease control measures resulted in lower fruit quality and significant economic losses.

Intervention from Mann Deshi

Kamalesh attended various training sessions organized by the Mann Deshi Foundation, including:

1. 3-Day Residential Training at the National Research Centre on Pomegranate (NRCP): He learned scientific methods of pomegranate cultivation, focusing on canopy management, irrigation scheduling, and flowering synchronization.

2. Fruit sucking moth Management Training: Kamalesh adopted both organic measures like neem oil sprays and biological controls and chemical interventions with chlorpyrifos and imidacloprid in recommended doses. This integrated pest management approach significantly reduced pest infestation.

3. Bordo Paste Application: The application of Bordo paste on tree trunks reduced fungal infections and stem canker while providing an unexpected benefit: 40% reduction in pin-hole borer infestation. The protective coating also minimized stem borer attack, enhancing tree health.

4. Soil Testing and Nutrient Management: By using Mann Deshi's soil testing services, Kamalesh optimized fertilizer applications. Customized nutrition plans reduced input costs and improved fruit size and color.

Economic Impact

The interventions led to remarkable improvements. The improved fruit quality fetched a premium price of 120 per kg in the market from 80 earlier and optimized fertilizer and pesticide use saved 27,000 annually.

Area	2.5 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	2 Lakh
Cost of Fertilizer (Bulk) After Soil Testing	1.72 Lakh
Production in Ton/Q ui. Before Soil Testing	18 Ton
Production in Ton/Q ui. After Soil Testing	25 Ton

Production in Rs. Before Soil Testing	14.4 Lakh
Production in Rs. After Soil Testing	25 Lakh
Percentage Reduction in Cost	15.69%
Carbon Emission Reduction	0.8 Ton

Environmental Impact

Reduced chemical dependency, and water usage reduced by 30% because of the using bordo-pest, drip irrigation, mulching and regular use of farm made organic fertilizers.

Farmer Testimonial

"Thanks to Mann Deshi, I now understand the science behind pomegranate farming. My trees are healthier, yields have doubled, and I'm earning more while protecting the environment. I'm proud to share my knowledge with fellow farmers."

— Kamlesh Tarange

Future Ideal Farmers of 2026

These farmers will be the future ideal farmers, and by the following year, 2026, most of the farmers will also be known as millionaire farmers. These farmers will get special training and advisories from Mann Deshi's agriculture and climate action program, with the support of HSBC, soil testing laboratory, soil sakhi, agronomists, and NRCP scientists. Now, let us look at these farmers and their success.

Dipali & Mohan Sawant

Background

Dipali and Mohan Sawant are passionate farmers from Hawaldarwadi, cultivating pomegranates on 1.25 acres of land, which houses 410 trees. Situated in a drought-prone area, they faced significant challenges, including bacterial blight, wilting diseases, and water scarcity.

Intervention from Mann Deshi

Mohan received valuable training from the Mann Deshi Agriculture Centre, equipping him with the skills and knowledge needed to overcome the challenges he faced. The training programs included:

1. Bacterial Blight Management: Mohan learned effective strategies for identifying and managing bacterial blight, a disease that had threatened his crops. This training enabled him to implement preventive measures, reducing the incidence of the disease.

2. Wilt Management Training: The wilt management training taught Mohan about the causes and management of wilting diseases. By adopting recommended practices, he enhanced the resilience of his pomegranate trees.

3. Water Management According to Age of Trees: Understanding that his area faced water scarcity, Mohan received training on efficient water management techniques tailored to the age of his trees. This knowledge allowed him to optimize irrigation practices, ensuring that his trees received adequate moisture without waste.

Economic Impact

Area	1.25 Acres
Cost of Fertilizer (Bulk) Before Soil Testing	60,200
Cost of Fertilizer (Bulk) After Soil Testing	46,100
Production in Ton/Q ui. Before Soil Testing	6 Ton
Production in Ton/Q ui. After Soil Testing	12 Ton

Production in Rs. Before Soil Testing	4.5 Lakh
Production in Rs. After Soil Testing	9 Lakh
Percentage Reduction in Cost	23.46%
Carbon Emission Reduction	0.2 Ton

Environmental Impact

Mohan's implementation of sustainable practices has positively impacted the environment:

1. Disease Management: By controlling bacterial blight and wilting diseases, Mohan has contributed to healthier plants and reduced the risk of disease spread in the area.

2. Water Conservation: Using efficient water management techniques has minimized water wastage and promoted sustainability in a drought-prone region.

3. Soil Health Improvement: The overall health of his farm has improved, leading to enhanced soil structure and fertility.

Farmer Testimonial

" The training I received from Mann Deshi has been a game-changer for my farming. I struggled with diseases and water scarcity, but now I can manage my pomegranate trees effectively. I'm proud to see my yield increase, and I feel more secure for my family's future. Mann Deshi has empowered me to be a better farmer."

- ***Mohan Sawant, Pomegranate Farmer, Hawaldarwadi***

Kanchan & Vasant Pisal

Background

Kanchan and Vasant Pisal, are dedicated ginger farmers from chorade district in Satara, Maharashtra. They faced significant challenges in their agricultural journey. Vasant undertook various training programs with Mann Deshi Agriculture Centre that transformed his farming practices and improved his economic and environmental outcomes.

Intervention from Mann Deshi

1. Fusarium Wilt Control: Vasant's journey began with Fusarium wilt control training. During this training, he learned how to identify early symptoms of Fusarium wilt and implement effective control measures. Armed with these skills, Vasant reduced 25% crop losses, enhancing the overall health and yield of his ginger crops.

2. Wet Blight Management: Next, Wet Blight Management. This equipped him with techniques to manage moisture levels and prevent wet blight on leaves, a common issue affecting ginger. The knowledge gained from this training allowed him to improve his crops resilience and overall productivity.

3. Soil Test-Based Fertilizer Recommendation: To optimize fertilizer use, Vasant attended a one-day training on soil test-based fertilizer recommendations. He learned how to conduct soil tests to determine the specific nutrient requirements of his land. This training enabled him to apply fertilizers more efficiently, reducing his reliance on chemical inputs while enhancing soil health.

Economic Impact

Area	1.5 Acres
Cost of Fertilizer (Bulk) Before Soil Testing	80,000
Cost of Fertilizer (Bulk) After Soil Testing	60,000
Production in Ton/Q ui. Before Soil Testing	10 Ton
Production in Ton/Q ui. After Soil Testing	16 Ton

Production in Rs. Before Soil Testing	3.2 Lakh
Production in Rs. After Soil Testing	4.5 Lakh
Percentage Reduction in Cost	25%
Carbon Emission Reduction	0.4 Ton

Environmental Impact

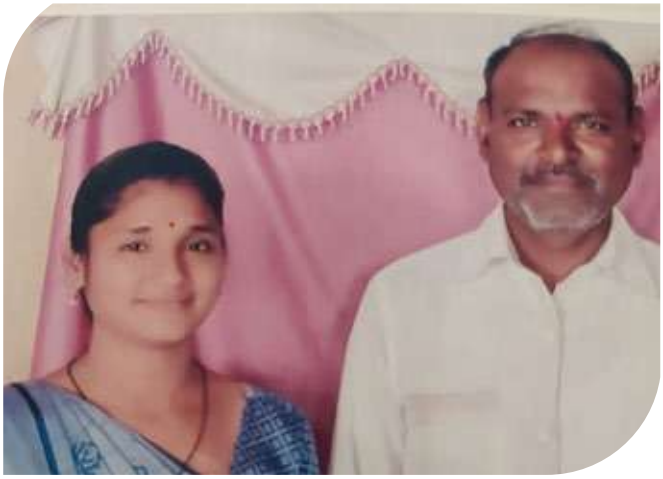
Vasant's commitment to reducing chemical fertilizer usage has had significant positive effects on the environment. By minimizing chemical runoff, he has contributed to the enhancement of soil and water quality in his farming area. Additionally, his adoption of sustainable farming practices has improved soil fertility and promoted biodiversity. The resilience of his ginger crops, strengthened by effective disease and moisture management, showcases his dedication to sustainable agriculture and his ability to adapt to environmental challenges.

Farmer Testimonial

"Before the training, I struggled with frequent crop diseases and high input costs. The Mann Deshi Agriculture Centre's guidance helped me control Fusarium wilt and wet blight, improving my yield. I saved ₹20,000 on fertilizers while maintaining productivity. This training has truly changed my farming approach and boosted my profits. I am grateful for this support!"

- ***Vasant Pisal***

Savita & Santosh Salunkhe



Background

Savita and Santosh Salunkhe, are farmer from Chorade village, who have been growing potatoes on their 1- acre farm for years. Despite Santosh's hard work, he often faced low yields, high costs, and pest problems. These challenges left him struggling to make ends meet. In 2024, Santosh attended a workshop by the Mann Deshi Agriculture Centre, where he learned about the importance of soil testing. Encouraged by their guidance, he decided to test the soil in his potato field.

Intervention from Mann Deshi

The soil test revealed **low nitrogen and potassium**, which are essential for potatoes, **high pH levels** that reduced nutrient availability, and **low organic matter**, affecting soil fertility. The Mann Deshi team created a simple crop plan for Santosh, focused on improving his soil and boosting his yield. This included:

1. Improved Soil: Added manure and compost to increase soil fertility and used sulfur-based fertilizers to lower pH.
2. Balanced Fertilizers: Used the right amount of nitrogen and potassium fertilizers.
3. Pest and Weed Control: Used neem oil for pests and organic mulching to control weeds.
4. Planting Tips: Followed proper spacing and planting depth for better growth.

The Results:

Improvements in just one season:

1. Higher Yield: His potato production increased by 57%, reaching 7 tons.
2. Higher Price Fetched: Got Rs. 32/kg in market and earned Rs. 2,24,000/-
3. Better Quality: The potatoes were uniform, healthy, and sold for a higher price.
4. Lower Costs: Efficient fertilizer and water use saved him money. He saved Rs 20000 on fertilizer and other costs.
5. Reduced Use of Fertilizer: Because of soil testing, 320 kg less of chemical fertilizer was used and Rs. 9,900/- was saved.
5. Reduced Carbon Emission: 0.5 ton carbon emission reduced due to saved fertilizers. 13.8 tons of Co2 absorbed/year.

Economic Impact

Area	1 Acre
Cost of Fertilizer (Bulk) Before Soil Testing	32,000
Cost of Fertilizer (Bulk) After Soil Testing	22,100
Production in Ton/Q ui. Before Soil Testing	5.3 Ton
Production in Ton/Q ui. After Soil Testing	7 Ton

Production in Rs. Before Soil Testing	1,53,700
Production in Rs. After Soil Testing	2,24,000
Percentage Reduction in Cost	30.93%
Carbon Emission Reduction	0.5 Ton

Farmer Testimonial

"Testing my soil changed everything. Thanks to Mann Deshi Agriculture Centre, I now know how to farm better. I urge every farmer to test their soil and follow a crop plan—it truly works!"

- ***Santosh Salunkhe***

Shobha & Jagannath Lokhande

Background

In the heart of Maharashtra, Shobha and Jagannath Lokhande stand as a shining example of progress and innovation in agriculture. With a humble 0.87-acre mango orchard, they have turned their farming dreams into reality.

Intervention from Mann Deshi

Mr. Lokhande participated in a series of impactful training sessions offered by the Mann Deshi Agriculture Centre.

1. Jivamrut and FYM Slurry Application: This enriched the soil with beneficial microbes and enhanced nutrient absorption in the roots, leading to improved fruit production while maintaining long-term soil fertility.

2. Water Management Strategies: Mann Deshi's expert guidance on irrigation methods enabled him to adopt drip irrigation and moisture conservation techniques reducing water usage by nearly 30%, lowering costs and ensuring optimal tree hydration.

3. Organic Mulching Practices: Using dry leaves, farm waste, and organic matter for mulching, improved soil moisture retention and prevented weed growth. This boosted soil health and reduced the need for additional irrigation.

4. Solar Motor Pump Installation & Follow-Up: With additional support from the Mann Deshi Foundation, Mr. Lokhande installed a solar motor pump, ensuring an uninterrupted, cost-effective, and eco-friendly water supply for his orchard. The follow-up guidance provided by the foundation helped him maintain the system efficiently, reducing his reliance on electricity and fuel-powered pumps.

Economic Impact

Area	0.87 Acres
Cost of Fertilizer (Bulk) Before Soil Testing	-
Cost of Fertilizer (Bulk) After Soil Testing	20,000
Production in Ton/Q ui. Before Soil Testing	-
Production in Ton/Q ui. After Soil Testing	4.5 Ton

Production in Rs. Before Soil Testing	-
Production in Rs. After Soil Testing	3.5 Lakh
Percentage Reduction in Cost	-
Carbon Emission Reduction	0.3 Ton

Environmental Impact

1. Water Conservation: Drip irrigation and organic mulching reduced water consumption by 30% and saved Rs. 10,000.

2. Chemical-Free Farming: By eliminating synthetic pesticides and fertilizers, Mr. Lokhande contributed to a pollution-free environment and healthier biodiversity.

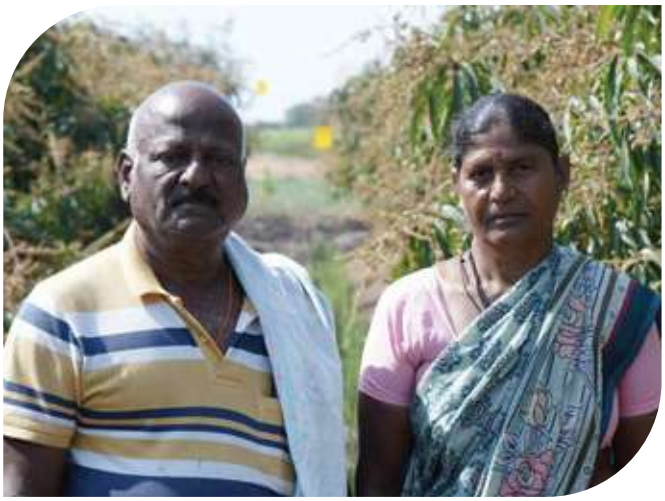
3. Clean Energy Utilization: The installation of a solar motor pump significantly reduced greenhouse gas emissions and reliance on fossil fuels, making his farm more eco-friendly.

Farmer Testimonial

"Before Mann Deshi's training, I struggled with low yields and high costs. Learning organic practices, water management, and using a solar pump transformed my orchard. Now, my income has increased, my farm is sustainable, and I feel confident about the future!"

- Mr. Jagannath Lokhande

Suman & Sitaram Mali



Background

In the heart of Maharashtra, amidst lush greenery and vibrant 1,300 mango trees in 6 acres. Suman and Sitaram Mali have emerged as a beacon of progressive farming. Mr. Mali's journey from traditional practices to innovative, sustainable farming has not only transformed his livelihood but also enriched his community and environment.

The Challenges:

Like many farmers, Mr. Mali faced significant challenges—low yields, pest infestations & inefficient water management. Determined to enhance his farming practices and overall productivity, he sought assistance from the Mann Deshi Agriculture Centre, a pioneering organization dedicated to empowering farmers through knowledge and resources.

Intervention from Mann Deshi

Mann Deshi Agriculture Centre engaged Mr. Mali in comprehensive training programs that focused on:

1. Organic Fertilizer Production: Preparation of organic fertilizers from local materials, Like Vermicompost Preparation, Jivamrut And Organic Slurry etc. which significantly reduced his reliance on harmful chemicals.

2. Fertilizer Application Methods: Learning precise application techniques minimized waste and ensured maximum nutrient absorption by his mango trees.

3. Water Management: He mastered efficient irrigation practices, which not only conserved precious water resources but also enhanced the vitality of his orchard by using organic mulch (Bajra crop residues).

4. Pest Management: Implementing integrated pest management strategies, including the innovative use of yellow sticky traps, Mr. Mali effectively controlled pests like Plant hoppers, Thrips, while promoting biodiversity.

Economic Impact

The results of these innovative practices were astounding inlcluding a **total yield of 12 tons of mangoes** (from 1300 trees) vs 4 tons of mangoes (from 295 trees) last year, and a **revenue of 9,50,000** (at an average price of 92/Kg) vs 3,70,000 (at about the same average price) last year. Mr. Mali's strategic application of training led to an impressive revenue increase translating to a remarkable **67% boost in profits** compared to the previous year!

Area	6 Acres
Cost of Fertilizer (Bulk) Before Soil Testing	-
Cost of Fertilizer (Bulk) After Soil Testing	-
Production in Ton/Q ui. Before Soil Testing	4 Ton
Production in Ton/Q ui. After Soil Testing	12 Ton

Production in Rs. Before Soil Testing	3.9 Lakh
Production in Rs. After Soil Testing	9.5 Lakh
Percentage Reduction in Cost	-
Carbon Emission Reduction	0.5 Ton

Environmental Impact

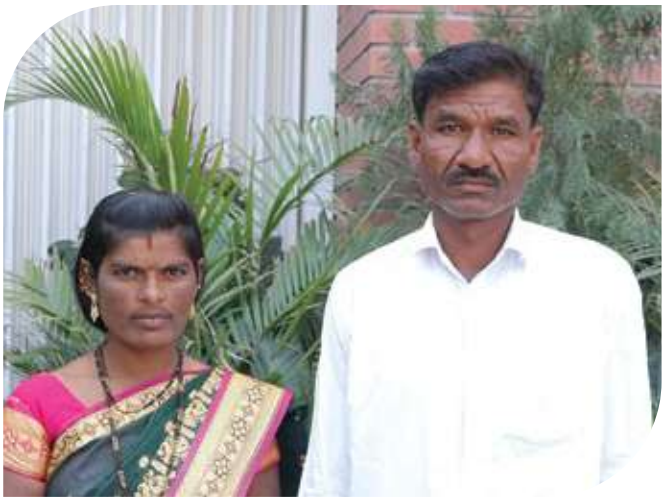
Beyond financial success, Mr. Mali's commitment to sustainable practices yielded significant environmental benefits:

1. Reduction in Chemical Usage: By embracing organic fertilizers, he decreased chemical fertilizer usage by 80%, minimizing soil and water pollution.

2. Biodiversity Enhancement: His integrated pest management techniques fostered a thriving ecosystem in and around his orchard, nurturing beneficial insects and pollinators that are essential for a healthy environment.

3. Water Conservation: Improved irrigation strategies enabled a 30% reduction in water consumption, contributing to sustainable water management and resilience against drought.

Sunita & Vinod Kate



Background

Sunita and Vinod Kate cultivate chillies on a 0.5 Acre farm in Bacheri Tal Malshiras District, Solapur.
Cultivation Start Date: October 23

Intervention from Mann Deshi

Sunita and Vinod Kate have implemented soil testing prior to planting their chilli crops. This crucial step helped them understand the soil's nutrient levels, pH balance, and any deficiencies. Based on the results, they adopted a customized fertilization strategy, which led to the following benefits:

1. Reduced Fertilizer Costs: By knowing the precise nutrient requirements of the soil, Vinod was able to apply only the necessary amount of fertilizers, minimizing wastage and ensuring efficient nutrient uptake.

2. Improved Crop Quality: The soil testing also revealed the optimal nutrient mix for his crops, leading to a higher quality yield with shiny and healthy chillies.

3. Increased Profitability: By using precise inputs based on soil testing, he was able to lower input costs compared to other farmers and achieve a higher market price for his produce, leading to increased profits.

Agronomic Practices Adopted Through Training and Advisory:

1. Nematode Management: Used resistant practices to reduce soil-borne pest damage.
2. Trap Crop Cultivation: Planted marigolds to manage pests and reduce chemical pesticide use.
3. Mulching: Applied mulch to retain moisture, lowering irrigation costs.
4. Water-Soluble Fertilizers: Followed expert recommendations for optimal fertilizer application.
5. Biofungicides and Biopesticides: Shifted to environmentally friendly alternatives to reduce chemical dependency.
6. NPK Bacteria for Nutrient Uptake: Enhanced nutrient absorption and plant growth through beneficial bacteria.

Economic Impact

Area	0.5 Acres
Cost of Fertilizer (Bulk) Before Soil Testing	-
Cost of Fertilizer (Bulk) After Soil Testing	8200/-
Production in Ton/Q ui. Before Soil Testing	-
Production in Ton/Q ui. After Soil Testing	2.5 Ton

Production in Rs. Before Soil Testing	-
Production in Rs. After Soil Testing	87,500
Percentage Reduction in Cost	-
Carbon Emission Reduction	0.3 Ton

Environmental Impact:

1. Reduced chemical usage, improving soil and water quality.
2. Enhanced soil health and fertility.
3. Increased biodiversity through beneficial insect attraction.

Farmer Testimonial:

"Before adopting these methods, I faced high pesticide costs and declining yields. Through Mann Deshi's training and advisory services, I learned eco-friendly ways to boost my crop. This approach is truly a game changer for sustainable farming!"

- Vinod Kate, Chilli Farmer

Future Roadmap for Agriculture

Educational Agri-Advanced Course:
It is essential to include agriculture as a course in fields such as science, technology, artificial intelligence, finance, and management. Horticulture, along with other forms of non-horticulture farming, represents advanced areas of agriculture. As a result, farmers require comprehensive training in various aspects, including sowing, cutting, spraying, water management, soil, crop, and fertilizer management.

One-year theory and practical knowledge course: Mann Deshi and NRCP, with the support of HSBC, are introducing a year-long course for farmers that includes the following components:
1. Soil, water, and leaf testing
2. One training session and a class every week
3. One exposure visit and a visit from scientists to each farmer's farm every month
4. Two visits to a farmer's field by an agronomist
5. One exam every four months based on the Training
6. Two prize-based competitions each year
7. A final exam that will assess both theoretical and practical knowledge

Note: The course will feature a special batch of 10 women who will receive additional training from NRCP and Mann Deshi experts.

Cooperative, Business, Knowledge and Market Initiatives

1. Cooperative Society for Farmers:

- A Bagayat Sangh: Farmers will run it with the help of other institutes, and it will be a center for knowledge and agri-development.
- The Sangh will act as a knowledge hub for farmers, collaborating with weather forecast stations and implementing biogas plants to reduce chemical fertilizers and increase organic fertilizers.
- Buying and selling technologies, fertilizers, crops, and other equipment for farms will help farmers achieve economic and social well-being.
- Market linkage for farmers for their produce.

2. Mango Farmer Producer Company:

- A Kesar Mango is known for its texture, color, size, and sweetness. It grows better and is unique in drought regions.
- The mangoes will be home-delivered to each customer with love and care.

3. Monthly Farmers Market:

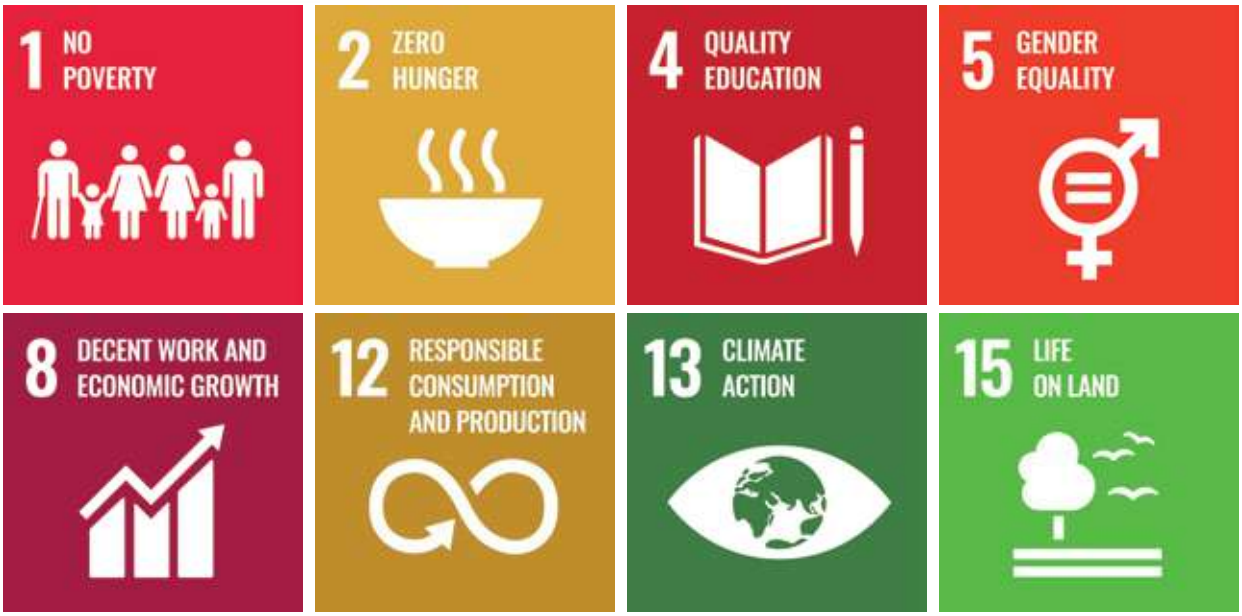
- The Idea of farmers's markets is not new to India. For centuries, rural Maharashtra has had the concept of open Bazaars or weekly markets, the backbone of agriculture and agri-allied businesses.
- We want to bring similar concepts to Mumbai's open spaces once a month on the weekends. We will be bringing our farmers's produce to the heart of Mumbai.

Soil Sakhis - Transforming Rural Indian Farming Communities

Scan to watch the video

Supporting Women Farmers to become Climate Heroes

Scan to watch the video



Mann Deshi Foundation

HSBC