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WASSAN

December 2025

ADVANCING SOIL HEALTH AND COMMUNITY WELL-BEING THROUGH THE NATURAL FARMING (NF) COTTON PROGRAMME

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Bhamini Mandal of Manyam District, Andhra Pradesh

INTRODUCTION

Last year (2024-25), we started Natural Farming (NF) cotton with Poly crops work on a small scale with 10 farmers in Bhamini mandal. The results and farmer confidence have encouraged us to scale it up this year to 60 farmers covering 50 acres. This expansion has become very important now because the mandal is seeing heavy weedicide use, frequent spraying of pesticide cocktails and growing dependency on local agrochemical dealers who are pushing chemicals through pre-financing and buy-back arrangements. These practices are damaging the soil, affecting farmer health, and increasing debts. In this context, the NF Cotton Programme supported by **HDFC Bank Parivartan** is helping farmers move towards a soil-friendly, low-cost, and healthier farming system. **World Soil Day** serves as a reminder that healthy soils are the backbone of sustainable food systems, ecological stability, and public health. In regions like Bhamini mandal of Manyam district, where tribal communities depend heavily on agriculture, soil is not just a natural resource it is a source of livelihood, nutrition, and resilience.

WHY THIS PROGRAMME

Cotton farming in Bhamini Mandal has long been dependent on high chemical inputs, creating multiple ecological and socio-economic problems:

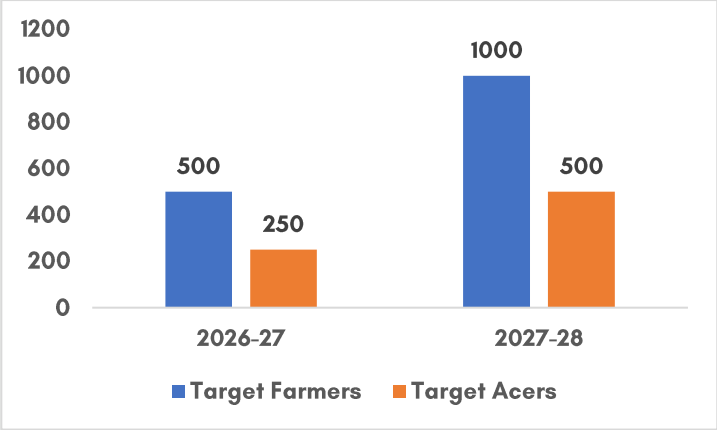
- Excessive use of Glyphosate and unauthorised HT-BT cotton seeds, which are not permitted for cotton in India and pose severe risks to the environment.
- Intensive use of pesticides and fertilizers, damaging soil organic matter and polluting water bodies.
- Soil degradation, declining soil fertility, and reduced microbial activity.
- Health issues among farmers and livestock due to chemical exposure.
- Farmers falling into debt traps due to dependence on local input dealers who double as moneylenders.

- Climate vulnerabilities such as unseasonal rains and thunderstorms, which frequently damage crops in this tribal region.

These challenges highlighted the urgent need for a sustainable alternative that protects soils, improves farm incomes, and strengthens community health leading WASSAN to adopt the NF Cotton approach.

THE NF COTTON PROGRAMME: VISION AND SCOPE

This NF Cotton initiative aims to replace chemical-intensive cotton farming with a regenerative, bio-input-based agriculture model driven by crop diversity, natural inputs, and farmer capacity building.



TARGET COVERAGE

This year 2025-26 we reached 60 farmers in NF Cotton with poly crops. and the plan for next two years

HOW WASSAN IS IMPLEMENTING THE PROGRAMME

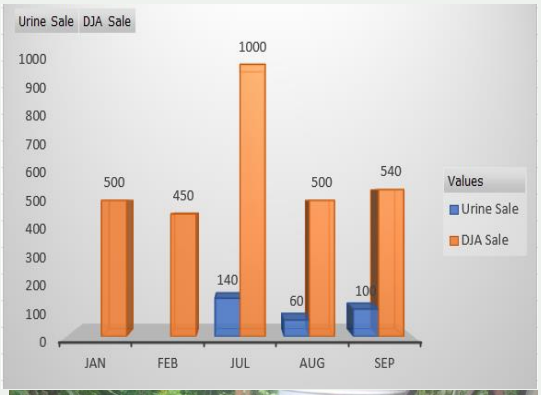
By promoting of soil-friendly practices

- Eliminating weedicides and encouraging crop diversity, which naturally suppresses weeds.
- Replacing HT-BT seeds with non-GMO, high-performing cotton varieties suited for natural farming.
- Training farmers to prepare organic inputs such as composts, botanical extracts, jeevamrut, and bio-stimulants, enabling soil enrichment at minimal cost. *(Application of Jeevamruth table)*.

Preparation of Ghanajeevamrut

By establishing local support systems

- Setting up Bio-Resource Centres (BRCs) managed by communities for bulk production of natural inputs. One such BRC at Sannai Colony, supported under the programme, has been linked with NF cotton with polycrop farmers. This season, the BRC has supplied about 2,990 litres of Drava Jeevamrutham and 290 litres of cow urine, helping farmers access timely and affordable natural inputs for their fields.
- Strengthening SHGs and Farmer Producer Organizations for collective procurement, value addition, and marketing.
- Integrating livestock with cropping systems to ensure a steady supply of manure and create nutrient recycling within farms.



Bio Resource Center (BRC)Jeevamrit Sale

By continuous capacity building

- Continuous training provided for Resource Persons, and they have implemented NF works tailored to the specific field situations.

EXPECTED OUTCOMES

By end of the project period:

- 1,000 farmers practicing natural farming across 500 acres.
- Significant reduction in chemical farming methods across the mandal.
- Enhanced farmer incomes and reduced financial dependence on middlemen.
- Measurable improvements in soil health, family nutrition, livestock health, and environmental quality.

IMPACT ON SOIL HEALTH: CENTRAL THEME OF THE PROGRAMME

Healthy soil is the foundation of natural farming. The NF Cotton programme focuses intensely on restoring soil vitality through:

- **Increased organic matter:** Bio-inputs and compost applications revitalise soil with organic carbon, improving structure, porosity, and water-holding capacity.
- **Revived soil microbial activity:** Chemical-free soil allows beneficial microbes, earthworms, and decomposers to thrive creating a living soil system essential for nutrient cycling.
- **Reduced soil toxicity:** The elimination of weedicides and chemical fertilizers protects soil fauna, reduces residue accumulation, and safeguards groundwater systems.
- **Enhanced soil resilience:** Crop diversity reduces erosion, improves root networks, and creates microclimates that help soils withstand erratic rainfall and drought stress.

BROADER POSITIVE IMPACTS

- **Community and farmer livelihoods**
  - Reduced input costs significantly increase net farmer incomes (estimated ₹25,000 additional income per acre).
  - Companion crops provide regular harvest cycles and enhance food security.
- **Public health improvements**
  - Lower chemical exposure reduces risks of respiratory, skin, and chronic health issues among farming families.
  - Availability of pesticide-free vegetables, pulses, and grains from intercropping nourishes tribal households.
- **Livestock health**
  - Reduction in chemical residues in fodder improves livestock immunity and productivity.
  - Integration of cattle supports soil fertility through continuous manure supply.

CONCLUSION: A SOIL-CENTRIC APPROACH TO FUTURE FARMING

On this World Soil Day, WASSAN reaffirms its commitment to revitalizing soils, protecting biodiversity, and empowering tribal farming communities. The NF Cotton Programme in Bhamini Mandal demonstrates how soil-friendly practices can reshape local agriculture turning degraded lands into fertile, chemical-free, and climate-resilient ecosystems.

Healthy soil is more than a resource; it is a legacy for the next generation. Through this programme, WASSAN is building a model where soil health, community well-being, and sustainable livelihoods grow together.

Conventional cotton fields are turned natural with rich crop diversity

AS OF NOW INCOME DATA COLLECTED FROM 16 NF COTTON WITH POLY CROPS FARMER PLOTS OF THIS YEAR- 2025-26:

The initial income results from 16 NF cotton farmers practicing polycropping across 8.3 acres are encouraging. Farmers harvested a total of 273 kg of okra, 666 kg of maize, 11 kg of beans, 8 kg of ridge gourd, and 2,050 kg of first-flush cotton, generating a combined income of Rs 1,83,960 so far.

On average, each farmer has already earned Rs 11,497 from polycrops alone, even before the final cotton pickings begin.

Neme of the Village	Total No of farmers	Total Extent (Acre)	Okra (Kgs)	Maize (Kgs)	Beans in KGs	Ridge guard in Kgs	First harvest Cotton in KGs	Total Income in Rs.
Boddaguda	4	2.4	66	174	3	2	605	53830
Kosimguda	2	1.1	34	80	2	2	270	25500
Kothaguda	3	1.5	53	102	1	1	340	29730
Manumakonda	3	1.5	52	120	2	2	390	35400
Mulaguda	2	0.8	32	85	1	1	150	14425
Vaddangi Mulaguda	2	1	36	105	2	0	295	25075
Grand Total	**16**	**8.3**	**273**	**666**	**11**	**8**	**2050**	**183960**

FARMER FEED BACK FROM THE NF FIELDS

Farmers Roja from Boddaguda shared that their NF cotton with poly crops plots stood strong even after two cyclones during crop maturity, while nearby chemical-based fields suffered severe lodging. The accompanying pictures clearly show this contrast, highlighting how natural farming practices helped the crop withstand extreme weather.

↑ Chemical based field suffered severe lodging due to cyclone.

↑ NF cotton with poly crops plots stood strong.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