

BIHAR AGRICULTURAL UNIVERSITY, SABOUR (BHAGALPUR)
FORMAT FOR SUCCESS STORIES OF PROGRESSIVE FARMERS

1. Basic Information

Name of Farmer: Smt. Ranju Prakash

Husband's Name: Sri Jaiprakash

Village / Town: Mahadevpur, I.B. Road, Haveli Kharagpur

Block: Haveli Kharagpur

District: Munger

State: Bihar

Mobile Number: 8862849485

Email: ranju@sevabharat.org

Educational Qualification: Graduate (Social Worker)

Age: 45 Years (Approx.)

Farmers Categories: Urban / Terrace Farmer - Landless (Terrace Farming)

Landholding / Terrace Area: 1760 Sq.ft (80 ft X 22 ft) - Residential Terrace

Major Farming System: Terrace Farming (Floriculture & Vine Vegetables) + Value Addition (Pickles)



2. Background of the Farmer

Smt. Ranju Prakash, W/o Sri Jaiprakash, residing at Mahadevpur, I.B. Road, Haveli Kharagpur, Munger, Bihar, is an urban terrace farmer and a social worker. Coming from a non-traditional farming background with no agricultural land, she utilized her residential terrace of 1760 sq.ft (80 ft x 22 ft) for productive use. Before KVK intervention, she was engaged in social activities and was looking for a sustainable model of organic food production for family consumption and women empowerment.

She started in 2020 with a small pilot of floriculture in 10 repurposed thermocol fish-carrying baskets (24" x 12" x 12"). Despite limited space, lack of technical knowledge on potting media and organic nutrition, and urban waste management issues, she was motivated to promote organic, fresh, chemical-free vegetables in urban areas. Need for low-cost, eco-friendly urban farming technology and value addition was felt.

3. Association with Krishi Vigyan Kendra

Smt. Ranju Prakash came in contact with Krishi Vigyan Kendra, Munger during 2020-21 through its urban farming and women empowerment programs.

Krishi Vigyan Kendra, Munger played a pivotal role in enhancing the project's productivity and sustainability. KVK scientists visited her terrace farm and provided crucial technical guidance on improving the potting media. She was advised to shift from using only soil to incorporating a 1:1 ratio of soil and vermicompost. This enrichment significantly improved the medium's aeration, water retention, and nutrient content, leading to healthier plants and better yields.

KVK also organized trainings, demonstrations and exposure visits to successful entrepreneurs for value addition of produce for raising income and employment generation. Technical support on seedling selection, planting density (6 seedlings per box), organic pest management, seasonal crop planning for vine vegetables, and post-harvest value addition (pickles) was provided. Since 2023-24, KVK guided her to start pickle making from terrace produce like mushroom, karonda, jackfruit, garlic, lemon, mango, barhar etc. and linked her with women groups.

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4. Innovative Technology/Practice Adopted or Developed

Smt. Ranju Prakash adopted and innovatively modified urban terrace farming technology:

1. Repurposing Waste for Cultivation: She innovatively used discarded thermocol fish-carrying baskets (24" x 12" x 12", 2 cft volume) as growing containers. This not only reduced plastic waste but also provided lightweight, insulated, low-cost containers ideal for terrace farming. Started with 10 baskets and scaled to 150 baskets.
2. Improved Potting Media: As per KVK advice, she adopted 1:1 mixture of soil and vermicompost instead of only soil. Requirement is 150 cft vermicompost (1500 kg) for 150 boxes. This improved aeration, water holding and nutrient supply organically.
3. High-Density Vine Vegetable Model: In 150 boxes, she plants 6 seedlings per box (total 900 seedlings) of seasonal vine vegetables - bottle gourd, bitter gourd, sponge gourd, kundru, beans, etc. Average yield 1 kg per plant.
4. Floriculture to Olericulture Transition: Initially started with flowers, after success she shifted to vegetables for nutritional security and income.
5. Value Addition - Pickle Enterprise (2023-24 onwards): To avoid distress sale and reduce perishable loss, she started making pickles from terrace produce and locally available fruits/vegetables: Mushroom pickle, Karonda pickle, Jackfruit pickle, Garlic pickle, Lemon pickle, Mango and Barhar pickle. She maintains hygienic processing, uses quality oil and spices, and small 100 gm packaging for local market.
6. Circular Economy: Excess produce, peels and waste are composted back. Vermicompost used in boxes, creating closed loop.

This innovation is unique because it transforms an unutilized terrace (1760 sq ft) into a productive organic farm, demonstrates urban agriculture model, plastic waste recycling,

and women-led value addition. It is climate-smart, reduces carbon footprint of transportation, mitigates urban heat island effect, and eliminates chemical residues.

5. Economic Impact

The terrace farming enterprise has brought significant economic benefits.

A cost-benefit analysis for a single cropping season (quarterly) with 150 boxes:

Assumptions: Total Units 150 boxes, Volume 2 cft/box = 300 cft total, Potting medium soil:vermicompost 1:1, Planting density 6 seedlings/box = 900 seedlings, Yield 1 kg/plant, Market price Rs. 40/kg.

Cost of Cultivation:

1. Vermicompost: 150 cft @ 10 kg/cft = 1500 kg x Rs.10/kg = Rs. 15,000
 2. Seedlings: 900 seedlings x Rs.10 = Rs. 9,000
 3. Miscellaneous (tools, organic pest management): Rs. 5,000
- Total Cost = Rs. 26,000

Gross Returns: 900 plants x 1 kg = 900 kg x Rs.40/kg = Rs. 36,000

Net Profit = Rs. 36,000 - Rs. 26,000 = Rs. 10,000 per season/quarter

Thus annual income from fresh vegetables is about Rs. 40,000 per year.

Value Added Products - Additional High Income:

Cost of pickle preparation (per kg): Mushroom Rs.500, Karonda Rs.350, Jackfruit Rs.300, Garlic Rs.650, Lemon Rs.300 = Gross cost Rs. 2100/kg (avg)

Gross return: Mushroom @ Rs.150/100gm = Rs.1000/kg, Karonda Rs.500/kg, Jackfruit Rs.500/kg, Garlic Rs.1500/kg, Lemon Rs.500/kg = Rs. 4000/kg (avg in table 3000/kg)

Net Benefit from value addition = Rs. 900 per kg

Overall with value addition, she is generating Rs. 15,000 per quarter (as per impact assessment) and more than 200 women are indirectly benefited through guidance.

Benefit-Cost Ratio of fresh produce is 1.38:1, and value addition increases it to 1.9:1.

6. Social Impact and Farmer-to-Farmer Extension

Smt. Ranju Prakash's success has significant social impact, especially for women empowerment in Haveli Kharagpur.

Her model terrace farm serves as a demonstration unit for urban women, inspiring them to adopt rooftop farming and value addition. Her success has a demonstration effect, leading to improved food security and access to fresh organic produce for the local community.

Since 2023-24, she started making pickles from terrace farming produce under which

more than 200 female farmers of her locality are working under her guidance. She provides hands-on training in pickle making, packaging and marketing.

She has earned considerable respect and social recognition within her community, establishing herself as a local innovator. Her initiative promotes social entrepreneurship and leadership among women.

She regularly organizes informal trainings at her terrace for SHG women, shares seedlings, vermicompost and technical know-how. Her venture has led to horizontal spread of terrace farming technology in Munger urban area. She contributes to agricultural development beyond her own farm by creating a network of women agri-preneurs.

7. Entrepreneurship and Employment Generation

Smt. Ranju Prakash has emerged as a successful agri-entrepreneur from an urban terrace farmer.

Entrepreneurial activities undertaken:

1. Year-round seasonal vine vegetable production in 150 thermocol baskets on 1760 sq ft terrace
2. Value addition: Processing of 5+ types of pickles (Mushroom, Karonda, Jackfruit, Garlic, Lemon, Mango, Barhar) with small packaging (100 gm)
3. Branding and marketing in local market of Kharagpur and Munger
4. Training and mentoring of 200+ women farmers in terrace farming and pickle making

Employment Generation:

- Self-employment for herself round the year
- Part-time employment for family members in watering, harvesting, pickle processing
- Guidance and income opportunity for 200+ women farmers in her locality who are now linked with pickle enterprise and terrace farming
- Indirect employment in packaging and local sale

Annual Turnover: Approximately Rs. 1.44 lakh from fresh vegetables (Rs. 36,000 x 4 quarters) + additional Rs. 60,000-80,000 from value added pickles, totaling approx. Rs. 2.0-2.25 lakh per year. Net profit approx. Rs. 60,000-75,000 per year, with potential to scale.

Future expansion plan includes increasing baskets to 250, establishing a small pickle processing unit with FSSAI registration, and forming a women FPO for collective marketing.

8. Awards, Recognition and Media Coverage

Smt. Ranju Prakash has been recognized as an innovator in urban farming:

- Recognized by Krishi Vigyan Kendra, Munger as a model urban terrace farmer and women entrepreneur. Her terrace farm is used as a demonstration site for KVK trainees and visiting farmers.
- Earned social recognition and respect within her community as a local innovator for organic terrace farming and women-led value addition enterprise.
- Her success story has been documented by KVK Munger and featured in KVK's success ventures compilation.
- Invited as resource person in KVK and ATMA programs on urban farming and value addition for women groups.
- Her model has been covered in local extension literature and social media through KVK extension activities.

Her work contributes to promotion of organic, chemical-free produce and waste recycling, aligning with sustainable development goals.

9. Future Vision

Smt. Ranju Prakash envisions expanding her innovative model:

- To increase terrace cultivation from 150 to 250-300 thermocol baskets and include exotic vegetables and medicinal plants.
- To establish a registered small-scale pickle processing unit with proper branding, labeling and FSSAI licensing for marketing at district level.
- To form a Women Farmer Producer Organization (FPO) / Self Help Group cluster of 200 women she is guiding, for collective production, processing and marketing of terrace produce and pickles.
- To promote rooftop farming in every household of Haveli Kharagpur to ensure nutritional security and greenery, reducing urban heat island effect.
- To develop her terrace as a training centre for urban agriculture and value addition for youth and women in collaboration with KVK Munger.

10. Message to Fellow Farmers

Message from Smt. Ranju Prakash: "You don't need large land to be a farmer. Even a small terrace of 1760 sq ft can feed your family with fresh organic vegetables and give you income. Reuse waste like thermocol boxes, use vermicompost, grow seasonal vegetables, and convert surplus into pickles for better price. Women can start this at home with low investment. Scientific guidance from KVK is very helpful. Adopt terrace farming, reduce chemical use, and make your city green and healthy. If I can do it on my terrace, you can too."

Photographs

