

Social Awareness Programme About Kitchen Garden Among Farmers in Kalipur Village, Bastar District of Chhattisgarh

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Tribal regions in Central India, particularly Bastar district in Chhattisgarh, face chronic challenges related to malnutrition, micronutrient deficiencies (hidden hunger), and seasonal food insecurity. This research paper evaluates the impact of a structured Social Awareness Program on Kitchen Gardening (Poshan Vatika) conducted in Kalipur village, Bastar. Utilizing a mixed-method approach involving 100 households (predominantly women-led), the study assesses baseline awareness, community engagement interventions, adoption rates, nutritional outcomes, and socio-economic benefits. Results demonstrate a dramatic rise in kitchen garden adoption from 22% pre-intervention to 78% post-intervention, accompanied by a 153% increase in daily household vegetable consumption and a significant reduction in monthly food expenditure. The paper highlights key implementation strategies, systemic challenges, and actionable policy recommendations for scaling nutrition-sensitive agriculture across tribal ecosystems.

Keywords: Kitchen Garden, Poshan Vatika, Kalipur, Bastar, Tribal Malnutrition, Social Awareness, Sustainable Agriculture, Household Food Security.

Introduction

Nutritional insecurity and micronutrient deficiencies remain major public health concerns in rural and tribal belts of India. Bastar district, located in the southern region of Chhattisgarh, is characterized by its rich forest reserves and dense indigenous population (predominantly Gond, Halba, and Bhatra communities). Despite the ecological richness, the district historically reports high rates of stunting, wasting, and anemia among women and children. This situation is largely driven by mono-cropping patterns (primarily rainfed paddy), limited market accessibility, and low dietary diversity. A Kitchen Garden (or 'Poshan Vatika') is a localized, low-cost, and ecologically sustainable solution that utilizes homestead land to cultivate nutrient-rich vegetables, fruits, and medicinal plants. In Kalipur village, situated near Jagdalpur in Bastar district, a comprehensive social awareness and capacity-building initiative was launched to encourage households to convert unutilized homestead space into organic kitchen gardens. This paper provides an empirical analysis of the awareness program, examining its methodology, social dynamics, nutritional yields, and economic resilience.

Research Objectives

1. To evaluate the initial knowledge, attitudes, and practices regarding kitchen gardening and dietary diversity among households in Kalipur village.
2. To design and execute community-tailored social awareness campaigns (workshops, live demonstrations, Self-Help Group (SHG) training) and measure their adoption efficacy.
3. To quantify changes in daily household vegetable consumption, micronutrient intake, and monthly domestic savings.

- To identify technical, logistical, and environmental barriers (e.g., water scarcity, stray cattle, seed access) and propose scalable solutions.

Research Methodology

Study Location & Profile: The study was conducted in Kalipur village, located in the Jagdalpur block of Bastar District, Chhattisgarh. Kalipur presents a representative tribal-rural ecosystem with approximately 350 households, relying primarily on smallholder agriculture, minor forest produce (MFP) collection, and manual labor.

Sample Size & Sampling Framework: A sample size of 100 households was selected using a stratified random sampling method to represent various socio-economic groups, with a specific emphasis on women-headed households and members of local Women Self-Help Groups (SHGs) registered under NRLM (National Rural Livelihoods Mission).

Data Collection Tools: Data was gathered over a 6-month longitudinal observation period (pre-intervention, intervention phase, and post-harvest evaluation) using:

- Structured Questionnaire Surveys administered to household heads and women care-providers.
- Focus Group Discussions (FGDs) with SHG leaders, Anganwadi workers, and local Krishi Mitra/KVK extension officers.
- Direct Field Observations and participatory layout mapping of homestead gardens.

Social Awareness Intervention Framework

To ensure sustainable behavioral change rather than mere passive distribution of inputs, the awareness program utilized a multi-channel community engagement model tailored to the local socio-cultural context:

a) Culturally Tailored Education: Interactive participatory workshops were conducted in Gondi and Halbi dialects using pictorial charts, highlighting the link between micronutrient deficiencies and child development.

b) Model Poshan Vatika Demonstration: Demonstrating a standardized 7x7 meter model layout containing 7 distinct beds—representing 7 days of the week—to ensure a continuous daily supply of varied leafy greens, root crops, and legumes.

c) Seed Kit & Resource Distribution: Distribution of high-quality, climate-resilient organic seed kits containing 8–10 vegetable varieties (Spinach, Fenugreek, Moringa/Sahjan, Tomato, Ridge Gourd, Brinjal, and Cowpea).

d) Technical & Bio-Input Training: Hands-on workshops on producing organic inputs such as Vermicompost, Jeevamrut, and Neem-based bio-pesticides using locally available cattle dung and bio-waste.

e) Water Management & Protection: Educating villagers on greywater harvesting techniques (reusing household washing water for garden irrigation) and constructing low-cost bamboo fencing (Jaivik Kandi) to protect crops from stray livestock.

Results & Discussion

The quantitative and qualitative outcomes of the awareness program were evaluated across major socio-economic and nutritional indicators.

Table 1: Comparative Socio-Economic & Nutritional Metrics Pre- and Post-Intervention

Key Indicator / Metric	Pre-Intervention	Post-Intervention	Absolute Change / Growth
Households with Active Kitchen Garden	22%	78%	+56% (+254% relative)
Avg. Daily Vegetable Intake (per family)	150 grams	380 grams	+230 grams (+153%)
Monthly Household Expense on Vegetables	₹1,200 - ₹1,500	₹400 - ₹550	Savings: ₹800 - ₹950/mo
Adoption of Organic Bio-Inputs (Jeevamrut)	12%	81%	+69% increase
Dietary Diversity Score (Varieties/Week)	2.1 types	5.8 types	+3.7 crop types

Nutritional Enhancement & Dietary Diversity: Prior to the program, household vegetable intake was confined to seasonal market purchases and forest greens, resulting in severe micronutrient deficits. Post-intervention data revealed that daily per capita vegetable consumption increased from ~150g to ~380g, approaching the ICMR (Indian Council of Medical Research) recommended allowance of 350g/day. The consumption of green leafy vegetables (such as Amaranthus/Chaulai and Palak) and vitamin A-rich vegetables (such as Moringa and Pumpkin) saw the most significant rise.

Economic Relief and Women Empowerment: In addition to health benefits, kitchen gardens delivered direct economic relief. Participating families reduced their market purchasing costs by ₹800 to ₹950 per month. Women reported utilizing these savings for children's education, medical emergency funds, and SHG micro-savings. Furthermore, women emerged as primary decision-makers regarding household nutritional planning and garden management.

Key Challenges Identified

1. **Water Availability during Summer:** Groundwater depletion during post-monsoon months (March to May) presents a severe threat to garden sustainability.
2. **Open Grazing & Animal Menace:** Uncontrolled cattle movement during non-paddy seasons damages unprotected home gardens.
3. **Quality Seed Preservation:** Inability of smallholders to preserve high-purity indigenous seeds leads to reliance on external seed supply cycles.

Strategic Recommendations & Policy Framework

To ensure the long-term sustainability of the Kitchen Garden initiative in Kalipur and facilitate replication across Bastar District, the following interventions are recommended:

1. **Community Seed Banks (Beej Bank):** Establish community-managed seed banks at the Panchayat level to collect, store, and distribute indigenous, climate-resilient vegetable seeds.
2. **MGNREGA Integration:** Integrate Kitchen Garden promotion with MGNREGA for boundary fencing construction, greywater soak-pit development, and community compost pit digging.
3. **Institutionalizing in Schools & Anganwadis:** MANDATORY incorporation of Poshan Vatikas within local Anganwadi centers and primary schools (Mid-Day Meal program) to foster institutional sustainability and experiential learning for children.
4. **Micro-Drip & Greywater Innovations:** Encourage simple low-cost micro-drip setups using recycled plastic containers to sustain vegetable gardens during dry summer months.

Conclusion

The Social Awareness Program on Kitchen Gardening in Kalipur village, Bastar District, demonstrates that targeted, culturally responsive, and community-driven extension activities can trigger sustainable behavioral shifts in tribal communities. By bridging the gap between agricultural knowledge and nutritional practices, the 'Poshan Vatika' model effectively addresses micronutrient deficiency, reduces poverty-driven expenditure, and empowers women. Scaling this decentralized agricultural model across the tribal belts of Chhattisgarh holds immense promise for achieving Zero Hunger (SDG 2) and Good Health & Well-being (SDG 3).

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