

**Indian Farmer**

Volume 12, Issue 05, 2025, Pp. 286-289

Available online at: www.indianfarmer.net

ISSN: 2394-1227 (Online)

Original article

Enhancing Food Security and Rural Livelihoods through the IGKV Kitchen Garden Vegetable Kit: A Sustainable Intervention

^{1*}Dr. Hem Prakash Verma and ²Bhavesh Verma

^{1*}Young Professional, ICAR-National Institute of Biotic Stress Management, Baronda, Raipur (CG)

²PhD Research Scholar, Department of Vegetable Science, Indira Gandhi Krishi Vishwavidyalaya, Raipur (CG)

*Corresponding author: hemverma1996@gmail.com

Received: 22/05/2025

Published: 25/05/2025

1.1 INTRODUCTION

Amid increasing urbanization and growing concerns over global food security, self-reliant food production systems have become essential for sustainable development. In response to this challenge, Indira Gandhi Krishi Vishwavidyalaya (IGKV), Raipur, has developed the Kitchen Garden Vegetable Kit, a compact, ready-to-use solution designed to facilitate small-scale vegetable cultivation in space-constrained environments such as terraces, balconies, and backyards. Targeted at both rural and urban households, the kit enables year-round production of fresh, chemical-free vegetables, thereby contributing to improved household nutrition and reduced dependency on market produce. It holds particular promise for small and marginal farmers by providing an avenue for income supplementation, encouraging the adoption of sustainable agricultural practices, and fostering self-reliance.

Furthermore, the intervention plays a crucial role in gender empowerment by equipping women with accessible means to enhance household food security and economic participation. This study seeks to evaluate the socio-economic impacts of the IGKV Kitchen Garden Kit, with an emphasis on its scalability as a model for rural development, livelihood diversification, and environmental sustainability.

Table 1: Key Components of IGKV Kitchen Garden Vegetable Kit

S.No.	Item	Quantity
1.	Truthful label seed of Vegetables like Bottle Gourd, Okra, Long Yard Bean, and Dolichos Beans (Trade Name- Indira Beej)	40 gm each
2.	Biofertilizer (Culture)	100 ml
3.	Bio-insecticide Consortia	100 ml
4.	Bio-pesticide Consortia	100 ml
5.	Vermicompost	200 gm

6.	Grow Bags	5 Pieces
7.	Guidance Manual	1 Pic

1.2 Components of IGKV Kitchen Garden Vegetable Kit

1.2.1 Truthful label seed of Vegetables

The kit includes high-quality, truthful label seeds of commonly used vegetables such as tomatoes, okra, brinjal, chili, spinach, and coriander, tailored to the local climate and seasons. The vegetable seeds are produced or grown in the farms of Krishi Vigyan Kendras (KVKs) and research stations of Indira Gandhi Krishi Vishwavidyalaya (IGKV). These farms are equipped with advanced agricultural practices and scientific methodologies to ensure high-quality seed production. Scientists work closely to develop, test, and multiply high quality seed varieties that are resilient, high-yielding, and suitable for local agro-climatic conditions. The seeds undergo rigorous quality checks before being distributed to farmers for large-scale cultivation.



Fig.: Kitchen Garden Vegetable Kit

1.2.2 Biofertilizers (Culture)

Biofertilizers contain beneficial microorganisms like mycorrhizal fungi and PGPR that enhance nutrient availability and plant growth. Applied to seeds, soil, or plants, they promote nitrogen fixation and phosphate solubilization. Supporting eco-friendly farming, they reduce chemical use, improve soil health, and play a vital role in sustainable agriculture and environmental conservation. The biofertilizer (culture) is produced at the State Bio Control Laboratory, Bilaspur. This facility develops and supplies high-quality microbial cultures such as *Rhizobium*, *Azotobacter*, *Azospirillum*, and phosphate-solubilizing bacteria. These cultures are used to enhance soil fertility and crop productivity, supporting sustainable and eco-friendly agricultural practices across the region.

1.2.3 Bio-insecticide Consortia

Bioinsecticides are biologically derived agents employed in integrated pest management (IPM) to control insect pests while minimizing harm to non-target organisms. Bioinsecticides offer eco-friendly alternatives to synthetic insecticides, reducing chemical residues and resistance development. Their specificity, environmental compatibility, and role in sustainable agriculture make them increasingly valuable in crop protection strategies, especially in organic and low-input farming systems. The bio-insecticide produced at the State Bio Control Laboratory, Bilaspur, includes microbial agents like *Trichoderma*, *Beauveria bassiana*, *Metarhizium anisopliae*, and *Bacillus thuringiensis* (Bt). These biological agents target specific pests while being safe for beneficial insects, humans, and the environment. They support integrated pest management and sustainable agriculture.

1.2.4 Bio-pesticides Consortia

Biopesticides are pest control agents derived from natural sources such as animals, plants, bacteria, and certain minerals, offering a sustainable alternative to conventional synthetic pesticides. The State Bio Control Laboratory (SBCL) Bilaspur, produces bio-pesticide consortia like Indira Trichoderma, containing *Trichoderma* species that combat plant pathogens, and Indira Fluorescens, based on *Pseudomonas fluorescens*, which suppresses diseases and enhances plant growth, supporting sustainable agriculture and integrated pest management practices.

1.2.5 Vermicompost

Vermicomposting is a bioconversion process in which earthworms (phylum Annelida, subclass Oligochaeta) and associated gut microbiota degrade organic waste into nutrient-rich compost. Earthworm exoenzymes and microbial fermentation facilitate the breakdown of complex organic matter, forming bioavailable nutrients.

1.2.6 Grow Bags

The Growbags are durable, portable planters made from materials like plastic, filled with soilless organic media and nutrients, ideal for balcony or terrace gardening, allowing direct planting of crops like tomatoes and leafy vegetables through access holes cut on the top surface. Grow bags are provided with the IGKV Vegetable Seed Kit, offering a convenient and ready-to-use solution for growing vegetables on balconies and terraces using quality seeds and soilless media.

1.2.7 Guidance Manual

A step-by-step instruction booklet, often in both English and Hindi, explaining the sowing process, spacing, watering, and pest management.

1.3 Benefits of the Kitchen Garden Kit

- **Fresh and Nutritious Produce:** Home-grown vegetables are more nutritious and freer from harmful chemicals and pesticides.
- **Cost-Effective:** Reduces the dependency on market-bought vegetables, cutting monthly grocery bills.
- **Sustainability:** Encourages eco-friendly living and sustainable food habits.
- **Health and Well-being:** Gardening is known to reduce stress and enhance mental health.
- **Educational Value:** An excellent tool for children and adults alike to learn about agriculture and nature.

1.4 Accessibility and Impact

IGKV has made these kits affordable and accessible to the general public, especially urban dwellers who lack farming experience. These kits are distributed during agricultural fairs, awareness campaigns, and through Krishi Vigyan Kendras (KVKs) across Chhattisgarh and other regions. The initiative aligns with the government's larger goals of promoting urban agriculture, organic farming, and nutritional security. Many households that have adopted the IGKV Kitchen Garden Kit report not only improved diets but also a deeper appreciation for farmers and the food production process.

1.5 CONCLUSION

The IGKV Kitchen Garden Vegetable Kit is more than a gardening solution, it's a step towards food independence, environmental responsibility, and healthier living. By putting the power of food production back into the hands of families, IGKV is sowing the seeds of a greener and more resilient future.

1.6 REFERENCES

- Karabhar R.B. and Ishwarappagol Savita. 2019. Poshan Vatika - an alternate livelihood option for tribal families. *International Journal of Tropical Agriculture* (4);2863-2864.
- Deepti Jha *et al.* (2024) Krishi Darshika, Directorate of Extension Services, Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh. pp 24-25.