

**Project title: Increased availability of bio-diverse fruits among poor and rural people
for better household nutritional security, Livelihood, and Sustainable
Land Management**

Submitted to

Centre for Fruitful India



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1. **Project title** : Increased availability of bio-diverse fruits among poor and rural people for better household nutritional security, Livelihood, and Sustainable Land Management.
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 - Collaborating Partner**
 1. Krishi Vigyan Kendra, Banda
 2. Deendayal Research Institute,
Chitrakoot
 3. Vanvasi Kalyan Kendra, Manikpur

Research areas

1. Unconventional modes of growing fruit trees that make efficient use of land, e.g., planting on wasteland, field bunds, community land, forest fringes, rooftops, and roadside.
2. Providing high nutrition and yield.
3. Community-led initiatives for post-harvest management, sharing, and value addition.

Geographic location of research

Bundelkhand region particularly in district Banda, and Chitrakoot. Rural community land and forest fringe areas will be focussed.

Objectives

1. To identify community needs and organize awareness workshops on the benefits of consuming, planting and value addition of nutritious bio-diverse fruits.
2. To establish ideal nutritional fruit garden model on community /farmers' land for year-round fruit production.
3. To sensitize and support landless poor people for fruit plantation on community / roadside land and forest fringe areas as an alternative sustainable land management (SLM).
4. To conduct capacity building programme for integrated nutrient management, canopy management, plant propagation, post-harvest management and value addition of nutritious fruit crops.
5. To identify unique fruit germplasm for in situ / ex situ conservation and nursery strengthening.

Methodology

- A. To identify needs and conduct awareness workshops on nutritious bio-diverse fruit consumption, cultivation, value addition, and marketing in the study area.**

Methodology

Training Need Assessment

An interview schedule will be developed and the Following methodology will be utilized to identify the training needs of farmers and community member.

- i. Standard and map-based surveys for data collection from stakeholders and community members
- ii. Community mapping for analyzing and visualizing community assets and resources
- iii. Workshops and focus group meetings for smaller outreach
- iv. Individual observations

- B. Measurement on Knowledge of farmers and community members on Nutri-rich Biodiverse Fruit Species for Nutrition, Livelihood, and Sustainable Land Management**

Methodology

A knowledge test for measuring the knowledge of farmers and community members on **Nutri-rich Biodiverse Fruit Species for Nutrition, Livelihood, and Sustainable Land Management will be developed. Pre-Post Test will be conducted.** Construction of the knowledge test includes the following criteria;

- i. Collection of items
- ii. Item analysis and pre-testing
- iii. Calculation of Difficulty Index (P)
- iv. Calculation of Discrimination Index
- v. Final selection of questions/items for the knowledge test
- vi. Reliability of the knowledge test
- vii. Validity of knowledge
- viii. Administration and Scoring of Knowledge Test

C. Organization of Awareness Camp / Workshop

Two awareness camp / workshop will be conducted in each selected districts. The participants will be selected from rural farmers / farm women / rural youth and school going children.

District Banda:

Two awareness camp / workshop (for first two years): 100 beneficiaries

District Chitrakoot:

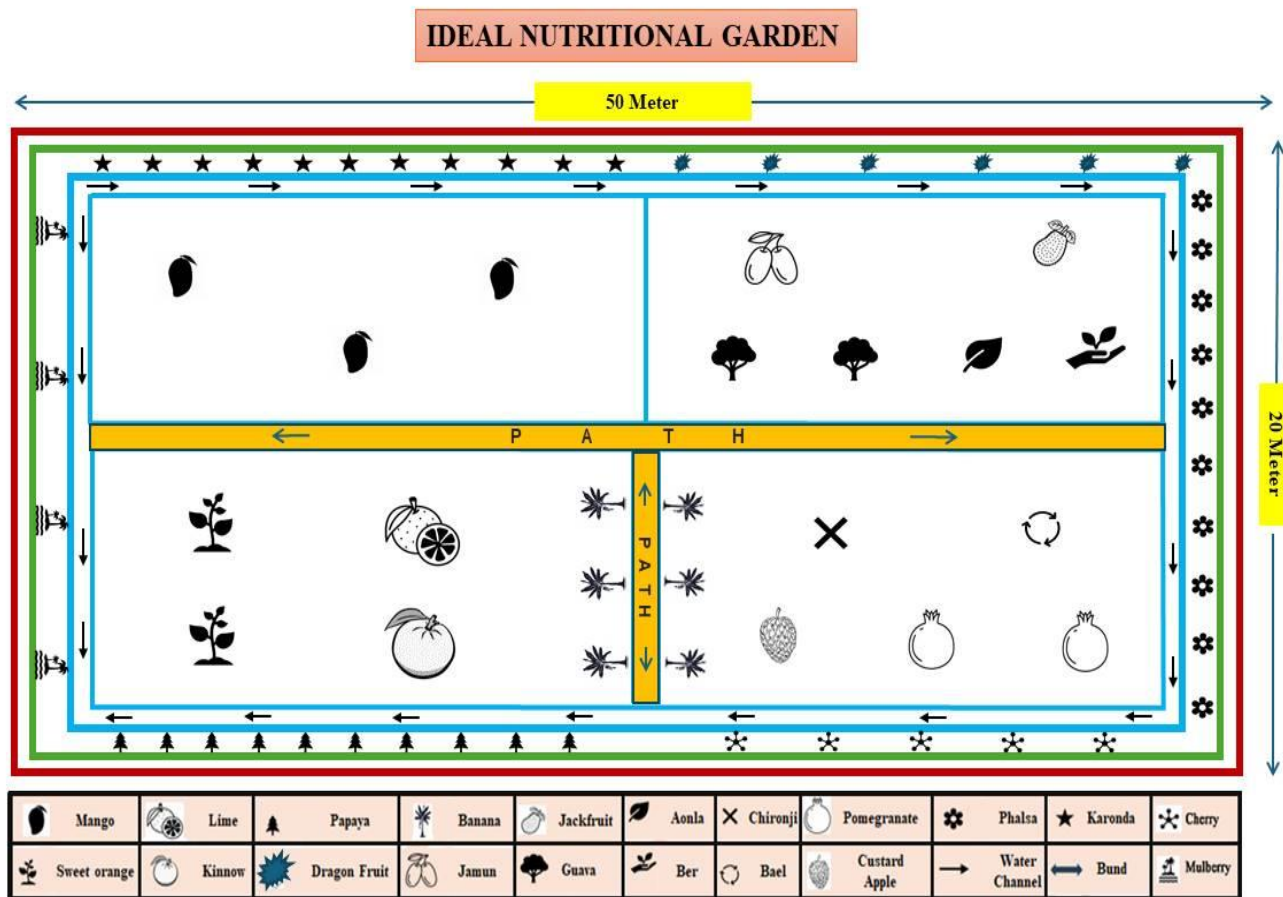
Two awareness camp / workshop (for first two years): 100 beneficiaries

Note: Awareness camp / workshop will be conducted in collaboration with Krishi Vigyan Kendra, Banda and Krishi Vigyan Kendra, Ganeewan (Chitrakoot).

D. Establishment of Ideal Nutritional Garden at community land / Farmer's Field

Vision for Fruitful India is scaled access to, knowledge and production of fruit diversity acts as a nature-based solution (NBS) to increase the food security, nutrition status, and health of urban, peri-urban and rural communities in India, especially children and women, for people and planetary health. Looking vision of the CFL India, two Ideal nutritional garden models are proposed to be established at community land / Farmer's field. The community land may be schools, temples or Gram Samaj Bhumi of the adopted village. However, the farmers will be selected on the basis of land holding. The project will be implemented in two districts of Bundelkhand region i.e. district Banda and Chitrakoot of Uttar Pradesh. Models have been designed for 1000 sq meter and 250 sq meter area. For both the models, 10 demonstrations will be distributed in each group at different places as per the report of need assessment.

1. Model for Community land / marginal farmer (10 Demonstrations)



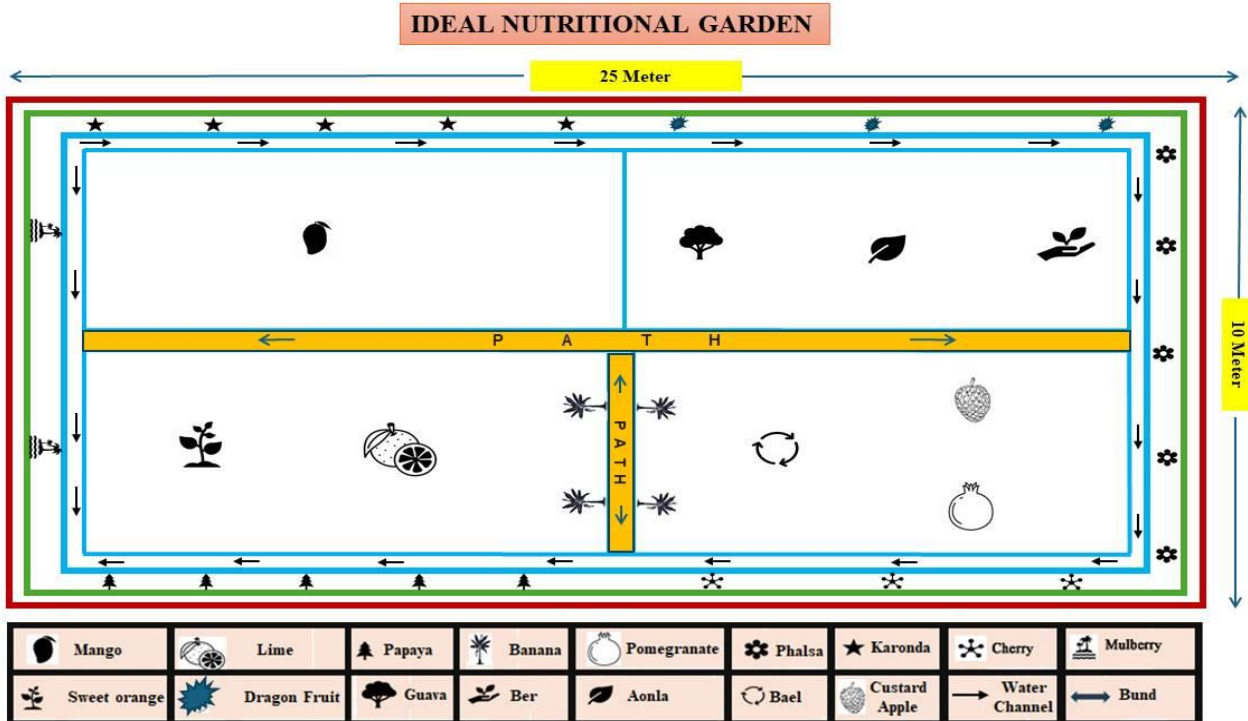
IDEAL NUTRITIONAL GARDEN

Area: 50 Meter X 20 Meter

S. N.	Name of Fruit Plant	Planting Distance (M)	No of Plants Accommodated
1	Mango	8X8	03
2	Mosambi	6X6	02
3	Lime	6X6	01
4	Kinnow	6X6	01
5	Guauva	4X4	02
6	Jamun	6X6	01
7	Jackfruit	6X6	01
8	Aonla	6X6	01
9	Ber	6X6	01
10	Chiraunji	6X6	01
11	Custard Apple	5X5	01
12	Bael	6X6	01
13	Pomegrante	4X4	02
14	Dragon Fruit	4X4	06
15	Karonda	2X2	10
16	Cherry	4X4	05
17	Papaya	2X2	10
18	Mulberry	5X5	04
19	Banana	2X2	06
20	Phalsa	2X2	10
	Total		69

Number of Demonstration: 10
 Total number of plants required: 690

2. Model for small farmer (10 Demonstrations)



IDEAL NUTRITIONAL GARDEN
 Area: 25 Meter X 10 Meter

S. N.	Name of Fruit Plant	Planting Distance (M)	No of Plants Accommodated
1	Mango	10X10	01
2	Mosambi	5X5	01
3	Lime	5X5	01
4	Guauva	4X4	01
5	Aonla	4X4	01
6	Ber	4X4	01
7	Custard Apple	3X3	01
8	Bael	6X6	01
9	Pomegrante	3X3	01
10	Dragon Fruit	4X4	03
11	Karonda	2X2	05
12	Cherry	4X4	03
13	Papaya	2X2	05
14	Mulberry	5X5	02
15	Banana	2X2	04
16	Phalsa	2X2	05
	Total		36

Number of Demonstration: 10 Total number of plants required: 360

E. Support to landless poor people for fruit plantation on community land / roadside land and forest fringe areas

Landless farmers will be sensitized to do nutri rich fruit plantation on community / roadside land and forest fringe areas.

Number of beneficiaries: 100 (50 farmers per district)

Plants to be distributed

S. N.	Name of Fruit Plant	No of Plants
1	Mango (Seeding)	02
2	Tamarind(Seeding)	02
3	Mulburry	02
4	Lime	02
5	Guauva	02
6	Aonla (Seeding)	02
7	Ber	02
8	Sapota	02
9	Bael	02
10	Jamun	02
11	Karonda	02
12	Jackfruit	02
	Total	24

Note: 50 farmers will selected from each district and in every district, 10 farmers from 5 villages will be selected.

Total number of plants for 100 beneficiaries: 2400 No.

F. Off campus Capacity building training

Off campus capacity building training programmes will be conducted for rural farmers / farm women / rural youth and school going children.

Total Number of training programmes: 16

District Banda:

Four capacities building training programme (for first two years): 50 beneficiaries / training

District Chitrakoot:

Four capacities building training programme (for first two years): 50 beneficiaries / training

Note: The trainings will cover topics on integrated nutrient management, canopy management, plant propagation, post-harvest management and value addition of nutritious fruit crops.

G. Assessing the effectiveness of the capacity building training programme on farmers and community members on manure production, nutrient and canopy management, plant propagation, post-harvest handling, and value addition of nutritious fruit crops.

Methodology

Bennet Hierarchy of Evaluation methodology will be use to assess the impact of capacity building training programme.

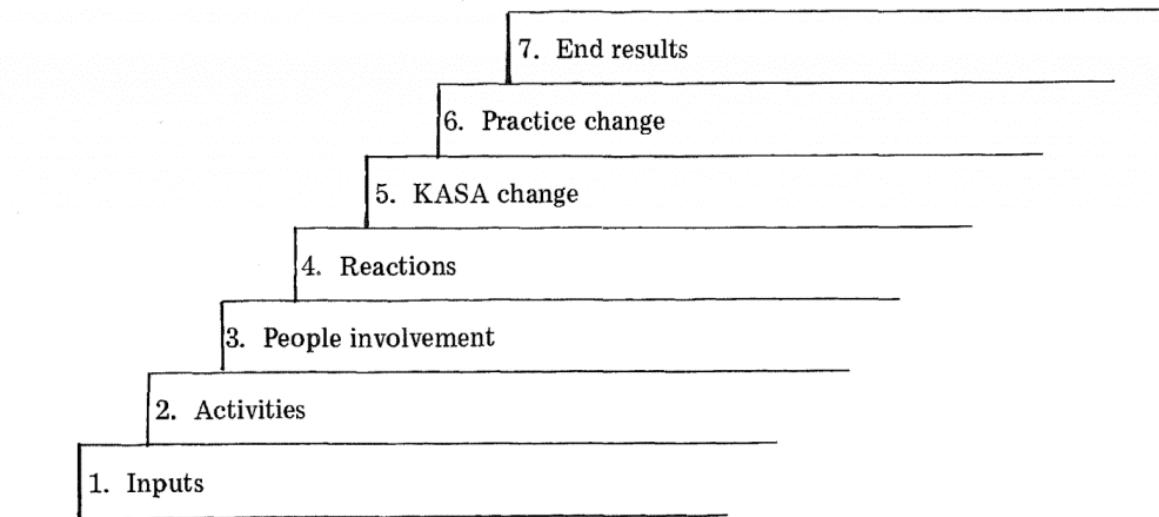


Figure 1. A hierarchy of evidence for program evaluation.

H. Identification of unique fruit species for in situ / ex situ conservation and nursery strengthening.

Mostly fruit crops are cross pollinated and enormous variability exists in the nature. Survey will be conducted in project area to identify unique indigenous fruit germplasm of different species. The collected germplasm will be characterized on the basis of morphological and biochemical attributes. Promising or unique germplasm will be conserved at University campus in germplasm conservation block as well as in situ for further promotion

Timeframe of project:

Year	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter
I st	<ul style="list-style-type: none"> i. Recruitment of staff ii. Preparation of interview schedule for need assessment and for baseline survey. iii. Purchase of the Fruit Planting material /farm-inputs/chemicals/ nursery tools etc., 	<ul style="list-style-type: none"> i. Selection of potential sites, land development for establishing the model of fruit nutritional garden and lay out of the model. ii. Purchase of quality fruit plant materials and inputs. iii. Need assessment and knowledge test of the beneficiaries? iv. Sensitization/Awareness workshop among community members/leaders /farmers/farm women/rural youth and school going children (02). 	<ul style="list-style-type: none"> i. Establishment of model fruit nutritional garden. ii. Distribution of quality fruit plant materials among beneficiaries iii. Field survey, Identification and collection of unique fruit germplam. iv. Off campus capacity building training programmes among beneficiaries (03). 	<ul style="list-style-type: none"> I. Off campus capacity building training programmes among beneficiaries (03). II. Field survey, Identification and collection and conservation of unique fruit germplam. III. Gap filling of plant mortality.
II nd	<ul style="list-style-type: none"> I. Sensitization/Awareness workshop among landless poor people for fruit plantation on community / roadside land and forest fringe (02). 	<ul style="list-style-type: none"> I. Monitoring of model of fruit nutritional garden and plantation by landless farmers on roadside land / forest fringe. II. Off campus capacity building training programmes among beneficiaries (03). 	<ul style="list-style-type: none"> I. Off campus capacity building training programmes among beneficiaries (03). II. Monitoring of model of fruit nutritional garden and plantation on roadside land / forest fringe. 	<ul style="list-style-type: none"> I. Field survey, Identification and collection of unique fruit germplam. II. Off campus FGD and capacity building training programmes among beneficiaries (03).
III rd	<ul style="list-style-type: none"> I. Field survey and collection of germplasm II. Off campus FGD and capacity building training programmes among beneficiaries (01). 	<ul style="list-style-type: none"> I. Monitoring of model of fruit nutritional garden and plantation by landless farmers on roadside land and forest fringe. 	<ul style="list-style-type: none"> I. Impact assessment of capacity building training programme conducted under the project. II. Data compilation, analysis and report writing. 	<ul style="list-style-type: none"> I. Data compilation, analysis and preparation and submission of report. II. Publication of research article emerges under the project. III. Publicity of project outcome among masses through electronic and print media.

Budget Requirement

A. Manpower:					
S.N.	Manpower	Number	Budget required (Rs. In lakh)	Qualification	Justification
1.	Young Professional –II (as per ICAR norms) for 3 years @ Rs. 42000 per month)	01	15.12	M.Sc. Horticulture in Fruit Science/ Post Harvest Technology	For carrying out the field survey, data collection and lab / nursery experiments
Total A			15.12		
B. Recurring contingency					
S.N.	Heads	Budget (in lakh)	Justification		
i.	Operation cost 1. Planting material with transport: Rs. 5.30 lakh 2. Manure, fertilizer and plant protection chemicals, plastic pegs, measuring tape, tag etc: Rs. 3.00 lakh 3. Unskilled labor @ Rs. 1.50 lakh per year: Rs 4.50 lakh	12.80	Purchase of planting material with transportation and input supply for demonstration of ideal nutria garden and road side / forest fringe plantation		
ii.	Organization of Awareness workshops and capacity building trainings 04 Awareness workshop @ Rs. 1.25 lakh : Rs. 5.0 lakh 16 Off campus capacity building trainings@ Rs. 0.30 lakh / training: Rs. 4.80 lakh	9.80	To organize awareness camp / workshops and capacity building training programmes for beneficiaries		
iii.	T.A./D.A./PoL/Vehicle hiring	4.50	Site survey, execution of project activities, monitoring, attending seminar / symposium and field survey for collection of unique fruit germplasm		
iv.	Documentation, publication, publicity, stationeries etc. and miscellaneous expenses	1.50	For data collection, report preparation, leaflet / folders etc.		
v.	Total B	28.60			
C. Non-Recurring contingency (Equipment's required):					
S. N.	Name of Equipment	Nos.	Cost (Rs.)	Approx. budget (Lakh)	Justification
1.	Pruning saw	120	250	0.30	To distribute among beneficiaries for intercultural operations.
2.	Secateurs	120	400	0.48	
3.	Khurpi	120	150	0.18	
Total C				0.96	
Grand Total (A+B+C)				44.68	

Year-wise expenditure breakup

Sr.No	Heads	Year			Total (in lakh)
		I st	II nd	III rd	
A.	Manpower (Young professional-II) as per ICAR norms	5.04	5.04	5.04	15.12
B.	Recurring contingency				
i.	Operation cost	8.53	4.27	-	12.80
ii.	Organization of Awareness workshops and capacity building trainings	2.50	4.90	2.40	9.80
iii.	T.A./D.A./PoL/Vehicle hiring	1.50	2.00	1.00	4.50
iv.	Documentation, publication, publicity, stationeries etc. and Miscellaneous expenses	0.25	0.25	1.00	1.50
C.	Non Recurring contingency	0.96	-	-	0.96
G.	Grand Total (A+B+C)	18.78	16.46	9.44	44.68

Project Title: Increased availability of bio-diverse fruits among poor and rural people for better household nutritional security, Livelihood, and Sustainable Land Management.

Institution : Banda University of Agriculture and Technology, Banda

Total Project Cost : 44.68 Lakh (Forty Four Lakhs Sixty Eight Thousand)

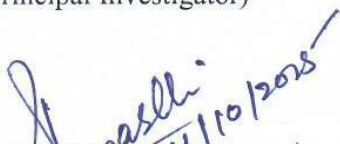
Project Duration : 3 Years


14/10/2025

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