Success story of the RKVY project

1. **Title: Popularization of high value horticulture crops under protected cultivation for economical sustainability**
2. **Category** **:** Horticulture
3. **Challenge**

Productivity per unit area can be increased with use of precision techniques like harnessing sunlight, drip irrigation, increased input use efficiency *etc*. Protected cultivation envisages higher productivity i.e. growing of high value crops like flowers and vegetables. Growing of these crops under protected condition results in high yields as well the quality of produce.

To achieve the above aims, the following objectives were set for the project.

a. To popularise the protected cultivation through establishment of demonstration units for high value flowers and vegetables
b. To impart training to farmers, extension workers, entrepreneurs and students
c. To standardise production technology for high value flowers and vegetables

The project was under taken by "Scientist community" under the university of Agri. and Hort. Sciences, Shivamogga

4. **Initiative**

a. To implement the project effectively, protected structures like naturally ventilated polyhouses and shade houses were erected at different centers of the university as detailed below

Centre	**Polyhouses**			**Shade houses**			**Total area**
	Nos.	Unit size	Total	Nos.	Unit size	Total	
Shimoga	2	1032 m^2	2064 m^2	2	1086 m^2	2172 m^2	
Mudigere	3	1032 m^2	3096 m^2	2	543 m^2	1086 m^2	
Hiriyur	2	1032 m^2	2064 m^2	4	543 m^2	2172 m^2	
Total	**7**		**7224 m^2**	**8**		**5430 m^2**	**12, 654 m^2**

Under the project, **totally 7 polyhouses and 8 shade houses** were erected covering an area of **12,654 m^2** for establishing demonstration units for high value horticultural crops.

b. **D**emonstration units for high value horticulture crops were established at different centres in the project.

Crops	Mudigere centre	Shimoga centre	Hiriyur centre
Flowers			
Rose	√	-	√
Gerbera	√	√	√
Anthurium	√	-	√
Lilies	√	-	√
Bird of Paradise	√	√	√
Heliconia	√	√	√
Alpinia	√	-	-
Vegetables			
Capsicum	√	√	√
Tomato	√	√	√
Pole beans	-	√	-
English cucumber	-	√	-

The experiments on varietal evaluation, spacing, nutrient management, and pest and disease management were under taken under the project**.**

5. Key results

The following technologies were demonstrated on high value horticultural crops (at different centres of UAHS, Shivamogga)

Sl. No.	Name of the crop/technology	Result of the technology assed/tested/evaluated under the project
	Anthurium	
1.	Variety	Three varieties evaluated under polyhouse. The variety Tropical (Red) was performed better with respect to growth and flowering followed by Cheers (Pink) and Moments
2.	Spacing	45X45 cm was optimum followed by 45X30 cm. While 30X30cm spacing resulted in poor quality flowers and more disease incidence.
3.	Bed system	Raised beds of 1.2X0.2X32 m with coir pith as media along with soil was found best.
4.	Shade	Provision of 75% shade net was found beneficial for growth and flowering
	Gerbera	
5.	Variety	Among the ten varieties evaluated, the variety Julia (red) was performed better for growth and flowering. The other promising varieties were Kyllian(Orange), Marinilla(orange) and Amelie(white)
6.	Spacing	30X37.50 cm was optimum
7.	Fertilisers	10:20:20 g/m^2
	Rose	
8.	Variety	Ten rose varieties were evaluated. The cv. Tajmahal (red) was found best followed by Shakira(Pink), Gold Strike(yellow) and Tineke(white)
9.	Spacing	45X20 cm
	Lilium	

10.	Variety	Fifteen asiatic Lilium varieties were evaluated. Among them, Pavia(Yellow), Mestre(pink), Batistero(red) , Dazzle(yellow) and Courier(white) have performed better than other cultivars
11.	Spacing	30 X 15 cm
12.	Nutrition	20:20:20 g/m^2
	Heliconia	
13.	Variety	Among five collections evaluated under shadehouse, the variety Golden Torch performed better for growth and flowering.
14.	Environment	50% green shadehouse
15.	Spacing	90 X90 cm
	Capsicum	
16.	Variety	Indira(green) performed better followed by Orebella(yellow) and Bombey(red)
17.	Spacing	45X45 cm
	French bean	
18.	Variety	Pvt.
19.	Spacing	60 X45 cm
	Cucumber	
20.	Variety	Pvt.
21.	Spacing	50 X60 cm
	Yard long bean	
22.	Variety	Arka Mangala
23.	Spacing	60 X 60 cm

6. Impact

Success story of RKVY project "**Protected cultivation of High value Hort. Crops**

The impact of the project is assessed in terms of technologies demonstrated, man power trained etc.

a. **Technologies demonstrated**

b. **Manpower trained**

1. **No. of PG students produced**: 12 M. Sc (Hort.) students have completed research under the protected structures.
2. **Training programme conducted for farmers: 689 nos.**

Shimoga centre				**Mudigere centre**				**Hiriyur centre**			
No. of trainings	Participants			No. of trainings	Participants			No. of trainings	Participants		
	M	F	T		M	F	T		M	F	T
9	469	-	469	4	167	53	220	-	-	-	-

3. **Farmers visit to demonstration units at different centres**

Shimoga	Mudigere	Hiriyur
860 nos.	435 nos.	150

7. Lessons learned

- ✓ High value horticultural crops can be grown successfully under the protected conditions
- ✓ Crops recommended can vary for different zones of Karnataka

8. Supporting quotes and images

- ✓ "**A good work is being undertaken with regard to floriculture research. I wish all the best in their endeavour "-** Dr. S V Hittalmani, Rtd. Addl. Director of Horticulture, Bangalore.
- ✓ "**Very good experimental plot for research. Feed back and outcome will help farmers in protected cultivation**"-Sri. M Viswanath, Deputy Dir. Of Hort,. KSDH, Shivamogga
- ✓ "**I came to study the flowers culture before investing finance to begin with flowers cultivation scientifically. Your endeavour is great"-** Dr. M L Xavier, Rtd. Aeronautical engineer, NR Pura, Chikmagalur dt.

- ✓ **“I am very glad to see the best high tech cultivation of flower crops under protected cultivation especially Anthurium, lilies and rose collections**”- Mr. P. Pavankumar, Bangalore.
- ✓ **“It is a good site to see and understand the technology. New flower crops introduced are suitable for suitably provided understating season”-** Dr M G Vedhamurthy, All India Radio, Bhdravathi.

Figure 1: Naturally ventilated polyhouse erected under the RKVY project

Figure 2: Farmer trainees visit to Anthurium unit under protected conditions

Figure 3: Hon'ble Vice Chancellor, Dr. C Vasudevappa, addressing in the training on protected cultivation

9. Additional information

a. List of all project partners

a.i. **Implementing institutions and other collaboration institutions**

Zonal Agricultural and Horticultural Research station,

College of Horticulture Mudigere of UAHS, Shivamogga

a.ii. **Nodal Officer**: The Director of Research, UAHS, Shivamogga

a.iii. **Principal Investigator : Dr**. Chandrashekar S.Y.

Assist. Professor (FLA), College of Horticulture, Mudigere-577132

a.iv. **Co- Principal Investigator's**

a) **ZAHRS, Shimoga**:

a.i. Dr. Sheshagiri K S, Assoc. Professor of Hort, Shimoga

a.ii. Dr. Shivanna S , Sr, Farm Superitendant, ZARHS, Shimoga

a.iii. Dr. Nagarajappa Adivappar, SMS(Hort), KVK,Shimoga

b) **ZAHRS, Mudigere**:

a.i. Dr. Srinivas V, Assoc. Professor , COH, Mudigere

a.ii. Dr. Madaiah D, Assoc. Professor , COH, Mudigere

a.iii. Mr. Natraj S K Asst. Professor , COH, Mudigere

c) **ZAHRS, Hiriyur**

Dr. Chandrappa, Professor, ZAHRS, Hiriyur

Dr. Rajendraprasad , Professor, ZAHRS, Hiriyur

Mr. Hemanthkumar P , Asst. Professor, COH, Hiriyur

b. **Contact person for the study**

Principal Investigator : Dr. Chandrashekar S.Y.
Assist. Professor (FLA), College of Horticulture, Mudigere-577132

a. Other information:

a.i. **Staff and PG student's research has been undertaken under the protected structures of the project.**

a.ii. **Many visitors from all over Karnataka visiting the demonstration blocks and getting benefitted.**

10.Check list

Sl No.	Question to consider	Yes	No
1.	Is the story interesting to the target audience of the project/activity report?	✓	-
2.	Does the story explain what new insights the project brings? What is the main lesson learned from this story? Does the story describe a key insight on what works and what doesn't and something that future project could build on	✓	-
3.	Does the story describe the outcomes the project produced and the people who are benefitting? What changes–in skills, knowledge, attitude, practice, or policy–has the project brought, and who is benefitting from these changes?	✓	
4.	Does the story make a compelling point that people will remember? Does the story show how the project makes a difference to improving livelihoods and lessening poverty?	✓	
5.	Does the story provide an interesting fact that people will remember? For example, how much yields increased, how many hectares of land could become more productive from this innovation or technology?	✓	
6.	Does the story explain what kind of impact this innovation or technology could have if scaled up?	✓	
7.	Does the story show which partners contributed and how?	✓	
8.	Does the story include quotes from Stakeholders or beneficiaries?	✓	
9.	Have I provided links to other media (journal articles, website news, newsletter, blogs, and annual reports of other Programme / project) that also feature this story?	✓	
10.	Have I provided the contact details of people who can provide more information?	✓	

Principal Investigator